Consumer Satisfaction for Branded Rice in Surakarta City, Indonesia

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Abstract
Rice is the most important commodity in Indonesia. The increase in rice consumption, as well as changes in rice consumer behavior in Surakarta, make this commodity worth monitoring. When it comes to purchasing branded rice, consumer preferences are influenced by rice attributes. Consumer satisfaction is produced as a result of attribute performance and importance, which can influence consumer loyalty to branded rice. The objectives of this study are to: (1) determine the level of conformity between expectations and performance attributes of branded rice using Importance Performance Analysis (IPA), and (2) determine consumer satisfaction with branded rice using the Customer Satisfaction Index (CSI). The analytical descriptive method was used in this study, with 100 respondents interviewed. The research was conducted in Surakarta City, including the sub-districts of Pasar Kliwon, Jebres, Banjarsari, Laweyan, and Serengan. The results show that there is a 94% average percentage of conformity between the level of importance and performance. According to CSI calculations, consumers are satisfied when purchasing branded rice in Surakarta, with a consumer satisfaction level of 72.718%. These findings can be used to develop strategies for producers to improve the quality of branded rice products.

Keywords: Branded Rice; Consumer Satisfaction; Customer Satisfaction Index; Importance Performance Analysis

1. Introduction

Food is a basic human need that must be fulfilled collaboratively by the government and society. According to Law Number 18 of 2012, the government has established the regulation, guidance, control, and supervision of food commodity markets. As consumers, people have the right to sufficient quantity and quality food that is safe, nutritious, diverse, evenly distributed, and affordable within their purchasing power. Both in the private consumption, manufacturing, supply, trading, and distribution processes (BPK, 2012).

Rice is a major food commodity in Indonesia.

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According to a Central Statistics Agency (BPS) report, rice consumption in Indonesia has increased on average since the pandemic. In 2018, total rice consumption, including local, superior quality, and imported rice, averaged 1,404 kg per capita per week. It is expected to rise to 1,451 kg per capita per week in 2021. Surakarta experienced an increase as well, with total rice production reaching 241.94 tons in 2021(BPS, 2023). Aside from rice consumption, consumer behavior varies year to year. Surakarta, as one of the cities on the island of Java with positive economic growth, is not immune to the phenomenon of changes in consumption behavior. People's income will be affected by rapid economic development(Joseph *et al.*, 2022). The increase in people's income has resulted in a shift in rice consumption from medium to premium quality rice(Syahrir, Taridala and Bahari, 2015). The presence of a "brand" is one indication of high-quality rice. The

rice market in Surakarta is filled with various types of rice, ranging from unpackaged rice (bulk) to rice with branded and unbranded packaging. Rice with trademarks is typically packaged with additional information about the rice. Branded rice sold in Surakarta is typically supplied by national companies such as Sania, Eco, MD, Si Pulen, and Sentra Wangi. Meanwhile, the Naga Mas, Kupu Kupu, Cap Rajalele, Delanggu, and Pulenwangi brands are Surakarta-based brands.

Consumers are becoming more interested in branded products as their attitudes toward rice shift and their knowledge of living a healthier, safer, and more environmentally friendly lifestyle grows. Branded rice represents higher quality rice, which may influence their preference for rice. Rice information provided by branded rice producers typically includes the rice attributes desired by consumers. Many consumers consider the physical properties of rice, such as size and shape, degree of texture, openness, cleanliness, and purity, when selecting rice (Mardiah *et al.*, 2016; Pratiwi and Rosyid, 2022). Consumers value fluffy rice, aromatic rice, different types of rice, and rice durability. Aside from the character of rice, other factors include rice brand, rice packaging, place to but rice, rice price, rice accessibility, and rice advertising (Nafiah, Marwanti and Widadie, 2015; Safitri, Endang Siti Rahayu and Irianto, 2018; Hidayat and Savitri, 2020; Lestari and Saidah, 2023).

Consumers will consider the level of importance of attributes and performance when making purchases. The consumer satisfaction will be influenced by the level of performance and consumer expectations (importance of attributes). Consumer satisfaction will eventually influence a consumer's experience with a product, then influencing consumer loyalty indirectly. Importance Performance Analysis (IPA) is used to analyze the position of attributes by the performance and expectations of consumers for branded rice. Meanwhile, the Customer Satisfaction Index is used to describe consumer satisfaction with branded rice in Surakarta. As a result, the purpose of this study is to ascertain (1) the level of conformity

between expectations and performance attributes of branded rice, and (2) consumer satisfaction with branded rice. It is hoped that these findings will help branded rice producers and traders provide rice that meets consumer desires while also increasing consumer satisfaction by improving existing product attributes.

2.   Materials and methods
The analytical descriptive method was used as the primary research method in this study. Purposive sampling was used to determine the research location sample; Surakarta was chosen because rice consumption is expected to rise from 2018 to 2022(BPS, 2023). The research area includes five sub-districts: Pasar Kliwon, Jebres, Banjarsari, Laweyan, and Serengan. Purposive sampling was used to select samples, with respondents being consumers who lived in each sub-district and purchased branded rice. There were 100 branded rice consumers in total. Slovin's calculations were used to determine the number of sample respondents, where the population is unknown with $= 10\%$. In each sub-district, the sample distribution was even, with 20 respondents. A structured questionnaire was used to conduct door-to-door interviews to get the best results. The analytical method employed to address the research objectives is:

2.1 Importance Performance Analysis (IPA)
In order to determine the level of conformity between expectations and performance attributes of branded rice, this research uses the Importance Performance Analysis (IPA) method (Supranto, 2006). Importance Performance Analysis (IPA) is formulated by:

$$\bar{X} = \frac{\sum Xi}{n} \text{ dan } \bar{Y} = \frac{\sum Yi}{n} \dots\dots\dots\dots\dots\dots\dots\dots(1)$$

Where $\bar{X}$ is weighted average level of branded rice attribute performance assessment, Xi is weight of the performance assessment level for each branded rice attribute, $\bar{Y}$ is average weight of branded rice attribute importance assessment, Yi is weighted importance level of each branded rice attribute, n is number of respondents. The relationship between performance level and performance level reflects how branded rice attributes work to influence consumer behavior. After knowing the value of the performance level and level of importance, a Cartesian diagram can be created. A

Cartesian diagram is a figure divided into four parts bounded by two lines that intersect perpendicularly at a point $(\bar{\bar{X}}, \bar{\bar{Y}},)$. The values $\bar{\bar{X}}$ $\bar{\bar{Y}}$ are used as a pair of coordinates for attribute points that position where an attribute is located on the Cartesian diagram. The formula:

$$\bar{\bar{X}} = \frac{\sum_{i=1}^{n} \bar{X}i}{K} \text{ and } \bar{\bar{Y}} = \frac{\sum_{i=1}^{n} \bar{Y}i}{K} ....(2)$$

Where $\bar{\bar{X}}$ is average of the weighted average performance levels of attribute respondents product, $\bar{\bar{Y}}$ is the average of the average level of importance of attribute respondents product, K is number of attributes that influence customer satisfaction.
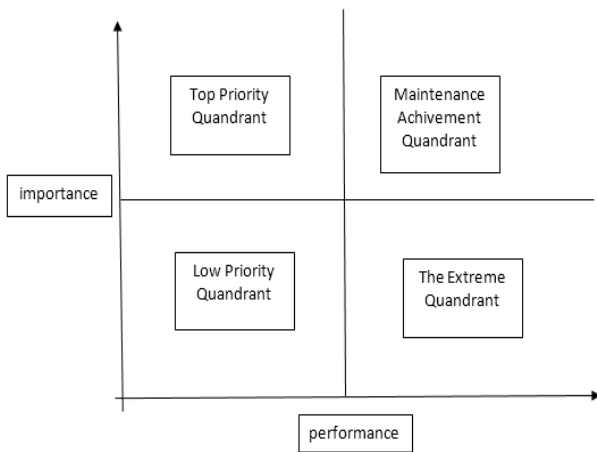The description of the Cartesian diagram is shown in the following image:

Figure 1. Cartesian Diagram (Important and Performance Analysis), source: (Supranto, 2006).

2.2 Customer Satisfaction Index (CSI)

In order to determine consumer satisfaction with branded rice in the city of Surakarta, this research uses the Customer Satisfaction Index (CSI) method. Based on Indrasari, 2019, CSI analysis is used to determine the overall level of consumer satisfaction. This CSI measurement method includes the following stages:

1. Calculating weighting factors (WF), The formula:

$$WF = \frac{MISi}{Total\ MIS} \ x \ 100\% ....(3)$$

Where i is ith attribute
2. Calculating the weighted score (WS). The formula:
WS = MSS x WF................................(4)
3. Calculating the weighted average total (WAT), the formula:
WAT = WS1+WS2+….+WSn......................(5)
4. Calculate the customer satisfaction index (CSI), then multiply by 100%. The formula:
CSI=WAT/HS x 100%............................(6)
Where HS is highest score
The overall level of satisfaction of respondents can be seen from the satisfaction level criteria. The highest satisfaction is achieved when the CSI shows 100%. The range of satisfaction levels ranges from 0 – 100%. Based on Mulya Handayani et al., 2020, to create a numerical linear scale, we first find the scale range (RS) with the formula:

$$RS = \frac{m-n}{b} ....(7)$$

Where m is highest score, n is lowest score and b is number of classes or categories to be created.
Based on the scale range above, the satisfaction criteria are as follows:

0 % < CSI ≤ 20 %	=	Very unsatified
20 % < CSI ≤ 40 %	=	unsatisfied
40 % < CSI ≤ 60 %	=	neutral
60 % < CSI ≤ 80 %	=	satisfied
80 % < CSI ≤ 100 %	=	Very satisfied

3.   Results and Discussion

3.1. Characteristic of Respondents

Table 1 describes the characteristics of Surakarta's branded rice respondents. According to the findings of the study, the majority of respondents were in their fifties to sixties. Women predominate among rice buyers which they make the majority of household consumption decisions. The average number of people in a respondent's household is three. The monthly rice expenditure is influenced by the number of family members in the house. The more family members there are, the more rice is consumed in the family. The average monthly rice consumption is 5-14 kg. Bachelor

(S1) is the highest level of education. Bachelor's (S1) education level is considered to be quite high, so they pay attention to what they consume. Bachelor's (S1) education level is a level of education that is considered quite high, so they pay attention to what they consume. Most respondents had an income between IDR 2,000,000- IDR 3,000,000.

Table 1. Characteristic of Respondents

Characteristic of Respondents	Description
Age	51-66 year
Gender	Female
Education	Bachelor (S1)
Income	Rp 2.000.000-Rp 3.000.000
Number of Family	3 people

Source: Primary data, 2023

The types of rice that are widely circulated in the local markets of Surakarta City are C4, IR64, Rajalele, Menthik, Pandan wangi, and Organic. Meanwhile, the rice brands that are widely circulated are Naga Mas, Kupu Kupu, Cap Rajalele, Delanggu, Pulenwangi, Sania, Eco, Md, Si Pulen, Sentra Wangi, etc. The price range for branded rice in Surakarta City starts from IDR 12,000-IDR 30,000.
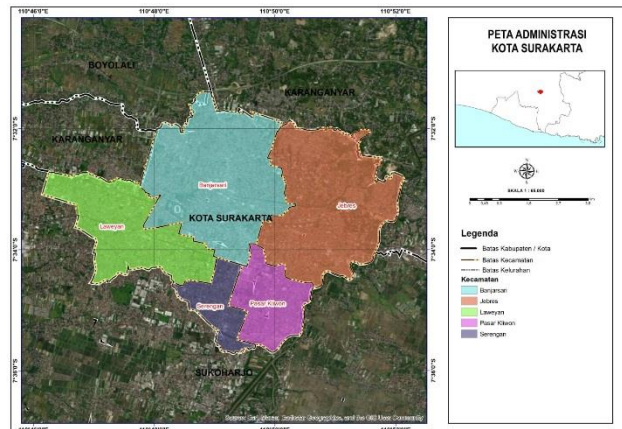

Figure 2. The Map of Surakarta City

3.2. *Importance Performance Analysis (IPA) of branded rice in Surakarta City*

The level of conformity is determined by comparing calculated performance scores and importance scores, and it is used to determine the service priority scale and improvement priorities to achieve consumer satisfaction (Tzeng and Chang, 2011).

The following are the results of calculating the level of suitability of branded rice attributes:

Table 2. Level of Conformity Between Importance Level and Performance Level

ATTRIBUTE	Level of importance	Performance level	TKI (%)
Fluffiness	455	416	91%
Aroma	388	363	94%
Physical properties of rice	407	397	98%
Type of rice	392	363	93%
Rice durability	395	378	96%
Rice brand	344	325	94%
Rice packaging	332	319	96%
Place to buy rice	373	364	98%
Rice price	409	374	91%
Rice accessibility	403	387	96%
Rice advertisement	321	275	86%
Average			94%

Source: Primary Data, 2023

The attributes of rice studied include the fluffiness of rice, namely the level of smoothness or softness of rice; rice aroma which is the distinctive odor of rice after cooking; physical properties are the shape of rice that can be seen and measured; the type which is a variety or type of rice based on genetic factors; rice durability which is associated with the ability to store rice for a long time until it is cooked into rice; the brand is a name or symbol intended as a rice identity;

packaging is a container or wrapper of rice; place of purchase is where consumers buy rice from producers or sellers; price is the amount of money needed and paid by consumers to get rice, expressed in rupiah units; ease of getting rice is the availability of rice at any time and place, and advertising is a form of promotion to market rice products. These are the attributes considered by rice consumers in Surakarta (Nafiah, Marwanti and Widadie, 2015; Safitri, Endang Siti Rahayu and Irianto, 2018; Kusumawati, Kusnandar and Adi, 2021).

In Table 2, the average percentage of conformity is 94%, indicating that the overall relationship between the level of importance and the level of performance of branded rice attributes has not met consumer expectations but is close to what consumers want. Rice advertising has the lowest conformity level value (TKI), indicating that the promotion of branded rice does not meet consumer expectations, necessitating improvements and attention from producers. According to research (Pratiwi and Rosyid, 2022) rice promotion is not important to consumers because packaged rice has many trademarks and not all trademarks that they usually buy are promoted through online promotional media, offline promotional media, electronic media, so on. Consumers frequently encounter direct promotional media from sellers or traditional promotions, namely word-of-mouth; these marketing promotion media are regarded as effective by consumers when compared to other promotional media. The physical properties of rice and place to buy rice have the highest TKI value, indicating that these two attributes are influenced by consumer expectations but must still be considered and maintained in quality. These findings are based on previous research (Yunita and Arbi, 2019; Lestari and Saidah, 2023). The higher the obtained value, the more in line with consumer expectations.

A Cartesian diagram is used to determine the priority of improvement to achieve satisfaction after knowing the level of conformity of each branded rice attribute. A Cartesian diagram is a wake that is divided into four parts by two lines that intersect perpendicularly at the point (x,y), where x is the average performance level of all attributes and y is the average importance level of all attributes that affect customer satisfaction (Supranto, 2006). The average overall performance level (x) in the Importance Performance Analysis calculation is 3.601 and the average overall importance level (y) is 3.835. The Cartesian diagram, which is divided into four quadrants, is determined by the average value. Figure 3 shows a description of the Importance Performance Analysis quadrant.

According to the results in Figure 3, there are no attributes in the top priority quadrant. This quadrant describes attributes that are regarded as important but have failed to satisfy consumers. As a result, it is a quadrant in which the performance of the incoming attributes must be improved. The findings revealed that the position of all branded rice attributes in Surakarta is not in a special state that requires special strategies to improve. However, it does not imply that producers can be satisfied with their branded rice products. Producers must constantly develop their products from multiple perspectives to keep up with changing consumer preferences. Fluffiness, rice price, rice type, rice aroma, physical properties of rice, rice accessibility, and rice durability are all attributes included in the maintenance achievement quadrant. Attributes in this quadrant demonstrate the importance of attributes. It is expected to maintain its performance to avoid falling into the top priority quadrant. These findings are consistent with the findings of Hidayat & Savitri, 2020; Nafiah et al., 2015, who found that these characteristics are in line with consumer desires and must be maintained. Rice genetic developments are closely related to fluffiness, aroma, physical properties, and rice durability. Research development in genetics and rice cultivation can help to keep these characteristics in this quadrant. It is closely related to price; producers will not raise prices unless their products have added value. Furthermore, good producer distribution can keep the attribute of rice accessibility in this quadrant. Consumer surveys can be conducted by producers to maintain the attributes of rice price and rice accessibility.
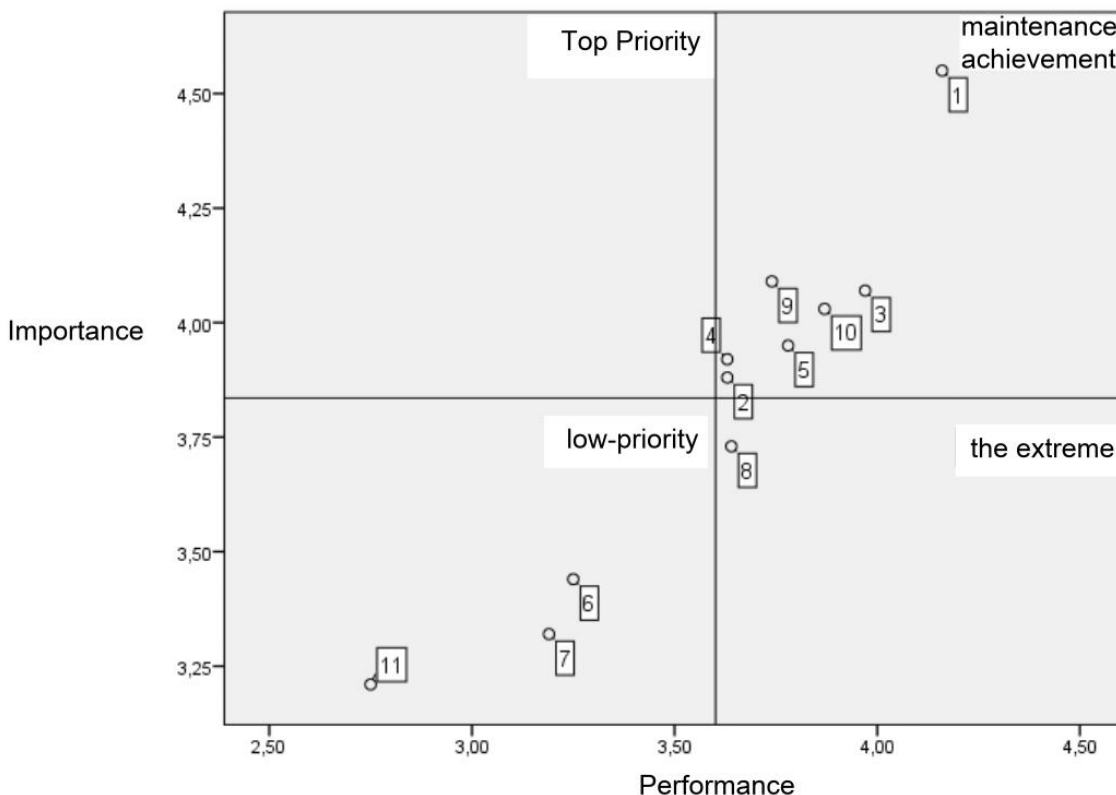
Where:
1 = Fluffiness   5 = Rice durability   9 = Rice price
2 = Aroma   6 = Rice brand   10 = Rice accessibility
3 = Physical properties of rice 7 = Rice packaging   11 = Rice advertisement
4 = Type of rice   8 = Place to buy rice

Figure 3. Cartesian Diagram (Importance Performance Analysis)

The low-priority quadrant describes attributes that are not considered important and perform poorly, so there is no need to prioritize these attributes. Rice brands, rice packaging, and rice advertisements are all attributes that fall into the third quadrant. These findings are consistent with previous research Nafiah et al., 2015; Safitri et al., 2018, which found that the performance and importance of rice brands, rice packaging, and rice advertising did not meet consumer expectations. It demonstrates that the rice brand was not the primary reason for the people of Surakarta to choose rice. Likewise, the rice product's packaging and advertising/promotion. People are generally unaware of the rice products they consume as long as the rice they purchase meets the Surakarta

community's criteria. Nonetheless, the performance of these attributes must be improved to become a selling point for branded rice. Attributes in this quadrant can provide producers with an opportunity to win consumers' hearts if they are carefully considered and managed. Manufacturers can increase promotion and change packaging to make the rice brand more memorable to consumers.

The attribute included in the extreme quadrant is place to buy. The extreme quadrant more accurately describes the level of performance than the level of importance. Consumers don't give much thought to place they buy rice. Their loyalty is to the rice, not to the store where they bought it. Where to buy branded rice in Surakarta City has the advantage of providing more comfortable

conditions than buying bulk rice. As a result, choosing branded rice provides consumers with an added benefit.

The Importance Performance Analysis results show the state of rice attributes that consumers care about. The calculation results show the position of each attribute in the Cartesian Diagram's quadrant. The state of rice attributes in Surakarta can be described as good, though some attributes must be considered and improved by producers. If a brand wants to survive in Surakarta, it must evolve from genetics to cultivation to marketing. To achieve the best results, producers can employ an integrated strategy.

3.3. Customer Satisfaction Index (CSI)

Measuring the level of customer satisfaction is important to find out how much consumer expectations can be met by the manufacturer. The CSI calculation uses the average score value of the importance level and performance level of each attribute (Sawitri *et al.*, 2020). CSI analysis can be linked to the results of the IPA method.

Table 3. Customer Satisfaction Index Calculation

ATTRIBUTE	Performence Level	Level of Importance	Mean Importance Score (MIS)	Mean Satisfaction Score (MSS)	Weight Factors (WF)	Weight Score (WS)
Fluffiness	416	455	4,55	4,16	0,108	0,449
Aroma	363	388	3,88	3,63	0,092	0,334
Physical properties of rice	397	407	4,07	3,97	0,096	0,383
Type of rice	363	392	3,92	3,63	0,093	0,337
Rice durability	378	395	3,95	3,78	0,094	0,354
Rice brand	325	344	3,44	3,25	0,082	0,265
Rice packaging	319	332	3,32	3,19	0,079	0,251
Place to buy rice	364	373	3,73	3,64	0,088	0,322
Rice price	374	409	4,09	3,74	0,097	0,363
Rice accessibility	387	403	4,03	3,87	0,096	0,370
Rice advertisement	275	321	3,21	2,75	0,076	0,209
TOTAL			42,19	39,61		
Weighted Total						3,636
Satisfaction Index						72, 718

Source: Primary Data, 2023

The CSI estimation analysis results show that the CSI value obtained is 72.718%. This demonstrates that consumers are satisfied with the branded rice attributes because the CSI value is classified as satisfied if the calculation results show 60%-80%. Consumer satisfaction leads to consumer loyalty or loyalty to consuming branded rice, resulting in increased demand. The CSI results are also supported by attributes in the maintain achievement quadrant and the excessive quadrant, which must be maintained for the CSI value to remain constant. The CSI value that has not reached 100% is due to factors from the low-priority quadrant that need to be improved and improved in the future by producers.

4. Conclusion

The following conclusions can be drawn from this study: (1) the suitability between the level of performance and the level of importance with an average percentage of the level of suitability of 94%, implying that the level of importance and level of performance of branded rice attributes are appropriate but do not meet consumer expectations, implying that improvements are still required. Rice brands, rice packaging, and advertisements on rice are attributes that need to be improved; (2) The value of the level of consumer satisfaction is 72.718%; based on the criteria, these results indicate that consumers, in general, are satisfied with the branded rice consumed. These findings will serve as the foundation for producers to continue to improve quality of rice and marketing of their products. To overcome deficient attributes, producers can implement strategies on the production, cultivation, supply chain, and marketing sides, such as product development and the introduction of rice brands through advertisements in print media, TV media, or social media. Furthermore, the current rice packaging can be reviewed to see if it can attract consumer attention. Producers can also improve marketing by understandably providing information in packaging so that consumers can learn about their rice brand.

Authors' Contributions

All authors are contributed in this research.

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Data presented in this study are available on fair request from the respective author.

Ethics Approval and Consent to Participate

Not applicable

Consent for Publication

Not applicable.

Conflicts of Interest

The authors disclosed no conflict of interest starting from the conduct of the study, data analysis, and writing until the publication of this research work.

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