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ANALYSIS OF HOUSEHOLD CONSUMER PREFERENCES FOR TEA PRODUCTS IN BANJARMASIN CITY, SOUTH KALIMANTAN PROVINCE

Fuzi Maulana Ash'ari[1], Yarna Hasiani[2]
[12]Agribusiness, Faculty of Agriculture, Islamic University of Kalimantan Muhammad Arsyad Al Banjary Banjarmasin
fuzi@uniska-bjm.ac.id

Abstract

Tea is a beverage made from the processed leaves of Camellia sinensis. It is one of the most widely consumed beverages in the world, including in Indonesia. Thus, it is essential to examine household consumer preferences in determining tea purchases in Banjarmasin City. This study aims to analyze household consumer preferences for tea products in Banjarmasin City. Based on conjoint analysis, the attributes considered by consumers according to the utility estimate values indicate that household consumer preferences for tea products are box packaging, tea bags, and green tea with jasmine aroma. According to the importance values, aroma is the most important attribute with a value of 44.708, followed by type of tea 26.894, packaging 16.606, and form 11.792.
Keyword : Consumer Preferences, Household, Tea Products, Conjoint Analysis

INTRODUCTION

Tea is a beverage made from processed leaves of *Camellia sinensis*. Tea is one of the most widely consumed beverages in the world, including in Indonesia. According to data from the Agricultural Research and Development Institute of Indonesia (2023), tea consumption in Indonesia reaches 1.2 million tons per year. Tea has various health benefits, including being an antioxidant, anti-inflammatory, and anticancer agent.

Tea is one of the plantation commodities that plays a significant role in economic activities in Indonesia. Tea is also one of Indonesia's important export commodities, contributing to foreign exchange earnings along with oil and gas. As a beverage, tea has added value compared to other drinks, considering it is rich in minerals and vitamins needed by the body. Various health benefits of tea have also been recognized by nutrition experts.

Tea production in Indonesia is mostly allocated for domestic consumption. As much as 80% of Indonesia's tea production is consumed domestically, while the remaining is exported to various countries such as the United States, Japan, and the European Union. In 2022, Indonesia's tea reached 61 countries in the export market. In the same year, Malaysia was the largest importer of Indonesian tea, with an export volume of 8,569 tons, accounting for 19.1% of Indonesia's total tea export volume, valued at US$12.6 million. The second largest importer was the Russian Federation, with an export volume of 6,618 tons, accounting for 14.7% of the total volume and valued at US$10.2 million. The United States

ranked third, contributing 7.2% of the total volume with 3,258 tons, valued at US$5.2 million, while China and Pakistan were in fourth and fifth place, respectively. In 2022, tea exports to China reached 2,780 tons, or around 6.2%, valued at US$4.1 million, and to Pakistan amounted to 2,746 tons, or 6%, valued at US$4.9 million.

The plantation area and tea production in Indonesia by province in 2022 are presented in the following table.

Table 1. Tea Plantation Area and Tea Production by Province (Statistics Indonesia, 2023)

No	Province	Area (Ha)	Production (Ton)	Percentage (%)
1	West Java	72.308	75.892	64,76
2	Central Java	8.880	14.896	12,71
3	North Sumatera	3.523	9.324	7,96
4	West Sumatera	3.472	5.455	4,65
5	Jambi	2.126	4.658	3,97
6	South Sumatera	1.523	2.672	2,28
7	Bengkulu	914	2.065	1,76
8	East Jawa	1.560	2.014	1,72
9	Yogyakarta	136	198	0,17
10	Banten	46	13	0,01
	Total	**94.488**	**117.187**	**100,00**

Based on the table above, West Java Province has the largest tea plantation area nationally, covering 72,308 hectares, and the highest production volume, totaling 75,892 tons in 2022. Central Java Province follows in second place, and North Sumatra Province ranks third.

The city of Banjarmasin is one of the cities among the 13 regencies and cities in South Kalimantan Province. It is divided into 5 districts with 52 sub-districts and covers an area of 98.46 km^2, accounting for 0.26% of the province's total area. With a population of 662,320 people, it holds the largest population in South Kalimantan Province, representing 16.07% of the total. The population is divided into 331,640 males and 330,680 females, with a population growth rate of 0.53% per year and a population density of 6,727 people per km^2 (Banjarmasin Statistics, 2022). Based on these figures, Banjarmasin has the highest population density compared to all other regencies and cities in South Kalimantan Province.

The community of Banjarmasin is a heterogeneous society with diverse social and economic backgrounds, as well as varying household income levels. Consequently, the tea products consumed by each household differ based on the attributes of the products

offered. Therefore, researchers are interested in conducting a study to analyze household consumer preferences for tea products in Banjarmasin City.

RESEARCH METHOD

This study is conducted in Banjarmasin City over a three (3) month period, from March to May 2024. The types of data used in this research are qualitative and quantitative data. The data sources consist of primary and secondary data. Primary data is obtained through direct observation, while secondary data is derived from literature, research reports, articles or journals, and data from the Central Bureau of Statistics. The sampling method used in this study is purposive sampling, with a total of 100 respondents selected based on the following criteria: a. Respondents are residents of Banjarmasin City. b. Respondents are married. c. Respondents are household consumers who consume tea. d. Respondents are at least 19 years old. The variables observed in this study are: a. Respondent's identity. b. Consumer preferences/tea attributes. For the attributes of tea products analyzed in this study, they include attributes such as packaging, form, type, and aroma.

The data analysis used to address the research objective of analyzing household consumer preferences for tea products in Banjarmasin City is conjoint analysis. Conjoint analysis is a technique specifically used to identify the attributes that consumers prefer and consider most when choosing tea products. The basic conjoint analysis model can be represented by the following formula:

$$U(X) = \sum_{i=1}^{m} \quad \sum_{j=1}^{ki} \quad \alpha_{ij} X_{ij}$$

U (X) = Overall utility of an alternative

Aij = Part-worth contribution or utility associated with level j
(j.j = 1,2....k) from attribute i,
(i = 1,2 ,...m)

ki = Number of attribute levels

m = Number of attributes

Xij = 1 if the level j of an attribute, and 0 if not (Ii) importance of an attribute is expressed within the range of part-worths.

Conjoint analysis essentially aims to estimate the pattern of respondent opinions, referred to as estimated part-worths. This is then compared with the actual opinions of respondents found in the profile.

RESULT AND DISCUSSION

Respondent Characteristics

Respondent Characteristics Based on Education Level

Based on the results of the questionnaire regarding household consumer preferences for tea products in Banjarmasin City, the characteristics of consumer respondents based on their education level in this study are as follows:

Table 2. Respondent Characteristics Based on Educational Level

Educational Level	Number of Respondents	Percentage
High School (SMA)	48	48
Undergraduate (S1)	34	34
Diploma	9	9
Postgraduate (S2)	9	9
Total	**100**	**100**

Source : Primary Data (2024)

The table 2 shows that the most common educational level among tea consumer respondents in Banjarmasin City in this study is high school (SMA) with 48 respondents (48%), followed by undergraduate degree holders (S1) with 34 respondents (34%), and both diploma holders and postgraduate (S2) with 9 respondents (9%) each.

Characteristics of Respondents Based on Gender

Based on the results of the questionnaire on household consumer preferences for tea products in Banjarmasin City, the characteristics of consumer respondents by gender in this study are as follows:

Table 3. Respondent Characteristics Based on Gender

Gender	Number of Respondents	Percentage
Male	34	34
Female	66	66
Total	**100**	**100%**

Source : Primary Data (2024)

The table 3 shows that household tea consumer respondents in Banjarmasin City are predominantly female, constituting 66 respondents (66%), while male respondents make up 34 (34%). According to Kusuma (2021), women play significant roles in various productive activities within the household. In daily life, a wife can have dual roles, both as a homemaker and as a worker, contributing additional income to meet family needs.

Characteristics of Respondents Based on Age

Based on the questionnaire results for household consumer preferences for tea products in Banjarmasin City, the characteristics of consumer respondents by age in this study are as follows:

Table 4. Respondent Characteristics Based on Age

Age Range (Years)	Number of Respondents	Percentage
19 – 27	13	13%
28 – 34	32	32%
35 – 42	28	28%
43 – 49	18	18%
50 – 56	9	9%
Total	**100**	**100**

Source: Primary Data (2024)

The table 4 shows that respondents in this study range from 19 to 56 years old, predominated by consumers aged 28-34 years (32 respondents, 32%) and 35-42 years (28 respondents, 28%). These age ranges fall within the productive age group. According to the Ministry of Health of the Republic of Indonesia (2021), the productive age range is between 15-64 years. Individuals in this age range are generally more adept at adopting technology and possess robust physical conditions (Ukkas, 2017).

Characteristics of Respondents Based on Occupation

Based on the results of the questionnaire on household consumer preferences for tea products in Banjarmasin City, the characteristics of consumer respondents by occupation in this study are as follows:

Table 5. Respondent Characteristics Based on Occupation

No.	Occupation	Number of Respondents	Percentage
1	Housewives	32	32
2	Teachers	9	9
3	Military/Police (TNI/POLRI)	3	3
4	Private Employees	19	19
5	Entrepreneurs	12	12
6	Civil Servants (PNS)	13	13

No.	Occupation	Number of Respondents	Percentage
7	State-owned Enterprise Employees (BUMN)	2	2
8	Regional-owned Enterprise Employees (BUMD)	3	3
9	Traders	2	2
10	Students	5	5
	Total	**100**	**100%**

Source: Primary Data (2024)

The table 5 shows that the respondents' characteristics based on occupation are mainly dominated by housewives, with 32 respondents (32%). According to Taswiyah & Imron (2021), housewives have good perceptions and preferences toward household consumer goods.

Consumer Preference Analysis

In conjoint analysis, the first step involves conducting a pre-survey or pre-study by identifying the attributes of tea products available in the market, particularly in Banjarmasin City. The attributes and levels identified in tea products include packaging (sachet, box, paper packaging), sales form (tea bags, loose tea), types of tea (black tea, green tea, oolong tea, white tea), and tea aroma (original, jasmine, vanilla, fruit). These attributes are then formulated into stimuli, which respondents will choose from, with evaluations using a Likert scale based on their assumptions or preferences. Based on the table, there are 16 combinations of stimuli derived from 4 attributes and 13 attribute levels. The stimuli combinations in this study are as follows:

Table 6. Stimuli Combinations

Stimuli	Packaging	Form	Type	Aroma
1	Box	Bag	Black Tea	Jasmine
2	Sachet	Loose	Black Tea	Fruit
3	Paper Packaging	Loose	Black Tea	Vanilla
4	Sachet	Bag	Oolong Tea	Fruit
5	Sachet	Bag	Green Tea	Jasmine
6	Box	Loose	White Tea	Original
7	Paper Packaging	Bag	White Tea	Fruit

Stimuli	Packaging	Form	Type	Aroma
8	Paper Packaging	Bag	Green Tea	Original
9	Box	Bag	Oolong Tea	Vanilla
10	Sachet	Bag	White Tea	Vanilla
11	Sachet	Loose	Oolong Tea	Original
12	Sachet	Bag	Black Tea	Original
13	Paper Packaging	Loose	Oolong Tea	Jasmine
14	Sachet	Loose	White Tea	Jasmine
15	Box	Loose	Green Tea	Fruit
16	Sachet	Loose	Green Tea	Vanilla

Source: Primary Data (2024)

The design of the above stimuli combinations was carried out using data processing software SPSS 26. These stimuli combinations are used to determine household consumers preferences (evaluations) when selecting tea products in Banjarmasin City.

Conjoint Analysis

According to Salomon et al. (2015), Conjoint Analysis is a multivariate analysis method used to help determine the combination or composition of attributes in a product or service, whether it is a new or existing product. This analysis aims to assess the importance of different attributes as perceived by respondents.

Table 7. Significance Values of Household Consumer Preferences for Tea Products

	Value	Sig.
Pearson's R	0,913	0,000
Kendall's tau	0,871	0,000

Source: Primary Data Processing (2024)

The results from the conjoint analysis table above indicate that this study has a predictive accuracy value represented by Pearson's R ranking of 0.913 and Kendall's tau of 0.871. The findings of this study can be concluded as valid since the predictive accuracy values for Pearson's R and Kendall's tau are less than the error margin of 0.05, thereby providing significant values. The analysis also reveals a strong association between consumer preferences and the product attributes used in this study, as evidenced by a

Pearson's R value of 0.913. This value indicates that 91.3% of the attribute combinations impact household consumer preferences for tea products in Banjarmasin City.

Based on the conjoint analysis, the attributes considered by consumers according to the utility estimate values can be seen in the following table:

Table 8. Utility Estimate Values for Attributes

Attribute	Attribute Level	Utility Estimate	Std. Error
Packaging	Sachet	.003	.027
	Box	.035	.031
	Paper Packaging	-.039	.031
Form	Bags	.114	.020
	Loose	-.114	.020
Type	Black Tea	.021	.034
	Green Tea	.133	.034
	Oolong Tea	-.063	.034
	White Tea	-.090	.034
Aroma	Original	.160	.034
	Jasmine	.197	.034
	Vanilla	-.101	.034
	Fruit	-.256	.034
(Constant)		**3.370**	**.021**

Source: Primary Data Processing (2024)

The table displays the utility estimates and standard errors for each attribute level. The constant value of 3.370 with a standard error of 0.021 indicates the overall utility. Higher utility estimates suggest greater consumer preference for the specific attribute levels.

Based on the utility estimate analysis for each attribute and its levels:

Packaging Attribute: Among the packaging levels, box packaging has the highest utility value of 0.035 compared to sachet and paper packaging. This indicates that household consumers prefer box packaging over the other types.

Form Attribute: For the form attribute, tea bags (celup) hold the highest utility value at 0.114, in comparison to loose tea (tubruk). This preference is attributed to the practicality of tea bags, which are easier and quicker to prepare than loose tea (Ikmanila, 2017). Tea bags contain finely powdered tea enclosed in heat-resistant porous paper. Preparing tea

using tea bags requires fewer utensils, making it convenient for consumers from various backgrounds (Ramadhani et al., 2018).

Type Attribute: For the type of tea, green tea has the highest utility value of 0.133, compared to black tea. This indicates that household consumers in Banjarmasin City prefer green tea. Green tea is perceived to have health benefits, such as aiding in weight loss and improving skin health (Rahardjo, 2017).

Aroma Attribute: Jasmine aroma tops the chart with a utility value of 0.197, followed by original aroma (0.160). Jasmine tea is made by blending black tea with jasmine flowers (Jasminum sambac). The brewing process involves careful temperature and timing adjustments, which affect the final tea's physical and chemical properties. Higher brewing temperatures enhance water's capacity to extract the chemical components in tea (Pratama et al., 2023).

Attribute Importance Levels

Table 9. Levels of Importance for Each Tea Attribute

Attribute	Level of Importance
Aroma	44.708
Type	26.894
Packaging	16.606
Form	11.792

Source: Primary Data Processing (2024)

Based on table 9 shows levels of importance for each tea attribute In sequence as follows (1). Aroma: This attribute is the most important to consumers, with a high value of 44.708. Specifically, jasmine aroma is the primary consideration for consumers when purchasing tea. (2). Type: The second most important attribute, with a value of 26.894, indicates that the type of tea (e.g., green tea, black tea) significantly influences consumer preferences. (3). Packaging: With a value of 16.606, packaging plays a notable role in consumer decisions, though it is less critical than aroma and type. (4). Form: The least important attribute, with a value of 11.792, suggests that while tea form (bag vs. loose) is considered, it is not as influential as the other attributes.

Based on level importance and utility estimate values for attributes, There are several implications that we can consider to align household consumer preferences for tea products in Banjarmasin City, which are as follows: (1) Product Strategy: To align with consumer preferences, tea products with jasmine aroma should be prioritized, followed by

a focus on green and black tea types. (2) Marketing: Highlighting the jasmine aroma and health benefits of green tea in marketing campaigns could effectively attract household consumers. (3). Packaging: Ensuring attractive and functional packaging, such as boxes, could also enhance consumer attraction, though it is not the primary deciding factor.

CONCLUSION

Based on conjoint analysis, the attributes considered by consumers according to the utility estimate values indicate that household consumer preferences for tea products are box packaging, tea bags and green tea with jasmine aroma. According to the importance values, aroma is the most important attribute with a value of 44.708, followed by type of tea (26.894), packaging (16.606), and form (11.792).

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