

An Analysis of Marketing Strategy Exploration of Low-Alcohol Beverage Consumption in Guangdong China

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Abstract: In recent years, the low-alcohol beverage industry in China has experienced a surge in investment. This study utilizes a questionnaire survey method to investigate the behavior of 601 college student consumers in Guangdong Province, China. Employing the Rank Sum Ratio (RSR) comprehensive evaluation method, the consumer group is classified into five categories based on their purchasing power. Statistical and machine learning methods are subsequently employed to analyze consumer preferences and habits related to appearance and ingredient taste. Furthermore, specific associated scenarios and other key factors are examined to analyze promotional strategies. Subsequently, market size is forecasted using a grey model. Finally, tailored marketing recommendations are provided for relevant businesses. It is worth noting that this study employs more quantitative mathematical methods to obtain data analysis conclusions that are more explanatory in nature.

Keywords: Low-alcohol beverages, Questionnaire survey, Associative scenarios, Market size prediction, Marketing strategies

1. Introduction

As a massive traditional industry, the alcoholic beverage sector remains a vast untapped market today. With the younger generation gradually becoming the market's driving force, diversified and personalized new drinking demands have ignited the low-alcohol beverage market. The dual characteristics of diverse consumption scenarios and a pleasurable drinking experience offered by low-alcohol beverages satisfy the “self-pleasure” needs of young consumers, making low-alcohol beverages one of their stress-relief choices [1]. Since 2021, low-alcohol beverages have attracted investment fervor and become a new favored sector for capital [2].

Based on this, this article will investigate the following three points: First, factors such as gender, personality, consumer attitudes, purchasing behavior of low-alcohol beverage consumers, and the relationships between these factors. Second, establish associative scenarios that encourage consumers to develop low-alcohol beverage consumption habits [3]. Third, forecast the future size of the low-alcohol beverage market. This survey aims to provide recommendations from the perspective of consumers, assisting relevant businesses in promoting the healthy development of this industry.

2. Market scale of low-alcohol beverages sales in China

Low-alcohol beverages are characterized by three main features: easy to consume, slightly intoxicating, and attractive packaging, making them highly favored among college students [4-5]. In practical consumption contexts, low-alcohol beverages typically refer to pre-mixed cocktails, fruit wines, sodas, rice wines, and floral wines with alcohol content ranging from 0.5% to 12% [6]. This article adopts this definition, primarily focusing on low-alcohol beverages with an alcohol content below 12 degrees.

According to iiMedia Research data, the sales market for low-alcohol beverages in China has maintained rapid growth in recent years, even during the pandemic. From 2017 to 2021, the market size expanded at a rate of 439%, reaching 443.37 billion RMB in 2021 [7]. Additionally, low-alcohol beverages have attracted significant funding, with ten financing rounds in the Chinese low-alcohol beverage industry in 2021, primarily in the initial funding stages.

The younger generation's evolving lifestyle preferences are driving changes in the application scenarios for low-alcohol beverages. This shift is pushing low-alcohol beverages towards higher quality and diverse usage scenarios. Simultaneously, the rapid development of internet media necessitates the transformation of traditional marketing strategies for low-alcohol beverages to meet the demands of consumers in the data-driven era.

3. Research design

3.1. Questionnaire design

A survey was conducted targeting all undergraduate students aged 16 to 25 in Guangdong Province, China, to investigate their recent low-alcohol beverage consumption patterns within the past year. Using a targeted sampling approach, the first-tier cities of Guangzhou and Shenzhen were selected from among the 44 cities in Guangdong Province. Stratified random sampling was employed to select Zhuhai and Foshan from the second-tier cities, while Jiangmen was chosen from the third-tier cities. Subsequently, a proportional sampling method was applied within these cities based on the ratio of the number of universities, with sampling proportions of 7:1:1:1:1, respectively. Finally, a simple random sampling method was employed to select a specific number of students from these universities for the survey. Following a pre-survey ($n=32$), the required sample size for the formal survey was determined using the Cochran formula to be $n=601$.

The questionnaire consisted of three sections. The Respondent Demographics: included questions about gender, grade, and personality traits to create a profile of the college student consumer group. The Low-Alcohol Beverage Consumption Preferences and Habits section covered consumption preferences, including product characteristics such as appearance, taste, and type, as well as consumption habits like information sources, purchasing channels, frequency, unit price, and quantity. The Drinking Scenarios and Hypothetical Situations section explored the current purchase and consumption occasions for low-alcohol beverages, including the time, location, individuals involved, and mood of the respondents. It also included hypothetical scenarios to imagine future consumption preferences.

3.2. Data processing

The questionnaire was administered online, followed by data cleaning and a test of its reliability and validity. Firstly, the Cronbach's α coefficient for the questionnaire was found to be 0.739, indicating acceptable reliability. Additionally, for each item within the scale, both the Corrected Item-Total Correlation (CITC) and the Cronbach's α coefficient after removing items showed satisfactory results, suggesting that there is no need for further adjustments or modifications to the scale questions.

Secondly, the Kaiser-Meyer-Olkin (KMO) value was calculated to be 0.773, and the results of the Bartlett's sphericity test indicated significance with a P-value < 0.05, demonstrating that the questionnaire possesses acceptable validity and was designed appropriately.

After conducting reliability and validity tests, quality control, and adjustments to the number of corresponding questionnaires, a total of 546 valid questionnaires were confirmed, with 55 invalid ones, resulting in an effective response rate of 90.83%.

4. Results

4.1. Analysis of purchasing population

4.1.1. Cross-analysis of purchasing and non-purchasing populations by gender

Through statistical analysis of the surveyed college students' knowledge of low-alcohol beverages, the research found that the majority of respondents have purchased low-alcohol beverages. The cross-analysis of specific categories of knowledge levels and gender is presented in Table 1.

Table 1: Table of associations between gender and purchasing experience

Question	Types	Q4. What is your understanding of low-alcohol beverages?			Total
		Have not purchased or tasted low-alcohol beverages	Have not purchased but have tasted low-alcohol beverages	Have purchased low-alcohol beverages	
Q1. Please indicate your gender.	Female	72(24.5%)	57(19.4%)	165(56.1%)	294
	male	40(15.9%)	37(14.7%)	175(69.4%)	252

Previous studies often indicated that women were the primary consumers of low-alcohol beverages [8]. However, in this survey targeting college students, the essay discovered that the probability of male respondents having purchased low-alcohol beverages was higher than that of female respondents. Therefore, it should not limit our analysis solely to the demands of female consumers but should consider both genders equally, with a potential emphasis on male preferences.

4.1.2. Segmentation of purchasing population consumption intensity

In this study, the Rank Sum Ratio comprehensive evaluation method was employed. Based on three evaluation criteria (the frequency of low-alcohol beverage purchases in the past three months, the average unit price of regularly purchased low-alcohol beverages, and the quantity of low-alcohol beverages purchased per occasion), consumers were classified into five categories according to their actual purchasing power. The specific proportions are illustrated in Figure 1.

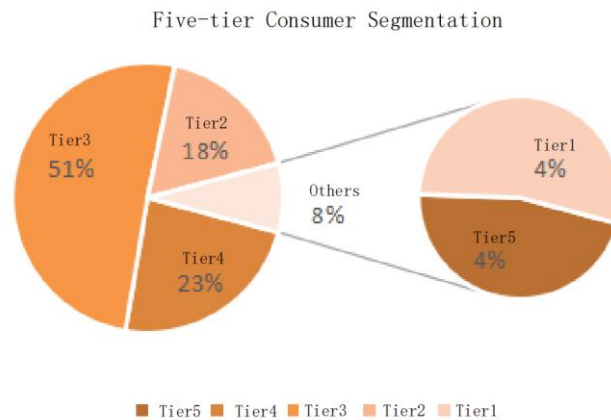


Figure 1: The proportion of fifth grade consumers

Actual purchasing power (AB) refers to the monetary payment capability used to purchase goods, specifically the total amount of currency spent on buying goods within a given period [8]. The fifth spending group exhibits relatively high overall purchasing power for low-alcohol beverages, while the first group has lower purchasing power, with a gradual decrease from group five to group one. In this study, as necessary, we will focus on the performance and demands of the higher spending groups in the analysis of specific questions.

4.2. Analysis of inference factors

4.2.1. Descriptive analysis

Through scale analysis, it can be determined that the factors influencing college student consumers' purchases, in order of importance, are taste, brand recognition, price, ingredients, alcohol content, packaging appearance, and capacity, from high to low.

The primary reasons why most college students do not purchase low-alcohol beverages are that they find them unpalatable and perceive them as unhealthy. Additionally, low alcohol content and lack of awareness are significant factors contributing to college students' avoidance of low-alcohol beverages. Therefore, it is evident that there is room for improvement and potential to attract more consumers to low-alcohol beverages.

In light of this, this article proposes the following strategies: Emphasize the taste of low-alcohol beverages to make them more appealing to consumers, Provide consumers with scientific information about low-alcohol beverages to dispel the negative perception among the younger population regarding their impact on health and actively engage in brand promotion, as there is still a proportion of the population that refrains from purchasing low-alcohol beverages due to a lack of awareness.

4.2.2. Factor analysis

This study employed the Principal Component Analysis (PCA) method, and the final component matrix table is shown in Table 2.

Table 2: Component matrix table

Component matrix table		
Name	Component	
	Component 1	Component 2
Brand awareness	0.244	-0.487
Capacity	0.213	0.592
Price	0.23	0.071
Package appearance	0.217	0.121
Ingredient	0.237	0.131
Taste	0.236	-0.555
Alcohol content	0.232	0.217

Price, packaging appearance, ingredients, and alcohol content were grouped under Component 1 (primary component) with a weightage of 72.543%. Brand recognition, capacity, and taste were grouped under Component 2 (secondary component) with a weightage of 27.457%. Due to the strong internal correlations within each component in Principal Component Analysis, we can choose individual factors with significant influence from both components for analysis. In this study, we focused on analyzing ingredients and appearance from Component 1 and taste and brand recognition from Component 2. This result aligns with the conclusions from descriptive statistics, thus emphasizing the high accuracy of analyzing these factors.

4.3. Analysis of low-alcohol beverage consumption preference

4.3.1. An analysis of preference for the appearance of low-alcohol beverage

When working with a limited budget and targeting a broad audience, priority can be given to glass material, light colors, frosted appearance, and slim cylindrical bottle shapes. Additionally, in the previous segmentation of the consumer groups, the research observed a relatively balanced purchasing ratio between male and female consumers. Through correlation analysis, we found that gender differences had minimal impact on appearance preferences.

This study also analyzed the coupling of low-alcohol beverage material, color, transparency, and consumer personality traits. It was discovered that introverted individuals tend to prefer irregular materials, light colors, frosted appearances, and cylindrical bottle shapes, while extroverted individuals lean towards glass material, light colors, transparent appearances, and slim cylindrical shapes.

The numerical statistical result can be seen on Table 3.

Table 3: Outside bottle material, color, transparency and character bias contingency table

Question	Name	Q3. Please choose your personality preference according to the actual situation					Total
		1.0	2.0	3.0	4.0	5.0	
Q16.1 You tend to buy low-alcohol wine packaging materials	irregularity	0(0.0%)	8(16.0%)	15(30.0%)	18(36.0%)	9(18.0%)	50
	glass	3(1.8%)	16(9.6%)	34(20.4%)	88(52.7%)	26(15.6%)	167
	Iron can	1(1.2%)	8(9.3%)	14(16.3%)	41(47.7%)	22(25.6%)	86
	ceramic	1(2.7%)	0(0.0%)	7(18.9%)	16(43.2%)	13(35.1%)	37
Q16.2 You tend to buy low alcohol wine packaging color	colourless	1(2.1%)	6(12.5%)	4(8.3%)	22(45.8%)	15(31.2%)	48
	irregularity	1(1.4%)	12(17.1%)	22(31.4%)	23(32.9%)	12(17.1%)	70
	undertone	2(1.0%)	13(6.6%)	39(19.9%)	105(53.6%)	37(18.9%)	196
	Dark color	1(3.8%)	1(3.8%)	5(19.2%)	13(50.0%)	6(23.1%)	26
Q16.3 You tend to buy low alcohol wine packaging transparency	opacification	2(9.1%)	0(0.0%)	2(9.1%)	11(50.0%)	7(31.8%)	22
	irregularity	0(0.0%)	12(21.1%)	18(31.6%)	18(31.6%)	9(15.8%)	57
	scrub	3(2.3%)	9(6.9%)	25(19.1%)	69(52.7%)	25(19.1%)	131
	transparent	0(0.0%)	11(8.5%)	25(19.2%)	65(50.0%)	29(22.3%)	130

4.3.2. Preference analysis of taste and composition of low-alcohol beverage

In this analysis module, priority was given to the preferences of higher-spending consumer groups. Different weight age was assigned to the five spending groups, and then the number of selections for various factors was calculated for statistical analysis. The study found that fruit flavor was the most popular ingredient preference, followed by a preference for beverages with a fizzy sensation, while seasonal limited-edition flavors were the least favored. When the results were divided by gender, it was observed that male consumers had a stronger preference for beverages with a fizzy and refreshing sensation, whereas female consumers leaned more towards sweet fruit flavors. Therefore, low-alcohol beverage companies could consider incorporating fruity elements with a certain fizzy sensation into their formulations, as this combination of ingredients is likely to be more appealing to consumers.

4.4. Analysis of low-alcohol beverage consumption habits

In this research module, it was found that buyers prioritize taste and brand recognition, but they tend to make their purchase decisions based on brand packaging. Further analysis through cross-examination revealed that whether consumers make purchases in combination with other products does not significantly impact their purchasing habits when it comes to low-alcohol beverages.

Additionally, we created a Pareto chart based on the option results and found that the majority of purchases for low-alcohol beverages are made in supermarkets, convenience stores, online retailers, bars, KTV venues, and pubs, accounting for a cumulative percentage of 0.832.

4.5. Analysis of low-alcohol beverage publicity methods

Hosting a banquet with Baijiu (Chinese white liquor), pairing Western cuisine with red wine, and establishing a connection with drinking occasions has long been an effective method for creating habitual memories in consumers' minds. According to literature research, low-alcohol beverages have not yet been definitively positioned, and consumers currently tend to make habitual and random

purchases [8]. Opportunities arise where there are gaps, and habitual memory-based promotions related to specific drinking occasions may serve as a breakthrough for low-alcohol beverages. Therefore, this study explores specific associated scenarios for low-alcohol beverages. In the analysis of the results concerning drinking time, drinking location, and the presence of specific individuals during consumption, the options with the highest proportions were selected for correlation analysis (Pearson). It was found that the p-values for each element in the correlation matrix between the three options were all <0.05 , indicating a correlation among the three options. Consequently, the conclusion drawn was that "low-alcohol beverages are often consumed during meals and gatherings, either at one's own or someone else's home, or at restaurants and entertainment venues, typically in the company of close friends or acquaintances." This demonstrates the association of low-alcohol beverages with social gatherings, where they serve as a tool for enhancing social interactions and contribute to a more joyful and relaxed atmosphere.

In the analysis of drinking time, location, and the presence of specific individuals, we selected the options with the highest proportions for further correlation analysis. It was found that low-alcohol beverages are often consumed during meals and gatherings, either at one's own or someone else's home, in restaurants, or entertainment venues, typically with close friends. This indicates that low-alcohol beverages are associated with social gatherings, where they serve as a tool to enhance the atmosphere, which is often characterized by joy and relaxation.

Given that this scenario is widely accepted by a broader audience, companies can incorporate it into their low-alcohol beverage culture promotion efforts. As analyzed earlier in terms of consumption habits, low-alcohol beverages are often spread through interpersonal interactions. Therefore, utilizing this associated scenario for promotion can facilitate the spontaneous, decentralized spread of low-alcohol beverages among the population, achieving broad dissemination without the need for extensive promotional resources.

4.6. Analysis of other key points in publicity - promotion methods, reasons for selection, and publicity channels

Regarding the choice of advertising channels, it is advisable to focus on online advertising design and promotions, as well as in-store promotions. In terms of content selection, it's essential to emphasize bundled promotions with associated scenarios, complemented by discounts or buy-one-get-one deals to attract consumers. Additionally, highlighting the taste and alcohol content of the product can help low-alcohol beverages gain better acceptance and recognition among consumers, facilitating more effective marketing and sales outcomes. The literature also mentions that taste is one of the primary considerations for consumers when it comes to low-alcohol beverages, followed by aroma, color, alcohol content, and raw materials [10].

5. Market size forecast

In this section, utilizing time-series data retrieved and estimated from 2016 to 2021 on the domestic low-alcohol beverage market size and the overall alcoholic beverage market size, we initially conducted a ratio-to-trend (R/T) test. Subsequently, we constructed a grey forecasting model, and the analysis revealed that the errors for each year were consistently well below 20%, demonstrating a satisfactory fitting effect. The results are presented in Figure 2.

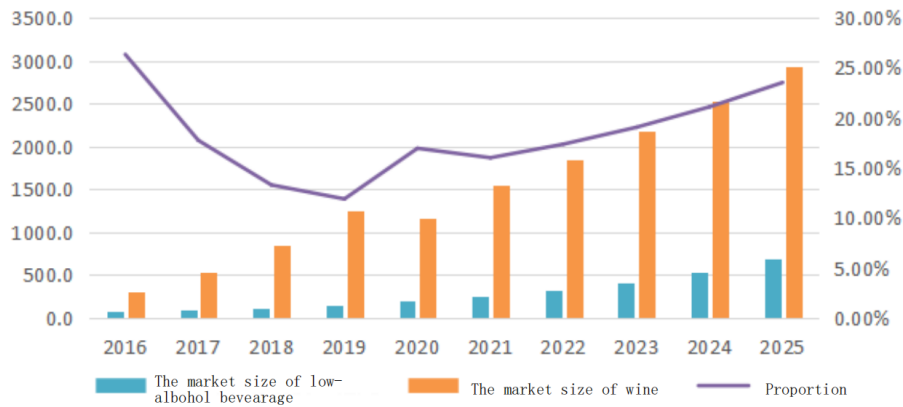


Figure 2: Market size forecast chart for light alcohol

As can be observed, starting from 2019, the market share of low-alcohol beverages within the alcoholic beverage market has been steadily increasing year by year. This market shows significant potential for investment and exploration. We can conservatively estimate that over the next five years, the market share of low-alcohol beverages will continue to grow.

Therefore, it is advisable for the alcoholic beverage industry to start planning and strategizing early by shifting a portion (approximately 8%) of their alcoholic beverage projects towards low-alcohol beverages. This approach helps diversify risks and maximize profits. The Ministry of Industry and Information Technology of the People's Republic of China has also issued a document emphasizing the development of diversified, fashionable, personalized, and low-alcohol white spirits products tailored to the younger consumer demographic [11].

6. Conclusion

This article aims to study the consumption habits of college students regarding low-alcohol beverages through a questionnaire survey and provide feasible strategies for relevant businesses. Based on the analysis of the purchasing population, the article suggests that companies should consider both male and female preferences, with a potential leaning towards male preferences. Additionally, by analyzing factors influencing consumption, the article recommends focusing on the development of low-alcohol beverage flavors and enhancing scientific promotion to increase consumers' scientific understanding of low-alcohol beverages. Regarding purchasing preferences, the article advises investing efforts in fruit flavors and using glass, light colors, frosted finishes, and slim cylindrical designs. Furthermore, it suggests coupling exterior design with personality traits. In terms of promotional methods, the article suggests emphasizing bundled promotion with associated scenarios and highlighting product taste and alcohol content in marketing. Finally, the article predicts an increasing market share for low-alcohol beverages over the next five years.

While the analytical methodology employed in this study is scientifically rigorous, it is important to acknowledge several inherent limitations. Firstly, the survey methodology utilized is somewhat narrow in scope, relying exclusively on questionnaire surveys, thereby potentially limiting the diversity of data sources. Secondly, the study does not account for the potential influence of pandemic-related fluctuations or other unforeseeable "black swan" events on consumer purchasing habits and market size. Furthermore, the analysis in this paper does not encompass an examination of bundled products associated with low-alcohol beverages.

In this regard, it is hoped that future research on low-alcohol beverages will encompass a comprehensive consideration of multiple research methods and undertake an in-depth analysis of

bundled products associated with low-alcohol beverages, thereby contributing to the flourishing development of the industry.

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