



Consumer Behavior and Satisfaction in the Guzi Economy: Insights from Beijing

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Abstract. China's Guzi economy—merchandise linked to animation, comics, and games—has become a key driver of commercial district transformation. Existing studies focus on market trends, lacking quantitative analysis of consumer behavior. This study surveyed 675 consumers in Beijing using stratified PPS sampling and applied multiple models, including Random Forest, ordered Logit, and SEM, to examine consumer characteristics, satisfaction, and future purchase intention. Results show that core consumers are aged 15–29, while middle- and high-income groups exhibit stable and high spending potential. Consumption is mainly driven by collectible and social motives. Product innovation and after-sales service strongly enhance satisfaction and purchase intention, and willingness to pay a premium significantly affects spending. Based on these findings, targeted strategies are proposed, including quarterly product updates, service optimization, and tiered marketing with membership and community engagement. The study provides quantitative guidance for commercial district upgrades and the sustainable development of the Guzi industry.

Keywords: Guzi economy; stratified PPS sampling; ordered Logit; structural equation modeling (SEM); Random Forest model

1 Introduction

The Guzi economy—derived from the English word “goods”—refers to ACG (animation, comics, and games) merchandise, including badges, postcards, keychains, standees, and figurines. Driven by young consumers' cultural preferences and rising purchasing power, the market has grown rapidly in China. Between 2017 and 2024, its size reached 168.9 billion RMB, with over 500 million active ACG consumers^[4]. Growth is supported by expanded IP supply, optimized offline channels, social and emotional consumption motivations, and policies promoting cultural consumption and original IP development.

Existing studies have mostly focused on market descriptions and trend analyses (Zhao^[1], Zhang^[5]), highlighting Generation Z as the core consumer group whose purchases are largely influenced by emotional, social, and collectible values (Su^[2], Yan^[3]). However, quantitative analyses of the drivers behind consumer behavior remain limited.

Against this backdrop, this study investigates consumer behavior, satisfaction, and future purchase intentions in Beijing's key commercial districts using survey data and multiple analytical models. The research aims to identify consumer characteristics, determine which groups are more likely to purchase, examine factors affecting spending levels, and explore how satisfaction influences future consumption. Structural equation modeling is used to evaluate both direct and indirect effects of satisfaction on future behavior. By combining empirical evidence with theoretical insights, this study provides guidance for marketing strategy development, commercial district upgrading, and the broader development of China's ACG cultural industry ecosystem.

2 Research Design and Implementation

2.1 Research Scope and Subjects

Refer to previous literatures, Guzi products account for about 46% of the ACG industry, with over 55% of consumers in first-tier cities^[6]. Unlike mature IP industries, they rely on niche IP demand, have low unit prices, and are geographically concentrated. The survey focused on Beijing's core urban and surrounding commercial districts, covering 220 stores across 80 commercial zones and including both online and offline consumers.

2.2 Sampling and Questionnaire Design

In order to comprehensively cover different consumption environments, the stratified multi-stage PPS sampling method is adopted: stratified sampling is carried out in the core urban area, central urban area and suburban business district, and the number of questionnaires is weighted by the number of people flow and the number of stores. Offline random stop and interview was adopted, online questionnaires were distributed through the community, and a reward mechanism was set up to ensure the participation rate. The questionnaire contains three parts: basic demographic information, consumer behavior and preference, future consumption intention and suggestions. Under the specific calculation formula is shown in:

$$n_0 = \frac{Z^2 \times P \times (1-P)}{E^2} \quad (1)$$

The optimal sample size was finally determined to be 646. After considering the effectiveness rate, 760 questionnaires were distributed.

2.3 Data Validation

A pilot survey of 139 questionnaires showed that the scale had good discrimination ($p < 0.05$), high reliability (Cronbach $\alpha = 0.846$) and good validity (KMO = 0.881). The formal survey optimized the question wording and logical jump, and a total of 675 valid questionnaires were obtained, which passed the reliability ($\alpha = 0.814$) and validity

(KMO=0.879) tests, providing a reliable data basis for subsequent modeling and analysis.

3 Consumer Profile Analysis

Survey results show that Guzi consumption in Beijing is primarily driven by young consumers, with 15–29-year-olds as the core group and older segments exhibiting higher purchase stability. Spending patterns and priorities vary by age: younger consumers favor frequent, low-cost purchases motivated by emotional value, while older consumers emphasize product quality and functionality. Gender has limited influence, whereas income and occupation are positively associated with both spending levels and willingness to recommend products. Overall, the findings highlight significant heterogeneity in consumer behavior across demographic groups.

4 User Satisfaction and Purchase Intention Analysis

4.1 Random Forest Regression Analysis of Satisfaction Drivers

This section employs Random Forest regression and ordered Logit models to examine consumer satisfaction and its impact on future purchase intention. The Random Forest regression can be formulated as:

$$\hat{y} = \frac{1}{N} \sum_{i=1}^N T_i(X) \quad (2)$$

Partial top drivers of satisfaction across dimensions are summarized below:

Table 1. Random forest regression results

Dimension	1st Driver	Importance	2nd Driver	Importance	3rd Driver	Importance
Appearance	Keychain products (Q11)	0.0488	Figurines (Q11)	0.0429	Quality attention (Q15)	0.0395
Quantity	Quality attention (Q15)	0.0424	Paper goods (Q11)	0.0416	Keychain products (Q11)	0.0414

The results in Table 1 show that the appearance design of keychain products contributes most to satisfaction (4.88%), while figurines are highly price-sensitive (4.33%). After-sales ratings in secondary markets are 37% lower than official channels. Overall, quality awareness is a recurring theme across dimensions, indicating that consumers have developed a “high quality, fair price” perception. Based on these findings, differentiated operational strategies are recommended, including quarterly iterations for keychain designs (update rate $\geq 30\%$), dynamic pricing for figurines, certified secondary market zones with mandatory 72-hour response, and “quality visualization” modules on product pages.

4.2 Ordered Logit Analysis

To explore the determinants of future purchase intention, an ordered Logit regression model was applied, retaining the ordinal nature of intention levels to capture gradual decision-making. The model is specified as:

$$P(Y \leq j) = \frac{1}{1 + \exp(-(\theta_j - \beta X))} \quad (3)$$

Where: Y as the ordered dependent variable (future purchase intention), β as the coefficient vector, X as a matrix of satisfaction and demographic variables.

Starting from a full-variable model that included seven satisfaction dimensions and demographic factors, a forward selection procedure was applied to identify the key drivers of future purchase intention. The analysis revealed three primary factors: after-sales service, product innovation, and pricing strategy. After-sales service emerged as the most fundamental driver, reflecting the foundational role of service experience in shaping consumer behavior. Product innovation highlighted the importance of differentiated competition, emphasizing how novelty and unique product features influence purchase decisions. Pricing strategy was also included and confirmed significant through Wald tests ($p < 0.1$), indicating that effective pricing complements the perceived value of innovation.

The final model, structured along these three dimensions (“Product Innovation – Pricing – After-sales Service”), is consistent with theoretical expectations, capturing the sequence of innovation-led value perception supported by service, and was optimized based on AIC minimization. Results from the ordered Logit model illustrate the core logic of purchase intention: a one-point increase in after-sales service rating raises the probability of higher purchase intention by 37.6% ($\beta = 0.376$, $p < 0.001$), emphasizing its foundational effect. The pricing coefficient (0.211, $p = 0.001$) represents approximately 72% of the marginal effect of product innovation ($\beta = 0.294$), suggesting that pricing strategies should act in synergy with innovation. Threshold parameters at 3.0/4.0 reached 0.692 ($p < 0.001$), indicating that once overall perceived utility exceeds this level, the likelihood of a “substantial increase in purchase” rises sharply.

5 Marketing Strategies and Future Market Analysis

With intensifying market competition, consumer choices are becoming increasingly diverse, and experiential factors are gaining importance. To examine the impact of consumer satisfaction on future purchase intention, this study employed a structural equation model (SEM), treating “consumer satisfaction” as a latent variable measured by seven indicators, including product appearance, innovation, pricing, and after-sales service. Recommendation intention was introduced as a mediating variable to analyze both the direct and indirect effects of satisfaction on future purchase behavior. Data preprocessing included age segmentation, standardization of income and expenditure, dummy coding for multiple-choice variables, and removal of multicollinearity, ensuring model robustness and interpretability.

The SEM measurement model revealed that overall satisfaction had the highest factor loading (0.81), while product innovation (0.60) and after-sales service (0.60) were key contributors to satisfaction. Pricing exhibited a relatively lower loading (0.56), indicating that innovation and service play a stronger role in attracting consumers. The structural model results show that satisfaction positively and significantly affects recommendation intention ($\beta=0.60$, $p<0.001$) and future purchase intention ($\beta=0.47$, $p<0.001$). Recommendation intention also has a positive effect on future purchase intention ($\beta=0.22$, $p<0.001$). Demographic factors such as gender and age did not significantly influence recommendation intention ($p>0.05$), and monthly income had only a minor effect on future purchase intention ($\beta=0.04$, $p=0.27$), suggesting that traditional demographic characteristics have limited impact on consumer intention in this context.

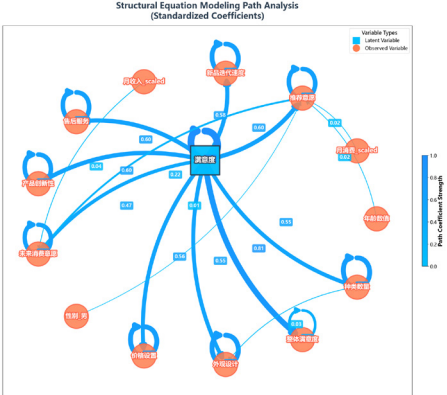


Fig. 1. Path Analysis of Structural equation model

Based on the results presented in Figure 1, trend predictions indicate a 10% increase in consumer satisfaction could expand the market size by 4.7–6.2%, while a 1% increase in recommendation could generate approximately 2.2% additional consumption.

$$\begin{aligned} \text{Future consumption willingness} = & 0.47 \times \text{satisfaction} + 0.22 \times \\ & \text{recommend intention} + 0.04 \times \text{monthly income} \end{aligned}$$

(4)

Three strategic recommendations can be derived from these findings. First, product innovation should be prioritized through a quarterly iteration mechanism to enhance the competitiveness of new offerings. Second, service optimization, including 48-hour response times and value-added services, can strengthen customer loyalty. Third, marketing and pricing strategies should implement tiered pricing tailored to different consumer segments, combined with membership incentives and community engagement to boost repeat purchases and social recommendations. Key touchpoints include online channels, social media, and the secondary market, where immersive experiences, brand events, and content marketing can further expand brand influence. These insights provide quantitative guidance and operational references for the Guzi economy and other youth-oriented consumer products.

6 Conclusion

This study integrates survey data and employs Random Forest, ordered Logit, and structural equation modeling to systematically examine consumer behavior, satisfaction drivers, and future purchase intentions in the Guzi economy. The results indicate that product innovation and after-sales service are the key levers for enhancing consumer satisfaction and purchase intention, while willingness to pay a premium significantly drives spending. The market is primarily dominated by young consumers (aged 15 - 29), with online channels serving as the main purchasing platform; older and higher-income groups exhibit higher purchase stability and a preference for premium collectibles.

Consumer satisfaction is driven by product innovation, service quality, and product experience, which influence future purchase decisions through recommendation intention. The three-dimensional model reveals a synergistic effect of innovation-led value perception and service support. After-sales service shows the strongest impact on purchase intention, while pricing complements innovation value, and purchases rise markedly once perceived utility exceeds a critical threshold.

Based on these findings, firms can adopt targeted strategies: enhancing innovation competitiveness through quarterly product iterations, optimizing service processes and value-added services to strengthen customer loyalty, and promoting repeat purchases and social recommendations through tiered pricing, membership incentives, and community engagement. Online channels, social media, and the secondary market are key touchpoints, where immersive experiences, brand events, and content marketing can further expand brand influence.

Overall, this study provides quantitative guidance and actionable strategies for the Guzi economy and other youth-oriented cultural products, offering practical insights for digital creative enterprises in user experience design, value delivery, and consumption guidance. Future research may integrate dynamic market data and cross-channel behavior analysis to further optimize products and marketing strategies and achieve sustainable market growth.

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