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Research Article

Analyzing Consumer Attitudes Toward Product Attributes of Kasturi Orange Syrup Using the Fishbein Multi-Attribute Model

(A Case Study of Kasturea)

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Abstract: The growing trend toward healthier lifestyles has influenced consumer preferences for natural beverage products, including locally produced citrus-based syrups. This study aims to analyze consumer attitudes toward Kasturea's Kasturi (calamansi) orange syrup and to identify the attributes that most influence overall evaluation. A quantitative approach was employed using structured questionnaires distributed to 100 consumers selected through purposive sampling. The Fishbein Multi-Attribute Model ($Ao = \Sigma bi \times ei$) was applied to measure overall consumer attitudes by combining belief strength and attribute importance across ten product attributes. The results indicate that consumers generally hold a positive attitude toward the product, reflected in a total attitude score of 187. Shelf life, natural ingredients, and price contributed most significantly to the overall attitude, indicating strong functional and economic positioning. However, a gap between the high importance and moderate belief levels of taste and aroma suggests the need for sensory quality improvement. The findings confirm the usefulness of the Fishbein Model in evaluating consumer attitudes and provide strategic insights for product development and marketing improvement.

Keywords: Consumer Attitude; Consumer Behavior; Citrus-Based Syrup; Fishbein Multi-Attribute Model; Product Attributes.

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1. Introduction

Changes in consumer lifestyles toward healthier living have significantly influenced food and beverage consumption patterns. Modern consumers are increasingly selective in choosing products that are perceived as healthy, nutritious, and safe for long-term consumption. Previous studies indicate that product attributes such as taste, nutritional content, price, and packaging significantly influence consumers' purchasing decisions and overall evaluation of healthy food products (Isnurrini et al., 2022).

Following the COVID-19 pandemic, public awareness of maintaining a healthy lifestyle has increased substantially, leading to growing demand for natural and health-oriented beverages (Setiawan, 2024). Consumers, particularly younger generations, tend to prefer products that not only offer enjoyable taste but also convey health value and a natural brand image (Luwidharto, 2025). This shift creates opportunities and challenges for small-scale beverage enterprises to align their products with evolving consumer expectations.

In marketing practice, product success is not solely determined by its functional health benefits but also by how consumers perceive its attributes. Attributes such as taste, aroma, nutritional value, shelf life, packaging, and price play an essential role in shaping consumer attitudes, which subsequently influence purchasing behavior (Nurhayati, 2023). Therefore, understanding how consumers evaluate each attribute is crucial for product development and competitive positioning.

To analyze consumer attitudes comprehensively, a theoretical framework capable of quantitatively measuring perceptions toward multiple product attributes is required. The Fishbein Multi-Attribute Model is widely used to assess consumer attitudes by combining belief strength toward product attributes and the importance of those attributes (Astuti et al., 2019). Despite its broad application in consumer behavior studies, limited research specifically examines consumer attitudes toward locally produced citrus-based syrup products using this model.

Therefore, this study aims to analyze consumer attitudes toward the product attributes of Kasturi orange syrup produced by Kasturea using the Fishbein Multi-Attribute Model. The findings are expected to provide practical insights for product improvement and the development of marketing strategies based on consumer preferences.

2. Literature Review

Consumer Attitude

Consumer attitude refers to an individual's psychological evaluation of a product, which can be either positive or negative and influences purchasing decisions (Slamet, 2023). Attitude consists of three main components: cognitive (knowledge and beliefs), affective (feelings or emotions), and conative (behavioral tendency or intention to act) (Rahmawati, 2022). These components interact in shaping consumer responses toward product attributes. Therefore, understanding consumer attitude is essential for producers in designing marketing strategies that align with market preferences. Conceptually, attitudes are not formed spontaneously but develop through an evaluation process of attributes considered relevant by consumers. Hence, systematic measurement of attitude is necessary to accurately describe consumers' behavioral tendencies in purchasing decisions.

Fishbein Multi-Attribute Attitude Model

The Fishbein Multi-Attribute Model explains that consumer attitude toward a product is formed through the evaluation of attributes attached to the product (Fishbein & Ajzen, 1975). In this model, attitude (Ao) is calculated by summing the product of belief strength toward an attribute (bi) and the evaluation or importance of that attribute (ei), formulated as: $Ao = \Sigma (bi \times ei)$. This model is closely related to the Theory of Reasoned Action, which emphasizes that beliefs influence attitudes and subsequently shape behavioral intentions (Ajzen, 1991). The Fishbein approach has been widely applied in analyzing consumer behavior based on product attributes (Astuti et al., 2021; Prakash et al., 2022).

Several studies in Indonesia have applied the Fishbein model to food products. Research on cassava chips identified taste and price as dominant attributes influencing consumer attitudes. Another study on local ground coffee revealed that taste and aroma contributed the most to the overall attitude value. These findings indicate that the Fishbein model is effective in identifying key product attributes that significantly influence consumer purchasing decisions. Analytically, these results demonstrate that differences in perceived importance and belief strength toward attributes lead to variations in overall attitude values. This implies that marketing strategies should focus on attributes with the highest contribution to consumer attitudes.

Benefits of Attitude Analysis Using the Fishbein Model

Attitude analysis using the Fishbein Model helps identify the most influential attributes in shaping consumer attitudes. This information is valuable for improving product quality, determining pricing strategies, enhancing packaging design, and developing more effective promotional strategies (Rahmawati, 2022). Consequently, companies can increase consumer satisfaction and loyalty.

Likert Scale

The Likert scale is a method used to measure attitudes by assessing respondents' level of agreement with specific statements using a certain score range, commonly 1–5 (Sugiyono, 2022). This scale allows qualitative perceptions to be transformed into quantitative data that can be statistically analyzed.

Product Attributes

Product attributes are characteristics that form the basis of consumer evaluation regarding product quality and value (Hidayat, 2023). In the context of Kasturi orange syrup, the evaluated attributes include taste, aroma, nutritional content, viscosity, packaging, label information, size, shelf life, and price. Differences in perceived importance and belief strength toward these attributes influence overall consumer attitudes (Nurhayati, 2023).

Research Gap

Although the Fishbein Multi-Attribute Model has been widely applied to various food products such as coffee and snack products, research specifically examining consumer attitudes toward citrus-based syrup products remains limited. Most previous studies focus on solid food products or coffee beverages, with limited attention given to syrup products produced by small-scale enterprises. Therefore, this study aims to fill this gap by applying the Fishbein Multi-Attribute Model to analyze consumer attitudes toward Kasturea's Kasturi orange syrup.

3. Materials and Method

In this section, you need to describe the proposed method step by step. Explanations accompanied by equations and flow diagrams as illustrations will make it easier for readers to understand your research.

Data Collection

This study employed both primary and secondary data sources. Primary data were collected through a structured questionnaire distributed to consumers who had previously purchased or consumed Kasturea Kasturi orange syrup. The questionnaire utilized a five-point Likert scale to measure two main components: (1) the importance level of product attributes and (2) the consumers' belief strength regarding the presence of those attributes in the product. The use of questionnaires in consumer behavior research is considered effective for collecting direct and relevant data aligned with research objectives (Waruwu, 2023). The respondents in this study consisted of 100 consumers selected using purposive sampling, specifically individuals who had experience purchasing or consuming Kasturi orange syrup from Kasturea. Secondary data were obtained from previous research, scientific journals, and textbooks related to consumer behavior, product attributes, and the Fishbein Multi-Attribute Model. These sources were used to establish the theoretical foundation of the study (Rahmawati, 2022).

Data Analysis Methods

The data analysis was conducted in several stages according to the research objectives.

Descriptive Analysis

Descriptive analysis was used to describe respondent characteristics and to calculate the mean score of each product attribute without making broader generalizations (Sugiyono, 2022).

Consumer Attitude Analysis Using the Fishbein Multi-Attribute Model

Consumer attitudes toward product attributes were analyzed using the Fishbein Multi-Attribute Model. This model explains that attitudes toward an object are determined by the strength of beliefs about the object's attributes and the evaluation or importance attached to those attributes (Astuti et al., 2019). The Fishbein attitude model is formulated as follows:

Where:

Ao = Overall attitude toward the object

bi = Belief strength that the object possesses attribute i

ei = Evaluation or importance of attribute i

n = Total number of attributes

The overall attitude score is obtained by multiplying the belief score by the evaluation score for each attribute and then summing the results.

Determination of Interval Scale

An interval scale was used to categorize the importance, belief, and overall attitude scores The interval scale is used to classify the values of importance (ei), belief (bi), and overall consumer attitude into categories ranging from very low to very high, in order to facilitate clearer interpretation of the analysis results (Amalina & Harti, 2021). The interval scale is calculated using the following formula: (m − n) / b

Where:

m = Maximum possible score

n = Minimum possible score

b = Number of categories (scale levels)

The range values for the level of importance (ei) and belief (bi) are determined using this formula.

Given that the maximum value (m) is 5, the minimum value (n) is 1, and the number of scale categories (b) is 5, the calculation is as follows:

Interval Scale = (5 − 1) / 5

Interval Scale = 4 / 5

Interval Scale = 0.8

Thus, each category has an interval width of 0.8, which is then used to classify the scores into five categories: very low, low, moderate, high, and very high.

4. Results and Discussion

Respondent Characteristics

The following section presents the demographic characteristics of the 100 respondents based on questionnaires distributed to consumers of Kasturea during the purchasing process of Kasturi orange syrup. The data are presented in tabular form to provide a clear overview of the respondents' profiles.

Table 1. Respondent Characteristics.

Characteristics	Percentage (%)	Frequency (n)
Age		
< 15 years	6%	6
15–20 years	46%	46
20-35 years	37%	37
> 35 years	11%	11
Gender		
Male	67%	67
Female	33%	33
Occupation		
Student	66%	66
Self-employed	10%	10
Entrepreneur	7%	7
Civil servant	13%	13
Other	4%	4
Monthly Expenditure		
Rp0 - Rp500.000	19%	19
Rp500.000 - Rp1.000.000	25%	25
Rp1.000.000 - Rp3.000.000	25%	25
Rp3.000.000 - Rp5.000.000	15%	15
> Rp5.000.000	16%	16

The majority of respondents were aged 15–20 years and were categorized as students. This indicates that the primary market segment of the product consists of young consumers. The respondents' monthly expenditure levels were relatively diverse, reflecting varied economic backgrounds.

Analysis of Attribute Importance Level (ei)

The table presents the calculated importance scores (ei) and the corresponding importance categories of attributes for Kasturea calamansi syrup.)

Tabel 2. Importance Level Scores (ei).

Attribute	Importance Score (ei)	Importance Category	Rank
Taste	4,73	Very Important	1
Nutritional Content	4,70	Very Important	2
Shelf Life	4,70	Very Important	3
Nutrition Information	4,63	Very Important	4
Natural Ingredients	4,59	Very Important	5
Aroma	4,58	Very Important	6
Price	4,51	Very Important	7
Packaging	4,48	Very Important	8
Viscosity	4,48	Very Important	9
Size	4,43	Very Important	10

Source: Author's Calculation, 2026

The analysis indicates that all attributes fall within the "very important" category (score > 4.40). The attribute with the highest importance level is taste (4.73), followed by nutritional content (4.70) and shelf life (4.70). These findings confirm that consumers prioritize sensory experience while simultaneously considering health-related aspects and product durability.

This result is consistent with previous studies suggesting that, in beverage products, sensory attributes such as taste and aroma serve as primary determinants in consumer evaluation, although awareness of health aspects continues to increase (Ares et al., 2021). Modern consumers are also increasingly attentive to nutritional value and natural composition as indicators of product quality (Asioli et al., 2022).

Overall, the high importance scores across nearly all attributes reflect comprehensive quality expectations toward Kasturea calamansi syrup.

Analysis of Belief Level (bi)

The following table presents the calculation results of the belief level (bi) values and the corresponding attribute categories for Kasturi orange syrup.

Tabel 3. Level of Trust Scores.

Attribute	Level of Trust (bi)	Trust Category	Rank
Viscosity	4,48	Strongly Trust	1
Price	4,47	Strongly Trust	2
Natural Ingredients	4,45	Strongly Trust	3
Shelf Life	4,45	Strongly Trust	4
Size	4,44	Strongly Trust	5
Packaging	4,39	Strongly Trust	6
Nutrition Information	4,34	Strongly Trust	7
Nutritional Content	3,33	Neutral	8
Taste	3,22	Neutral	9
Aroma	3,21	Neutral	10

The belief analysis indicates that the attributes of viscosity, price, natural ingredients, and shelf life fall into the "very high" category. This suggests that, both functionally and economically, the product has been able to meet consumer expectations.

However, the attributes of taste (3.22) and aroma (3.21) remain in the "moderate" category. This condition indicates a gap between the level of importance and the perceived performance of these attributes. The findings reveal that while taste and aroma are considered highly important by consumers, the belief level associated with these attributes is relatively moderate.

This discrepancy between consumer expectations and perceived product performance may affect overall satisfaction and loyalty. Previous studies have shown that inconsistency between expected and actual experiences can reduce attitude evaluation and repurchase intention (Rather & Camilleri, 2021; Suhartanto et al., 2022). Therefore, optimizing sensory quality becomes a crucial strategy to strengthen positive consumer attitudes and enhance the product's competitiveness in the healthy beverage market.

Tabel 4. Consumer Attitude Analysis.

Attribute	Importance Level (ei)	Belief Level (bi)	Attitude (ei × bi)
Rasa	4,73	3,22	15,23
Shelf Life	4,70	4,45	20,92
Viscosity	4,48	4,48	20,07
Nutritional Content	4,70	3,33	15,65
Nutrition Information	4,63	4,34	20,09
Price	4,51	4,47	20,16
Packaging	4,48	4,39	19,67
Natural Ingredients	4,59	4,45	20,43
Aroma	4,58	3,21	14,70
Size	4,43	4,44	19,67
Total Score			**187**

Source: Author's Calculation, 2026

Consumer Attitude Analysis

Based on the calculation using the Fishbein multi-attribute model, the total attitude score obtained was 187. This finding indicates that the product is generally perceived positively and is well accepted by consumers, fulfilling most of their expectations. The highest attitude contributions were derived from the attributes of shelf life, natural ingredients, and price. This suggests that Kasturea is perceived as a practical, natural, and economically valuable product.

Nevertheless, the relatively lower contribution of taste and aroma indicates that optimizing the consumption experience is essential to strengthening overall positive attitudes. Strategically, improving attributes that exhibit high importance but only moderate perceived performance is likely to generate a more substantial increase in overall attitude than merely maintaining already strong attributes.

Overall, Kasturea holds a favorable functional and rational position in consumers' perceptions. However, strengthening sensory quality will be a determining factor in enhancing competitiveness and ensuring long-term market sustainability. Recent studies demonstrate that optimizing sensory attributes has a direct impact on consumer satisfaction and positive evaluations of healthy beverage products (Zhang et al., 2024).

5. Conclusion

This study aimed to analyze consumer attitudes toward the attributes of Kasturea calamansi syrup using the Fishbein Multi-Attribute Model. The results indicate that consumers demonstrate a positive attitude, with a total attitude score of 187, suggesting that the product generally meets consumer expectations. The attributes with the highest importance levels were taste, nutritional content, and shelf life, highlighting that consumers prioritize sensory quality and functional benefits. However, the highest attitude contributions were derived from shelf life, natural ingredients, and price, indicating that Kasturea's current strengths lie primarily in its functional attributes and economic value.

A discrepancy was identified in the attributes of taste and aroma, where their importance levels were high while their belief levels remained moderate. This gap suggests that improving sensory quality has significant potential to strengthen overall consumer attitudes. Practically, these findings provide a basis for product development strategies focused on priority attributes valued by consumers. Academically, this study reaffirms the relevance of the Fishbein Model in analyzing consumer attitudes toward local food products derived from natural ingredients.

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