

Consumer Preference Analysis of Melon (*Cucumis Melo. L*) In Traditional Markets In Karanganyar Regency

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Abstract

An increase in fruit consumption in Central Java Province occurred from 2017 to 2019. Meanwhile, from 2017 to 2021 melon production in Karanganyar Regency has decreased significantly. This is because from time to time consumer tastes tend to change. This study aims to determine the attributes of melons that are consumer preferences and which are considered by consumers in purchasing melons in traditional markets in Karanganyar district. This research method is quantitative and data analysis uses Chi Square and Fishbein Multiattributes. The results showed that the most considered attribute was the taste attribute with a calculated X^2 value of 22.533. While the attribute that is not a preference is weight with a calculated X^2 value of 0.533. Consumer attitudes towards the attributes of the melon fruit indicate that taste is the attribute most considered by consumers in making purchases with an attitude value of 8.88. While the price tag is an attribute that is not considered by consumers in purchasing melons.

Keywords: Melon, Traditional Market, Attributes, Chi Square, Fishbein Multiattributes

Introduction

Melon stands as a fruit of considerable consumer interest, boasting a noteworthy economic value. The melon plant originates from Sub-Saharan Africa and is rich in vitamins and minerals that contribute to bodily health (Szamosi, Solmaz, Sari, & Barsony, 2010). Its constituents include vitamins such as vitamin C, vitamin A, and vitamin B6. It also serves as a source of minerals like potassium, folic acid, niacin, calcium, iron, magnesium, phosphorus, sodium, and zinc. In Indonesia, there are three commonly consumed melon groups: rocket melon (*C. melo* var. *Reticulatus*), honeydew melon (*C. melo* var. *Inodorus*), and cantaloupe melon (*C. melo* var. *Cantalupensis*) (Amalia et al., 2018).

Melons are widely available in both traditional and modern markets, favored by both children and adults. Melons hold promising prospects for development due to their popularity. The demand for melon commodities, in general, is influenced by population size, income levels, and awareness of nutritional importance (A. Zubaidi & A. A. Sa'diyah, 2012).

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In Central Java, fruit consumption experienced an increase from 2017 to 2019, declined in 2020, and rebounded in 2021. This variation is attributed to changing consumer preferences over time. According to Shinta Dhefi Mayasari in 2016, as cited by Aris Widiyanto (2021), producers and marketers must accurately understand consumers' preferences for the products they offer. This understanding ensures product acceptance, leading to increased per capita consumption and production. Building upon this assertion, this study aims to uncover consumer preferences for melons and the specific attributes that drive their purchasing decisions in traditional markets within Karanganyar Regency

Method

The selection of research locations was intentionally conducted using a Purposive method. The researcher chose Jongke Market located in Karanganyar Subdistrict, Palur Market situated in Jaten Subdistrict, and Colomadu Market in Colomadu Subdistrict. Sample/respondent selection for this research utilized non-probability sampling with the accidental sampling technique. There were 30 respondents in this study. The data analysis employed two methods: the chi-square analysis and the Multiattribute Fishbein analysis.

a. Chi-Square Analysis

The Chi-Square Analysis was employed to determine whether there were differences in consumer preferences. The formula for the Chi-Square Analysis is as follows:

$$X^2 = \frac{\sum(O-E)^2}{E}$$

Explanation:

$$X^2 = \text{Chi Square}$$

O = The observed frequency in the study

E = The expected frequency in the study

b. Fishbein Analysis

According to Simamora (2012), the Multi-Attribute Fishbein Analysis is employed to determine the attributes of the cantaloupe fruit that consumers highly consider. The Multi-Attribute Fishbein Analysis can be computed using the formula as follows:

$$A_0 = \sum_{i=1}^n B_i E_i$$

Explanation :
 A_0 = Consumer attitude towards an object

B_i = The level of consumer confidence that they possess a specific attribute (the i-th attribute).

E_i = The evaluative dimension of consumer perception towards the i-th variable possessed by the object.

n = The number of attributes possessed by a melon fruit

RESULT AND DISCUSSION

1. Consumer purchasing behavior

The research findings indicate that the reasons for respondents purchasing melon fruits are mainly as gifts for their families, accounting for 16 respondents or 53.30%.

The highest number of respondents, totaling 28 respondents or 93.30%, indicated that their fruit purchases were occasional or irregular. Respondents buy melon fruits according to their needs and what they consider sufficient. The majority of respondents buy a single piece of fruit, primarily intending it for family consumption. When buying melon fruits, consumers engage in transactions both with and without bargaining. Among the respondents, 13 consumers, making up 43.30%, engaged in bargaining, while 17 consumers, constituting 56.70%, did not engage in bargaining. The bargaining process is a common practice in transactions at the market.

2. Consumer preferences

Based on the research, it is indicated that taste, skin color, stand cleanliness, and price label are the attributes most preferred by consumers. This implies that consumers of melons in the traditional market of Karanganyar Regency have distinct preferences based on attributes such as taste, skin color, stand cleanliness, and price label. The observed melon fruits have several attributes divided into various categories, including:

1. Fruit taste: sweet, slightly sweet, bland.
2. Skin color: green, yellow, white.
3. Weight: small (0.5 - 1.7 kilograms), medium (1.8 - 2.5 kilograms), large (2.6 - 3 kilograms).
4. Price: affordable (Rp 5,000 - Rp 20,000) per kilogram, expensive (Rp 21,000 - Rp 35,000) per kilogram, very expensive (Rp 36,000 - Rp 50,000) per kilogram.
5. Stand cleanliness: clean (less than 1 kg of organic and inorganic waste), somewhat clean (1.1 - 5 kg of organic and inorganic waste), dirty (more than 5 kg of organic and inorganic waste).
6. Distance from parking area to stand: far (36 meters - 50 meters), not too far (16 meters - 35 meters), close (1 meter - 15 meters).
7. Personal selling: detailed product explanation by the vendor, brief product explanation by the vendor, no product explanation by the vendor.
8. Price label: clearly visible, not clearly visible, absent.

Tabel 1. Results of the Chi-Square Analysis on Consumer Preferences for Melon Fruit at the Traditional Market of Karanganyar Regency in 2023.

No.	Attribute	$X^2_{\text{calculate}}$	Df	X^2_{table} 5%	X^2_{table} 1%	Information
1.	Taste	22,533	1	3,841	6,635	Significant
2.	Skin Color	13,333	1	3,841	6,635	Significant
3.	Weight	0,533	1	3,841	6,635	Not significant
4.	Price	3,333	1	3,841	6,635	Not significant
5.	Stand Cleanliness	8,533	1	3,841	6,635	Significant
6.	Distance of Stand from	3,200	1	5,991	9,210	Not significant
7.	Parking Area	3,333	1	3,841	6,635	Not significant
8.	Personal Selling	16,133	1	3,841	6,635	Not significant

Data source : Primary data analysis.

Table 2. Consumer Preferences for Melons at the Traditional Market Karanganyar Regency, 2023.

No.	Attribute	Preference
1.	Taste	Sweet
2.	Color perception	Yellow
3.	Weight	Small (0.5 - 1.7 kg)
4.	Price	Affordable (IDR 5,000 - 20,000/kg)
5.	Stand cleanliness	Clean (less than 1 kg of trash)
6.	Distance between the kiosk and parking area	Close (1 - 15 m)
7.	Personal selling	Merchants do not explain the product
8.	Price labeling	None

Data source : Primary data analysis.

3. The attributes considered by consumers do not explain the product.

The research findings indicate that taste is the most considered attribute by consumers. The distinct taste of melon fruit makes it suitable for consumption by both children and adults. The next attribute is weight, which is linked to price and quality – the heavier the fruit, the more expensive and higher in quality it tends to be. The third attribute taken into account by consumers is price, which is interconnected with weight. Consumers generally prefer fruits with lower weight categories and affordable prices. The fourth attribute is the fruit's skin color, which is associated with its taste. Melon fruits with yellow skin tend to be sweeter, those with white skin are slightly sweet, while those with green skin have a milder taste. The fifth attribute considered by consumers is the parking distance from the stand. Each consumer has different activities. The sixth attribute taken into consideration is the cleanliness of the stand. Cleanliness is somewhat less prioritized by consumers due to the general perception that stands in the market are often not well-maintained. The seventh attribute less regarded by consumers is personal selling. Consumers don't prioritize personal selling as they believe it's not beneficial, and most of them want to make their purchases quickly and head home. The last attribute to be considered is the price label. Consumers don't pay much attention to price labels because they are aware that in the market, it's rare to find vendors who display them.

Table 3. Consumer Attitudes Towards Melons at the Traditional Market of Karanganyar Regency 2023.

No.	Attributes	Belief (Bi)	Evaluation (Ei)	Attitude (Ao)	Ranking
1.	Product :				
	a. Flavor	2,96	3,00	8,88	I
	b. Color perception	2,56	1,73	4,42	IV
	c. Weight	2,73	2,66	7,26	II
2.	Price	2,36	2,93	6,93	III

3.	Place :				
	a. Cleanliness	1,33	2,20	2,92	VI
	b. Distance	2,26	1,70	3,84	V
4.	Promotion :				
	a. Personal selling	1,33	1,90	2,25	VII
	b. Label	1,66	1,63	1,72	VIII

Data source : Primary data analysis.

Conclusion

1. The attributes that are preferred by consumers are: sweet taste, yellow skin color, cleanliness of the stand (with less than 1 kg of organic and inorganic waste), and the absence of price labels. On the other hand, the attributes that are less preferred by consumers for melons are small weight (0.5 - 1.7 kilograms), affordable price (IDR 5,000 - IDR 20,000) per kilogram, proximity of the stand to the parking area (1 - 15 meters), and lack of personal selling (vendors not explaining the product).
2. The most considered attributes by consumers when purchasing melons are weight, price, taste, skin color, distance of the parking area from the stand, stand cleanliness, personal selling, and price labels.

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