

Consumer Demand for Contemporary Beverages in Semi-Urban Markets: Evidence from MSMEs in Bangkalan, East Java, Indonesia

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Abstract

This study analyzes consumer demand for contemporary beverages produced by micro, small, and medium enterprises (MSMEs) in a semi-urban area of Bangkalan, East Java. Specifically, the study aims to identify consumer characteristics that shape purchasing decisions and to measure the utility and relative importance of product attributes influencing consumer demand. Data were collected from 45 respondents using accidental sampling of active consumers during May–June 2025 in areas surrounding university campuses and commercial centers in Bangkalan. Conjoint analysis was employed to estimate the utility values and relative importance of five product attributes: price, flavor variety, ice level, cup size, and sweetness level. The results show that ice level has the highest importance value (27.219), followed by price (24.060) and flavor variety (22.211), while cup size and sweetness level contribute relatively smaller effects. At the attribute level, the most preferred combination consists of a price of Rp 4,000, fruit-series flavor, half ice, large cup size, and medium sweetness level, with a combined part-worth utility of 0.279, excluding the model constant. These findings indicate that consumer demand in semi-urban markets is shaped by a combination of affordability, perceived freshness, and product variety, reflecting how consumers balance product attributes under budget constraints. This study contributes to business and economic literature by providing empirical evidence on how product attributes shape consumer demand structures in semi-urban markets. The findings offer practical insights for MSMEs in designing product strategies aligned with student-dominated markets and may support local economic development through improved MSME competitiveness.

Keywords: consumer demand; conjoint analysis; semi-urban markets; contemporary beverages

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A. INTRODUCTION

The food and beverage industry is one of the most dynamic sectors in the manufacturing industry because demand for food and beverages remains relatively stable over time. Data from the Central Statistics Agency and the Ministry of Industry of the Republic of Indonesia show that the food and beverage industry is a major contributor to the national non-oil and gas manufacturing GDP, with a contribution of more than 38% in 2024, confirming its role as one of the drivers of real sector growth. Within this structure, the segment of ready-to-drink beverages and modern coffee, tea, and milk-based cafes, better known as contemporary beverages,

is growing relatively rapidly in line with changes in consumption patterns, especially among Generation Z and millennials as the main demand base for contemporary beverages in urban areas (Marina, Andayani, Sumantri, & Wiranti, 2023). A study by Indayani and Maulidiyah (2024) shows that digital marketing and product innovation have a significant influence on consumer preferences for contemporary tea beverages in the digital economy era. Trendy beverages are a term used for innovative and popular beverages, either because of their taste or their unique characteristics (Nurbaiti & Pangestu, 2024; Veronica & Iلمي, 2020).

Tea is a beverage that has long been known and

has strong cultural roots and high consumption levels in Indonesia (Dewi, 2016; Martina & Abdillah, 2020). Along with changes in people's lifestyles, especially in urban areas, the practice of drinking tea is no longer just about fulfilling basic needs, but has also developed as part of lifestyle representation, taste preferences, and social trend dynamics (Linnarto, Gunawan, Setiadi, Ashyari, & Lukman, 2020; Mariani & Rejasmardika, 2013; Yin & Fang, 2024). The study by Saptarianto and Oetarjo (2024) shows that lifestyle and product quality have a positive and significant effect on purchase decisions for contemporary tea beverages in Indonesia.

This shift in consumption orientation has driven the growth of the tea-based beverage industry with various product innovations, ranging from conventional tea offerings to modern variants such as *bubble tea*, *milk tea*, and other contemporary tea beverages (Anjarsari, 2022; Choesrani, 2020).

Most empirical studies on consumer preferences for contemporary beverages focus on large urban markets such as Jakarta, Surabaya, Depok, Malang, and Batam (Ardian & Fajrah, 2024; Ihwah, Putri, Dewi, & Deoranto, 2020; Mufidah & Nurhadi, 2023; Veronica & Ilmi, 2020), where these areas have relatively more stable purchasing power, high urbanization rates, and stronger exposure to global consumption trends. Meanwhile, studies on how consumer preferences are formed in semi-urban areas are still relatively limited, even though these areas have fundamentally different economic characteristics. Semi-urban areas are generally characterized by a more heterogeneous income structure, more limited purchasing power, and the dominance of micro and small businesses in the local market structure. These economic differences have the potential to produce a different demand structure compared to core urban markets, as consumers must balance their lifestyle aspirations with their budget constraints.

Bangkalan Regency is an example of a transitional area that has been functionally connected to the city of Surabaya via the Suramadu Bridge since 2009. Geographically, Bangkalan has a strategic position because it is close to Surabaya, which is the second largest urban or metropolitan area in Indonesia after Jabodetabek. This geographical proximity makes Bangkalan a buffer zone for the Surabaya metropolitan area, which is part of the Gerbangkertosusila Region (Gresik, Bangkalan, Mojokerto, Surabaya, Sidoarjo, and Lamongan). In this context, the City of Surabaya acts as the central growth hub supported by the buffer zone to sustain physical, economic, and social activities, as emphasized in Presidential Regulation No. 80 of 2019 on Accelerating Economic Development in the Gerbangkertosusila Region. The expansion of the city of Surabaya into its surrounding areas has triggered the phenomenon of *urban sprawl*, which is the gradual transformation from a rural to an urban character (Yunus, 2008). This

has enabled increased economic mobility, market interaction, and population mobility, which have become more intense due to metropolitan expansion, particularly in Surabaya, following the operation of the Suramadu Bridge.

However, the economic structure of Bangkalan Regency still shows mixed characteristics; the gross regional domestic product (GRDP) of Bangkalan Regency in 2024 was recorded at Rp 27.74 trillion, with a significant contribution from the agricultural sector accompanied by growth in the trade and service sectors (Badan Pusat Statistik, 2024). In terms of demographics, the population reached approximately 1.42 million with a density of 827 people/km² (Badan Pusat Statistik, 2024), which is still much lower than the core city of Surabaya. These conditions reflect that Bangkalan Regency has semi-urban characteristics as classified by Soegijoko (2006), namely an area with medium density, a transitional economic structure, and high accessibility to the core city but not yet fully integrated. Such areas are generally characterized by a mixed socio-economic structure between rural and urban activities, and a shift in land use from predominantly agricultural to a combination of agriculture, services, and trade. The term *semi-urban* in this study is used as an analytical category in urban-regional research, not as an administrative label, but rather as an analytical category used to explain the process of economic and spatial structural transition in a region.

From a microeconomic perspective, consumer preferences in transitional areas such as Bangkalan Regency are interesting to study because consumers are in a situation where consumption aspirations influenced by proximity to metropolitan areas are not always matched by equivalent economic capabilities. On the one hand, the community is exposed to an urban lifestyle through the media, mobility, and spatial interaction with the city of Surabaya, but on the other hand, they still face budget constraints and a relatively lower income structure. Based on Governor's Decree Number 100.3.3.1/937/013/2025 concerning the 2026 Minimum Wage for Regencies/Cities in East Java, the minimum wage in Surabaya is recorded at Rp 5,288,796, which is almost double that of Bangkalan at Rp 2,550,274. This difference in income levels creates unique market conditions, where consumption preferences develop under different purchasing power constraints compared to core urban areas. Within the framework of utility theory, consumers choose a combination of product attributes that provide maximum satisfaction while considering their budget constraints (Kotler & Keller, 2016). Thus, the analysis of consumer preferences in semi-urban areas not only reflects individual tastes but also reflects how demand structures are formed in conditions of economic transition between rural and urban areas.

Areas with urban characteristics generally show rapid growth in the business and enterprise sector (Lee

& Xu, 2020). The development of contemporary beverages is no longer limited to big cities, but has begun to spread to transitional areas around them. Increasing demand, especially from young consumers, has encouraged the emergence of various micro and small businesses in this sector. This phenomenon is also evident in Bangkalan Regency, where several local micro, small, and medium enterprises (MSMEs) have begun to adopt the concept of contemporary beverages to adapt to evolving consumer preferences. One example is the local business Teh Jeck Jumbo, which was established to meet the community's demand for contemporary beverages with a variety of flavors, namely original, fruit series, and milk series. Consumers, especially teenagers and college students, tend to choose products with specific combinations of attributes, such as beverage types with diverse flavor variants and affordable prices (Mufidah & Nurhadi, 2023). In addition, sweetness level, ice content, packaging size, and price are the main determinants in shaping preferences (Kusumasari, 2024; Rohmah & Subari, 2021). These preferences form what is known as demand structure, which is a pattern of utility composition for a combination of attributes that reflects how consumers maximize satisfaction within budget constraints.

Understanding the demand structure is crucial because it determines how MSMEs design product attribute combinations that suit market characteristics. If demand shows high price sensitivity, then pricing strategy becomes a key factor. Conversely, if non-price attributes such as flavor variety or freshness level are more dominant, product differentiation becomes a more relevant strategy. Thus, demand structure analysis not only provides an overview of consumer preferences but also serves as a basis for formulating MSME adaptation strategies in facing the dynamics of the local economy, which is undergoing a transformation process.

Based on this background, this study aims to analyze the structure of consumer demand for contemporary beverage products in the semi-urban market in Bangkalan Regency using a conjoint analysis approach. Specifically, this study aims to: (1) identify consumer characteristics that influence purchasing decisions, and (2) measure the level of utility and relative importance of product attributes that shape consumer demand. The findings of this study are expected to provide empirical understanding of how product attribute combinations shape consumer demand in semi-urban markets, while also providing implications for the development of strategies to enhance the competitiveness of local MSMEs. In addition, this study also contributes to the applied microeconomics literature by demonstrating the dynamics of consumer preference formation in the context of semi-urban markets.

B. LITERATURE REVIEW

B.1 Consumer Preference and Utility Theory

Consumer preferences are an important concept in economic and marketing theory that explains how individuals choose between various product alternatives to maximize satisfaction or utility. In classical microeconomic theory, consumers are assumed to make consumption decisions with the aim of maximizing utility under income and price constraints. This concept of utility forms the basis for analyzing consumer demand and individual choice behavior in the market (Nicholson & Snyder, 2017; Varian, 2014). Developments in modern demand theory emphasize that utility does not always come from the goods themselves, but rather from the attributes or characteristics contained in those goods. This approach was first proposed by Lancaster (1966) in his article *A New Approach to Consumer Theory*, which explains that consumers derive satisfaction from a combination of product attributes such as taste, quality, size, or price, rather than from the product itself. This theory became known as the characteristics theory of consumer demand, which states that every product can be viewed as a collection of attributes that provide utility to consumers.

Within this framework, consumer decisions are understood as a process of evaluating combinations of available product attributes. The attribute approach allows for a more realistic analysis of consumer behavior because different products can provide the same utility if they have similar characteristics. Therefore, Lancaster's attribute theory forms the conceptual basis for various empirical methods used to measure consumer preferences for specific product attributes. In addition, the development of consumer choice theory has also been enriched by the random utility model approach, developed by Daniel McFadden. This model explains that the utility obtained by consumers consists of two components, namely observable components (e.g., product attributes) and random components that cannot be observed by researchers. This framework is widely used in applied economic research to analyze consumer choice decisions regarding various product alternatives.

In the context of small and medium enterprises (SMEs), understanding consumer preferences has important implications for improving product competitiveness. Research shows that consumer perceptions of product attributes such as quality, price, service, and innovation play a significant role in shaping the competitiveness of SME products in the local market (Syiah et al., 2025). Information about the attributes most valued by consumers can help MSME players design product strategies that are more adaptive to market needs and improve the competitive position of their businesses. Improving the competitiveness of MSME products can drive regional economic growth because MSMEs play an important role in job creation, increasing community income, and strengthening local

economic activity (Lantu, Triady, Utami, & Ghazali, 2016). Therefore, understanding consumer preferences is an important factor for the development of sustainable and competitive MSME products at the regional level.

B.2 Consumer Behavior in Beverage Consumption

Consumer behavior explains the process by which individuals seek information, evaluate alternatives, and ultimately make purchasing decisions. In the context of consumer economics, this behavior is influenced by a combination of rational factors such as price and quality, as well as psychological and social factors such as perceived value, lifestyle, and consumption experience (Kotler & Keller, 2016; Solomon, 2018). In the beverage industry, empirical research shows that consumer preferences are strongly influenced by the sensory and economic attributes of a product. For example, Ong et al. (2021), based on a survey of 1,061 consumers in the Philippines, examined seven attributes of milk tea, namely pearl size, sugar level, amount of ice, type, price, cream cheese, and brand. The results showed that pearl size, sugar level, and amount of ice were the three most important attributes in shaping consumer preferences. These findings indicate that consumer decisions regarding beverage products are multidimensional, with consumers evaluating various product attributes simultaneously.

A number of empirical studies show that consumer preferences for beverage products are greatly influenced by sensory and functional product attributes. Attributes such as taste, serving size, and packaging have been shown to play an important role in shaping consumer preferences for milk-based beverages and other contemporary beverages (Ihwah et al., 2020). These findings reinforce the attribute approach in consumer demand theory, which states that consumers evaluate products as a combination of characteristics that provide utility. In addition to sensory attributes, product customization factors also influence consumer preferences. Studies by Mufidah and Nurhadi (2023) and Veronica and Ilmi (2020) show that consumers of trendy beverages value flexibility in choices such as flavor variations and ice levels. This indicates that consumers are not only pursuing the basic functions of the product but also a consumption experience that suits their personal preferences. Research on preferences for tea-based beverages also shows consistent results. Vishnu, Kurian, Bhatt, and Sathyan (2024) found that consumer preferences for packaged tea are influenced by brew strength, packaging design, and product price. Similar findings were reported by Silva, Dharmadasa, and Sinniah (2013), who showed that taste, price, and product availability are the main factors in determining consumer preferences for ready-to-drink tea products. In the local Indonesian context, research by Indrasti and Siliyya (2022) found that packaging attributes, ha-

lal labels, cup size, and expiration dates influence the perceived quality of ready-to-drink tea products. A recent study by Purnomo and Krisprimandoyo (2024) also shows that sensory attributes such as taste, toppings, and ice texture are very important factors in consumer preferences for contemporary beverages.

B.3 Conjoint Analysis and Utility Measurement

Conjoint analysis is a statistical method used to measure how consumers evaluate combinations of different product attributes. This method was first introduced in marketing research by Paul E. Green and Vithala R. Rao in the early 1970s to understand the structure of consumer preferences for product attributes (Green & Rao, 1971; Green & Srinivasan, 1978). Conceptually, conjoint analysis is closely related to utility theory in microeconomics, which states that consumers choose the alternative that provides the highest utility. In conjoint analysis, consumer preferences are assumed to follow an additive utility model, where the total utility of a product is the sum of the partial utilities derived from each product attribute. Mathematically, the utility of a product alternative can be expressed as a function of the attributes that comprise it. Thus, conjoint analysis allows researchers to estimate the part-worth utilities of each product attribute to determine the relative contribution of that attribute in shaping consumer preference (Green & Srinivasan, 1978; Orme, 2010).

In practice, conjoint analysis is conducted by presenting several combinations of product attributes to respondents, who are then asked to provide assessments or ratings for those combinations. Based on this data, researchers can estimate the partial utility of each attribute and determine which attributes have the highest level of importance in consumer decisions. This method has been widely used in research on food and beverage preferences. For example, research by Utama and Antonio (2022) on calamansi drinks shows that volume and type of packaging are the attributes with the highest utility in consumer preferences. Research by Ong et al. (2021) also shows that the attributes of pearl size, sugar level, and ice content are dominant factors in consumer preferences for milk tea. In the Indonesian context, research by Sitanggang, Siregar, and Rahayu (2023) shows that taste and aroma attributes are the factors that most influence consumer preferences for coffee. Meanwhile, Kurnianti and Windasari (2025) applied conjoint analysis to evaluate consumer preferences for plant-based snack attributes, with packaging identified as the most important attribute, followed by price, cooking method, ingredient composition, and flavor. Another study by Fadilah and Nugroho (2023) on salak syrup shows that the original flavor attribute has the highest utility value compared to other flavor variants. This finding indicates that consumers tend to choose products that meet traditional flavor expectations and are easily accessible through available distribution channels. In the context of con-

sumer preference analysis, conjoint analysis is used to estimate the relative contribution of various product attributes to consumer-perceived utility, so that this method can be used to identify the combination of product attributes that consumers prefer most. Based on the utility theory framework and previous empirical findings, this study uses conjoint analysis to identify the relative contributions of product attributes such as price, cup size, flavor variants, ice level, and sweetness level in shaping consumer preferences for Es Teh Jeck in Bangkalan Regency. Although previous studies have examined consumer preferences for beverage products, limited research has investigated how product attributes shape consumer demand structures in semi-urban markets using conjoint analysis.

C. RESEARCH METHODS

This research method was developed to provide a systematic overview of the data collection procedures, data processing techniques, and variable measurement methods used to analyze consumer preferences for tea products at the Teh Jeck Jumbo MSME in Bangkalan Regency. This study employed a quantitative survey design combined with a conjoint analysis approach to identify the product attributes that influence consumer preferences.

C.1 Location and Research Design

The research was conducted at the Teh Jeck Jumbo MSME located in Mlajah Village, Bangkalan Regency. This area was chosen because it shows consumption dynamics that are developing in line with the growth of contemporary beverage businesses in semi-urban areas. The study site was selected purposively because the MSME represents a newly emerging beverage business in Bangkalan and offers multiple product variations, making it suitable for evaluating consumer preference structures using conjoint analysis.

The study used a survey design. Primary data were obtained through the distribution of questionnaires online using Google Forms and offline to consumers who had purchased and consumed Teh Jeck products at least once. The offline survey was conducted using an intercept survey approach at the Teh Jeck Jumbo sales location and surrounding areas, where respondents were asked to fill out the questionnaire after purchasing the product.

C.2 Sampling Technique

Sampling was conducted using the accidental sampling of active consumers method, which is a sampling technique based on whoever happens to be encountered and meets the criteria as a respondent (Sugiyono, 2018). While accidental sampling limits statistical generalization, it is commonly used in exploratory consumer preference studies where the objective is to estimate attribute-level utilities rather than population parameters. Therefore, the results of this study are interpreted as a description of consumer preferences in the local

context of the Teh Jeck Jumbo MSME in Bangkalan and are not intended to represent the entire population of tea consumers in a wider area.

Following the rule of thumb proposed by Orme (2010), the minimum sample size in conjoint analysis can be approximated using the formula: sample size = (levels – attributes + 1) × 5. Using this formula, the sample size used is (13 – 5 + 1) × 5 = 45 people. Although the sample size in this study consists of 45 respondents, conjoint analysis does not require large samples because the method focuses on estimating part-worth utilities for product attributes rather than population parameters. Previous studies indicate that reliable conjoint results can be obtained with relatively small samples, particularly in exploratory consumer preference research (Green & Srinivasan, 1990; Orme, 2010). Therefore, the sample in this study is considered sufficient to identify consumer preference patterns in the semi-urban market context of Bangkalan.

C.3 Variables, Attributes, and Measurement

The main variable in this study is consumer preference for tea beverage product attributes. The product attributes analyzed were determined based on field observations and discussions with MSME owners. These attributes include price, product size, flavor variants, ice quantity, and sweetness level. The attributes and product levels used in this study are presented in Table 1.

Table 1. Attributes and Levels of Jeck Tea Beverages

No.	Attribute	Attribute Levels
1	Price	Rp 4,000; Rp 6,000; Rp 8,000
2	Size	Large; Medium
3	Flavor Variant	Original; Fruit Series; Milk Series
4	Ice Level	Full Ice; Half Ice; No Ice
5	Sweetness Level	Sweet; Medium

Source: Processed data, 2025.

C.4 Data Processing and Analysis Techniques

The analysis was conducted in two main stages.

Descriptive Analysis. Descriptive analysis was used to describe the characteristics of respondents based on age, gender, occupation, and income level. This analysis aimed to provide an overview of the profile of Teh Jeck beverage consumers in the semi-urban area of Bangkalan Regency.

Conjoint Analysis. Conjoint analysis is used to identify the relative contribution of each product attribute in shaping consumer preferences. In conjoint analysis, consumer preferences for a product profile are expressed through the total utility value obtained from the sum of the partial utilities (part-worth utilities) of each attribute level. In general, the utility function can be written as follows:

$$U = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 \quad (1)$$

where U is the total utility of a product alternative, b_0 is the constant (intercept), b_1 – b_8 are the part-worth utilities of each attribute level, and X_1 – X_8 are dummy variables representing product attribute levels. The dummy variables are defined as follows: $X_1 = 1$ if the price is Rp 4,000, 0 otherwise; $X_2 = 1$ if the price is Rp 6,000, 0 otherwise; $X_3 = 1$ if the cup size is large, 0 otherwise; $X_4 = 1$ if the flavor is original, 0 otherwise; $X_5 = 1$ if the flavor is fruit series, 0 otherwise; $X_6 = 1$ if the ice level is full ice, 0 otherwise; $X_7 = 1$ if the ice level is half ice, 0 otherwise; and $X_8 = 1$ if the sweetness level is sweet, 0 otherwise.

The total utility value of a product combination is obtained by summing the constant and the partial utility of each selected attribute level. The combination of attributes with the highest total utility value indicates the product profile most preferred by consumers.

The combination of attributes and levels produces a total of 108 possible stimuli ($3 \times 2 \times 3 \times 3 \times 2$). To reduce the complexity of respondent evaluation while maintaining the efficiency of the experimental design, this study uses an orthogonal design generated through the orthogonal design procedure in SPSS software. The orthogonal design allows for the selection of a number of stimulus combinations that still represent all attribute variations statistically without causing correlations between attributes, so that partial utility estimates can be made efficiently and without bias. Based on this procedure, 16 stimuli were obtained and then included in the research questionnaire. Respondents evaluated each stimulus using a five-point rating scale (1 = least preferred, 5 = most preferred). The data from the respondents' assessments were then analyzed using conjoint analysis with the help of SPSS software. The analysis output was used to calculate the partial utility value and the relative importance of each attribute in shaping consumer preferences.

This approach allows for the identification of product attributes that most influence consumer utility, thereby providing strategic information for MSME actors in designing more competitive products in the local market, especially in semi-urban areas such as Bangkalan Regency.

D. RESULTS AND DISCUSSION

D.1 Respondent Characteristics

This study involved 45 respondents who were active consumers of *Es Teh Jeck* beverages in Bangkalan Regency. Respondent characteristics were described through several demographic variables: gender, age, domicile, occupation, and income level. This demographic information is important for interpreting consumer preferences because marketing literature shows that demographic factors such as age, employment status, and income level influence purchasing decisions for food and beverage products (Kotler & Keller, 2016; Ong et al., 2021).

Gender. The survey results show that the major-

ity of respondents are male (62%), while 38% are female. This difference indicates variations in beverage consumption patterns based on gender. Research on contemporary beverage consumption also shows that preferences for product attributes can differ between gender groups, so the composition of respondents needs to be considered in interpreting preference results (Ong et al., 2021).

Age. Most respondents were in the 22–27 age group (42%), followed by those aged 16–21 (38%), and the remaining 20% were over 28 years old. This shows that consumers of contemporary iced tea beverages are dominated by the late teenage to young adult age group. This age group generally has an active lifestyle and a tendency to try new products. The younger generation also tends to be more open to product attribute innovations such as taste, size, and appearance (Cahyanti & Najib, 2016).

Occupation. Most respondents were students or college students (62%), followed by civil servants (15%), employees (9%), entrepreneurs (7%), and unemployed (7%). The dominance of the student group indicates that the main consumers of modern tea drinks come from groups with high mobility and intense social activities. Previous research also shows that students are the main market segment for ready-to-drink beverages due to the need for practical and refreshing drinks during academic and social activities (Nurhayati & Belanov, 2023).

Income Level. Most respondents did not have a steady income (60%), as they were still students. Twenty percent had an income of >Rp 2,000,000, 9% had an income of Rp 1,000,000–Rp 2,000,000, and 11% had an income of <Rp 1,000,000. These income characteristics affect the respondents' sensitivity to price attributes. This is consistent with the research by Lin, Yang, and Chen (2023) that students tend to use their pocket money to buy trendy drinks, making them very responsive to price variations.

Thus, the composition of respondents (mostly male, young, and students/university students without a steady income) makes the student/late teenager segment the main target market for *Es Teh Jeck*. These demographic findings support the focus of the conjoint analysis on attributes that are relevant to young consumers—particularly price, size, flavor variants, ice content, and sweetness level—as these attributes are directly related to hedonic preferences (freshness, taste) and economic aspects (price/size).

D.2 Conjoint Model Validity

The validity of the conjoint model was tested to ensure that the model was able to accurately represent consumer preferences. The testing was conducted using two statistical indicators, namely Pearson's R and Kendall's tau, which measure the conformity between respondents' preference rankings and the model's utility estimates. The analysis results showed a Pearson's

R value of 0.706 and a Kendall's tau value of 0.564 with a significance level of $p = 0.001$ (< 0.05). These values indicate that the model has good predictive power and is statistically significant.

This method is in line with Puspitaningrum and Setiawati (2021), who state that the validity of conjoint analysis is demonstrated by a correlation value above 0.5 between actual preferences and model estimates. The research by Ihwah et al. (2020) also shows that conjoint models with Kendall's tau values above 0.5 can be considered valid in product preference research. In addition, Wulandari and Sari (2019) emphasize that the higher the correlation value, the more reliable the model is in predicting the combination of product attributes preferred by consumers. Thus, the conjoint model in this study can be used to estimate consumer preferences for the attributes of Es Teh Jeck products.

D.3 Importance Values of Product Attributes

In conjoint analysis, importance value indicates the relative importance of each attribute in influencing consumer preferences (Hendaris, Zakaria, & Kasymir, 2013). Table 2 reports the importance values obtained for the five attributes examined in this study.

Table 2. Importance Values

Attribute	Importance Value
Ice Level	27.219
Price	24.060
Flavor Variant	22.211
Cup Size	14.108
Sweetness Level	12.402

Source: Processed primary data, 2025.

The analysis results show that the attribute with the highest level of importance is ice quantity (27.219), followed by price (24.060) and flavor variety (22.211). This indicates that variations in these three attributes have the most influence in shaping consumer preferences for Es Teh Jeck products. Research on beverage consumer behavior shows that sensory attributes such as taste and economic factors such as price are the main determinants in beverage purchasing decisions (Budiarto, Suprihati, & Samanto, 2025). The ice quantity attribute has the highest level of importance in the importance value analysis results, indicating that the sensation of freshness is an important factor in beverage product evaluation. In the context of tropical Indonesia, especially in Bangkalan Regency, which has relatively high air temperatures throughout the year due to its location surrounded by the sea, cold drinks are not only viewed as consumer products but also as a means of providing a refreshing sensation and comfort amid relatively high ambient temperatures. Meanwhile, the price attribute is also an important consideration in consumer demand for Teh Jeck beverages. The high level of importance of the price attribute indicates that purchasing decisions for contemporary beverages are still greatly influenced by consumer purchasing power. This phenomenon is common in semi-urban

markets that are experiencing growth in the consumption of modern products but still have limited purchasing power compared to consumers in larger urban areas. These findings indicate that consumer demand in semi-urban markets is not only influenced by sensory factors but also by consumers' limited purchasing power. Therefore, price and consumption value are important factors for the sustainability of Teh Jeck MSMEs.

The cup size attribute has a level of importance of 14.108, while the sweetness level has a level of importance of 12.402. Although these two attributes have a smaller influence than other attributes, their variations still contribute to consumer demand. Research on beverage preferences shows that in addition to taste and price, other product attributes such as serving size and sweetness level can also influence consumer evaluation of beverage products, especially in relation to perceived value and consumption experience (An, Du, & Wang, 2022).

The importance values reported in Table 2 represent the average relative importance calculated across individual respondents. The importance ranking may therefore differ from the range of the aggregate utility estimates presented in Table 3, because differences in the direction of individual preferences may offset one another at the aggregate level.

D.4 Utility Estimates of Attribute Levels

Table 3. Consumer Preference Utilities for Jeck Iced Tea

Attribute	Level	Utility	Std. Error
Price	Rp 4,000	0.095	0.058
	Rp 6,000	0.000	0.068
	Rp 8,000	−0.094	0.068
Size	Large	0.033	0.043
	Medium	−0.033	0.043
Flavor Variant	Original	−0.072	0.058
	Fruit Series	0.085	0.068
	Milk Series	−0.014	0.068
Ice Level	Full Ice	−0.002	0.058
	Half Ice	0.033	0.068
	No Ice	−0.031	0.068
Sweetness Level	Sweet	−0.033	0.043
	Medium	0.033	0.043
(Constant)		3.618	0.050

Source: Processed primary data, 2025.

Based on the results of the conjoint analysis in Table 3, each attribute level produces a part-worth utility value that reflects its relative contribution to consumer preferences. The combined part-worth utility of a product profile is obtained by summing the part-worth utility values of the selected attribute levels, excluding the model constant. Therefore, the combination of attributes with the highest combined part-worth utility represents the product profile most preferred by consumers. A positive utility value indicates that the attribute level increases consumer preference, whereas

a negative utility value indicates a decrease in preference. The explanation of each attribute level is as follows.

Price Attribute. In the price attribute, the Rp 4,000 level has a utility value of 0.095, while the Rp 6,000 level has a utility of 0.000. This comparison shows that consumers prefer the price of Rp 4,000 to the price of Rp 6,000. Preference for lower prices indicates price sensitivity in purchasing decisions. This finding is in line with the research by Rahayu, Fauziyah, and Ariyani (2012), which shows that consumers tend to choose food and beverage products that are more affordable. This price sensitivity is also related to the characteristics of the respondents, most of whom are students without a steady income. Lin et al. (2023) stated that students tend to consider price more because purchases of trendy beverages are generally made using pocket money. In addition, market conditions in Bangkalan Regency, which is developing as a semi-urban area with relatively diverse purchasing power, may also influence consumer preferences for affordable products. In semi-urban markets, consumers generally continue to consider affordability even though demand for trendy beverages continues to increase.

Flavor Variety. In terms of flavor variety, the fruit series has a utility value of 0.085, while other varieties have lower utility values. The preference for fruit flavors indicates that consumers are looking for a fresher and different taste experience from conventional tea. This finding is in line with Rahardjo (2017), whose research shows that flavor innovation is an important factor in increasing consumer preference for beverage products. Previous research also suggests that flavor variety can influence consumer evaluation of contemporary beverages, particularly by providing consumers with alternative taste experiences (Mufidah & Nurhadi, 2023).

Ice Level. In terms of ice quantity, the half ice level has a utility value of 0.033, while the full ice level has a utility value of -0.002 . This comparison shows that consumers prefer less ice. Consumer preference for half ice indicates that consumers want a balance between the sensation of coldness and the strength of the drink's flavor, as too much ice can cause the drink to become more diluted and reduce the intensity of the flavor. This finding is in line with Mufidah and Nurhadi (2023), whose research shows that temperature and ice level are important attributes in determining consumer satisfaction with cold drinks. Ready-to-drink iced tea is one of the most popular innovations because it provides a refreshing sensation, especially in regions with relatively high temperatures (Mustika, 2019).

Cup Size. In terms of cup size attributes, large cup sizes have a utility value of 0.033, while smaller cup sizes have lower utility values. This indicates that consumers prefer larger drink sizes. This preference is related to the perception of value for money, which is the tendency of consumers to obtain a larger quantity

of products at a relatively affordable price. Research by Taqwim (2023) also shows that beverage sizes can influence product value perceptions in coffee beverage preferences. In the context of the ready-to-drink beverage market in areas dominated by young consumers such as college students, larger beverage sizes are often considered to provide more satisfying consumption value than smaller sizes.

Sweetness Level. In terms of sweetness level, medium sweetness has a utility value of 0.033, while other sweetness levels have lower utility values. This indicates that consumers prefer sweetness levels that are neither too high nor too low. This finding is in line with the research by Yang, Kraft, Shen, MacFie, and Ford (2019), which shows that medium sweetness tends to result in higher consumer acceptance levels compared to extreme sweetness levels. The preference for medium sweetness levels may also indicate increased consumer awareness of flavor balance and sugar consumption.

From a business strategy perspective, the results of this study have important implications for MSME players engaged in the contemporary beverage sector. Product development depends not only on the overall quality of the beverage, but also on the ability of business players to design a combination of product attributes that best suit consumer preferences. This is in line with the characteristics theory of consumer demand, which states that consumers derive satisfaction from the combination of characteristics or attributes inherent in a product, rather than from the product itself, as explained by Lancaster (1966) in his theory on the attribute approach to consumer behavior. In the context of this study, attributes such as affordable prices, moderate ice content, interesting flavor variations, and larger cup sizes can increase the perceived value of the product in the eyes of consumers. By understanding these attribute preferences, MSME players can design product strategies that are more adaptive to local market characteristics while increasing business competitiveness amid increasingly intense competition in the ready-to-drink beverage industry.

E. CONCLUSION

This study examines consumer characteristics and measures the relative importance of product attributes shaping demand for ready-to-drink tea in a semi-urban market using conjoint analysis. The results indicate that consumer preferences are determined by a combination of product attributes. Among the evaluated attributes, ice level has the highest importance value, followed by price, flavor variety, cup size, and sweetness level. At the attribute level, the most preferred combination consists of a Rp 4,000 price, fruit-series flavor, half-ice level, large cup size, and medium sweetness level. These findings suggest that purchasing decisions are formed through the evaluation of multiple attributes that generate utility for consumers.

From a theoretical perspective, this study con-

tributes to the literature on consumer behavior by providing empirical evidence supporting the attribute-based theory of consumer choice proposed by Lancaster, which posits that consumers derive utility from product characteristics rather than from the product itself. The findings demonstrate how attributes such as price, flavor variety, portion size, and perceived freshness jointly shape consumer preferences in the ready-to-drink beverage market.

From an economic and policy perspective, the results provide insights into consumer demand patterns in semi-urban markets such as Bangkalan, which function as transitional areas between rural and metropolitan economies. The strong preference for affordable prices and value-oriented product attributes reflects the purchasing power constraints typical of student-dominated markets. These insights may inform local economic development strategies and policy initiatives aimed at strengthening MSME competitiveness through product innovation and market adaptation.

Practically, the findings offer guidance for beverage MSMEs in designing products aligned with consumer preferences. For example, businesses may introduce a targeted promotional package such as a “Student Bundle,” combining the Rp 4,000 price point with the preferred fruit-series flavor and optimized ice and sweetness levels. Such strategies may increase product attractiveness in student-dominated markets and enhance business competitiveness. Future studies may extend this research by including larger samples, broader geographic coverage, and additional variables such as brand image, service quality, and experiential consumption.

DECLARATIONS

Author contributions. A.R.S.: Investigation, data curation, formal analysis, visualization, and writing — original draft; N.Q.: Conceptualization, methodology, validation, supervision, project administration, and writing — review and editing; I.R.K.: Validation, resources, and writing — review and editing. All authors have read and agreed to the published version of the manuscript.

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Author’s declaration. I declare that this manuscript represents my independent research and has not been submitted to any other institution for publication. I certify that there is no conflict of interest associated with this work. No external parties had any involvement in the study design, data analysis, or the writing of this manuscript. All sources used have been properly cited and acknowledged.

Declaration of generative AI in the writing process. During the preparation of this work, the authors used ChatGPT to assist with text drafting, translation, and language refinement. After using this tool/service,

the authors reviewed and edited the content as needed and take full responsibility for the entire substantive content, analysis, and conclusions of the published article.

Ethical approval and informed consent. Formal ethics committee approval was not required for this study under the prevailing regulations of Universitas Trunojoyo Madura, as it involved an anonymous consumer survey collecting no personally identifying or sensitive data. All respondents participated voluntarily and gave informed consent before completing the questionnaire.

Data availability statement. The data analyzed in this study are primary survey data collected from 45 consumers of the Teh Jeck Jumbo MSME in Bangkalan Regency. The datasets generated and analyzed during the current study are not publicly available due to technical limitations in data retention and accessibility, and no further copies are available for sharing.

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