ANALYSIS OF THE INFLUENCE OF PRICE, FLAVOR INNOVATION, AND PACKAGING APPEAL OF JUMBO TEA DRINKS ON CONSUMER PREFERENCES FOR BOTTLED TEA PRODUCTS IN JAVA

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Abstract: The packaged tea beverage industry in Indonesia, once a dominant player, is currently facing a decline in market performance. This trend is accompanied by the rapid rise of "Teh Jumbo"—a large-sized, street-sold iced tea that is affordable and highly favored by consumers across Java. This study was prompted by the concern that the growing popularity of Teh Jumbo might be influencing the declining preference for factory-produced bottled tea. The research aims to investigate the impact of price, flavor innovation, and packaging appeal of Teh Jumbo on consumer preferences for branded bottled tea. A quantitative approach was employed using a questionnaire distributed to respondents in several regions across Java, and data were analyzed using multiple linear regression. The findings reveal that all three factors significantly influence consumer preferences, with flavor innovation emerging as the most dominant. These insights provide a better understanding of shifting consumer behavior in the competitive tea beverage market.

1. Introduction

The packaged tea beverage industry in Indonesia has traditionally been a strong sector within the non-alcoholic beverage market. Brands such as Frestea and others once dominated retail shelves and enjoyed a loyal customer base. However, over the past few years, there has been a noticeable decline in the performance of this industry, marked by reduced sales volumes and consumer interest.

One of the most compelling trends observed during this downturn is the rapid emergence of "Teh Jumbo," a variant of iced tea sold in large-volume packaging by street vendors and small-scale food stalls. Unlike conventional bottled tea, Teh Jumbo offers lower prices, a wide range of unique and often locally inspired flavors, and packaging that is informal but appealing in its own right. Its rise in popularity indicates a fundamental shift in consumer behavior, especially among middle- to lower-income groups who are becoming more value-conscious and experience-oriented.

This trend raises an important question: What factors are driving consumers to choose Teh Jumbo over established bottled tea brands ? In particular, the marketing mix elements such as price, flavor innovation, and packaging appeal may play a pivotal role in shaping consumer

preferences. Recognizing this shift is crucial for producers of bottled tea brands to stay relevant and competitive in the changing market landscape.

This study seeks to investigate the extent to which these three variables—price, flavor innovation, and packaging appeal—influence consumer preferences for bottled tea brands in the context of Java Island. By employing a quantitative research approach, this study aims to provide data-driven insights that can inform marketing strategies and product development in the increasingly dynamic tea beverage industry.

2. Research Method
2.1. Research Design
This study employs a quantitative research design with a descriptive survey method. The aim is to analyze the influence of price, flavor innovation, and packaging appeal of Jumbo Tea on consumer preferences for bottled tea brands.

2.2. Population and Sample
The population targeted in this study consists of consumers of bottled tea brands across Java Island. The estimated population size is approximately 30 million consumers, representing about 20% of the total population of Java, which is around 152 million according to BPS (2023). A purposive sampling technique was applied to select 100 respondents who met the specific criteria relevant to the study.

2.3. Data Collection Techniques
Data were collected using a structured questionnaire distributed to the selected respondents. The questionnaire used a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), to measure respondents' perceptions and preferences.

2.4. Variable Operationalization
The study involves three independent variables

- Price: measured by respondents' perceptions of product affordability and value.

- Flavor Innovation: assessed by the uniqueness and variety of flavors offered by Jumbo Tea.

- Packaging Appeal: evaluated based on visual attractiveness and design of the product packaging.

The dependent variable is Consumer Preference for bottled tea brands.

2.5. Data Analysis Methods
Collected data were analyzed using multiple linear regression to examine the relationships between the independent variables and consumer preference. Prior to regression analysis, classical assumption tests were performed, including normality, multicollinearity, and heteroscedasticity tests, to ensure the validity of the regression model.

3. Results and Discussion
3.1. Result

Involved 100 respondents from various regions in Java. The questionnaire aimed to measure the influence of price, flavor innovation, and packaging appeal on consumer preferences for branded bottled tea.

Before analyzing the data using multiple linear regression, preliminary descriptive statistics and classical assumption tests were conducted to validate the appropriateness of the regression model.

Multiple Linear Regression Model

$$Y = \alpha + \beta 1 X1 + \beta 2 X2 + \beta 3 X3 + \varepsilon$$

where:

Y	= Consumer Preference
a	= Intercept (constant)
$X1$	= Price
$X2$	= Flavor Innovation
$X3$	= Packaging Appeal
$\beta 1, \beta 2, \beta 3$	= Regression coefficients of respective independent variables
ε	= Error term

Descriptive Statistics
Descriptive statistics were calculated for all variables using the formulas :

- Mean (X) :

$$\underline{X} = \frac{1}{n} \sum_{i=1}^{n} X_i$$

- Standard deviation (SD) :

$$SD = \sqrt{\frac{\sum_{i=1}^{n} \left(X_i - \underline{X}\right)^2}{n-1}}$$

Table 1. Descriptive Statistics

Variable	Mean	Standard Deviation
Price	3.68	0.57
Flavor Innovation	4.12	0.49
Packaging Appeal	3.94	0.62
Consumer Preference	4.06	0.53

These descriptive statistics indicate that the highest mean value is in flavor innovation, suggesting it is the most positively perceived factor by consumers. Price and packaging appeal also show favorable impressions.

Classical Assumption Tests
Classical assumption tests confirmed :

- Normality of residuals

- No multicollinearity with all Variance Inflation Factor (VIF) values below 10, calculated as :

$$VIF_j = \frac{1}{1 - R_j^2}$$

- No heteroscedasticity detected.

Table 2. Classical Assumption Tests

Test	Result
Normality	Data is normally distributed
Multicollinearity	VIF < 10 (no symptoms found)
Heteroscedasticity	Not detected

All classical assumptions are satisfied, meaning the regression model can be considered reliable for further analysis.

Regression Analysis

Table 3. Regression Coefficients and Significance

Variable	Regression Coefficient (b_i)	Significance (p-value)
Intercept (α)	1.15	-
Price (X_1)	0.25	0.012
Flavor Innovation (X_2)	0.45	0.001
Packaging (X_3)	0.30	0.008

From the regression results, all variables have a significant effect ($p < 0.05$), with flavor innovation (X_2) being the most influential. The final regression model is :

$$Y = 1.15 + 0.25X_1 + 0.45X_2 + 0.30X_3$$

This equation suggests that for every one-unit increase in flavor innovation, consumer preference increases by 0.45 units, assuming other variables remain constant. The same interpretation applies to price and packaging.

Model Fit: Coefficient of Determination

The R-squared (R^2) value is calculated using the formula

$$R^2 = 1 - \frac{SSE}{SST}$$
Where:

- SSE   = Sum of Squares Error
- SST   = Total Sum of Squares

The result: $R^2 = 0{,}62$

This means that 62% of the variability in consumer preference can be explained by the variables price, flavor innovation, and packaging appeal. The remaining 38% may be attributed to other factors not included in this model, such as brand loyalty, promotional activities, or distribution reach.

The results strongly support the hypothesis that Teh Jumbo's appeal is driven by its flavor innovation, with additional contributions from price competitiveness and appealing packaging. These insights offer practical implications for bottled tea producers aiming to regain market interest.

3.2. Discussion

Influence of Price

The statistical analysis shows that price has a positive and significant effect on consumer preferences ($\beta = 0.25$, $p = 0.012$). This finding aligns with the economic principle that affordability is a major factor influencing purchasing behavior, especially among middle to lower-income consumers. The competitive pricing strategy adopted by Teh Jumbo appears to provide better value for money, attracting price-sensitive consumers away from branded bottled tea products.

Influence of Flavor Innovation

Flavor innovation is the most influential factor in this study ($\beta = 0.45$, $p = 0.001$). Consumers are increasingly seeking new sensory experiences, and Teh Jumbo successfully responds to this trend by offering diverse and novel flavors. This supports Schiffman & Kanuk's (2008) theory that consumers are motivated by variety-seeking behavior and sensory gratification. The success of Teh Jumbo in this area indicates that flavor variety can serve as a strategic differentiator in the beverage industry.

Influence of Packaging Appeal

Packaging appeal also significantly affects consumer preferences ($\beta = 0.30$, $p = 0.008$) Packaging not only serves a functional role but also contributes to brand image and perceived product quality. As Underwood (2003) notes, packaging is a critical component of marketing communication. The use of clear, large-sized, and eye-catching packaging by Teh Jumbo strengthens its market identity and appeals to consumers who associate visual presentation with product value.

Implication of R² Value

The R^2 value of 0.62 implies a moderately strong model fit, suggesting that the three variables collectively explain a substantial proportion of the variance in consumer preference. However, the unexplained 38% opens opportunities for future research to incorporate other variables such as brand loyalty, promotional intensity, cultural influences, and availability. These findings can help marketers refine their strategies by focusing not only on product attributes but also on emotional and situational factors that influence consumer decisions.

4. Conclusion

This study aimed to examine the influence of price, flavor innovation, and packaging appeal of "Teh Jumbo" on consumer preferences for branded bottled tea in Java. The findings reveal that all three independent variables significantly affect consumer preferences, with flavor

innovation being the most dominant factor. The regression model indicates that flavor innovation contributes the highest coefficient, followed by packaging appeal and price. The model explains 62% of the variation in consumer preferences, which suggests that product-related attributes play a substantial role in shaping consumer decisions in the tea beverage market.

The results suggest a significant market shift, where consumers are increasingly drawn to local tea brands that offer innovative flavors, attractive packaging, and affordable prices. Teh Jumbo, as a non-branded yet popular product, demonstrates how competitive advantages can be built through sensory innovation and strategic pricing rather than relying solely on brand equity. This phenomenon calls for a re-evaluation of the marketing strategies employed by major bottled tea producers in Indonesia, especially in targeting middle-income consumer segments.

In summary, this study underscores the importance of aligning product offerings with evolving consumer expectations. Beverage manufacturers should invest in continuous flavor development, improve packaging aesthetics, and maintain competitive pricing to retain consumer interest and loyalty. Future research could further enrich these findings by exploring additional variables such as brand trust, advertising impact, or distribution channels.

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