

## PRODUCT QUALITY ANALYSIS AS A TOOL FOR MARKETING STRATEGY PLANNING FOR NUTMEG JUICE PRODUCTS (CASE STUDY IN BOGOR CITY)



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### Abstract

This study aims to analyse the level of performance and importance of product quality in order to design a marketing strategy for Nutmeg Juice Products. The research population consists of consumers of nutmeg juice products, with a sample size of 75 respondents. This study uses Importance Performance Analysis (IPA). The results of the study show that consumer expectations of nutmeg juice products focus on the uniqueness of the logo, attractive product appearance, and the accuracy of the flavour description on the packaging. Meanwhile, consumers perceive the product performance to be good in terms of ease of storage, health benefits, and long shelf life. Based on IPA analysis, it was found that the three product quality indicators that are the top priorities for improvement are performance, reliability, and quality of conformance. These three indicators are considered very important by consumers, but their performance still does not meet expectations. To achieve an effective marketing strategy, manufacturers can make efforts to improve ease of maintenance, product uniqueness, and aesthetics.

**Keywords:** Product Quality; Marketing Strategy; Micro, Small, and Medium-sized Enterprises (MSME).

## INTRODUCTION

Technological developments have contributed to increasing public awareness of the importance of adopting a healthy lifestyle. Demand for organic, chemical-free, low-sugar, antioxidant-rich products with specific health claims continues to grow every year. Consumers are increasingly selective in choosing food products, tending to avoid products with ingredients such as preservatives, artificial sweeteners, and food additives that are considered unsafe.

Nutmeg (*Myristica fragrans*) is one of Indonesia's leading commodities with high development prospects. This fruit is rich in nutrients, including antioxidants such as myristicin, elemicin, vitamin C, potassium, and magnesium. The active compounds in nutmeg have been scientifically proven to provide health benefits, including boosting immune function, reducing inflammation, supporting heart health, overcoming digestive disorders, thrush, increasing appetite, joint pain, insomnia, and destroying kidney stones (Urabee et al., 2022).

The global health beverage industry is projected to grow by 6.5% per year (2023-2030), driven by increased awareness of healthy lifestyles (Grand View Research, 2023). Natural functional beverage products, such as juices with added nutrients or preservative-free, can be the primary choice for consumers today. Packaged nutmeg juice can meet consumer needs due to its natural properties, low calorie content, and rich antioxidants. However, its low competitiveness compared to other packaged juices poses a challenge. Limited distribution and lack of aggressive promotion also hinder product recognition in the consumer market.

Considering that Bogor City is one of the largest nutmeg producers, based on West Java Province Plantation Statistics Data (2024), Bogor City has the highest average production from 2020-2024 at 576.8 tons; several nutmeg processing businesses can be found there today.

**Table 1.**  
**Data on Nutmeg Processing Businesses in Bogor City 2025**

No	District	Business Owner	Business Name	Business Duration (Years)	Product
1	West Bogor	Saleh Brik Zulkarnain	Cileo	15	1. Syrup 2. Ready-to-drink (RTD) 3. Nutmeg extract
2	West Bogor	Oyok	Manisan Pala Ibu Oyok	43	Dried and wet candied nutmeg
3	South Bogor	Nurhasanah	Mysari	5	1. Nutmeg candy 2. Nutmeg syrup 3. Nutmeg candy
4	South Bogor	Hafsah	Harapan Berkah	43	Nutmeg candy

Source: Lucky Jamaludin, 2025.

Most of these businesses are Micro, Small, and Medium Enterprises (MSMEs), spread across nutmeg-producing regions. These MSMEs generally still use simple technology in their processing and have limitations in terms of capital, quality, marketing strategies, and access to wider markets. These conditions present both opportunities and challenges for nutmeg processing MSMEs to be competitive in the market. Processed nutmeg products have great market potential, given the increasing public awareness of the benefits of natural products. The nutritional content of nutmeg is attractive to consumers who are increasingly selective in choosing food and beverages. However, nutmeg processing MSMEs still face obstacles in product standardization, unattractive packaging, and suboptimal marketing strategies.

According to data from the Ministry of Cooperatives and SMEs (2019), the MSME sector still faces several obstacles in running its businesses, such as difficulties in obtaining raw materials (23.75%), limited marketing (16.96%), production techniques (3.07%), competition from similar businesses at 15.74%, and capital constraints at 40.48%. As a newcomer to the market, nutmeg juice products require an integrated marketing strategy. Given the increasingly fierce market competition and higher consumer demands, product quality is an important factor in consumer purchasing decisions and the sustainability of a product in the market.

The quality of nutmeg juice products plays an important role in attracting consumer interest. When consumers have a positive experience with a quality product, their perception of the brand will improve. This significantly influences purchasing decisions. Therefore, to increase market competitiveness, producers need to design effective marketing strategies.

In addition to product quality, pricing is an important element in marketing strategies, especially for Micro, Small and Medium Enterprises (MSMEs) that operate with limited resources. The right price not only reflects product quality but must also consider consumer purchasing power and production costs. Therefore, the pricing of nutmeg juice products must take into account various cost components.

**Table 2.**  
**Determination of Selling Price and BEP for Nutmeg Juice Products**

Component	Parameter	Calculation Details (IDR)
<b>Fixed Costs</b>	Electricity and Water	10
	Labor	900,000
	<b>Total fixed costs</b>	<b>1,000,000</b>
<b>Variable Costs</b>	Primary Raw Materials	335,000
	250ml PET Plastic Bottles (@200 pcs)	120,000
	Labels and seals (@200 pcs)	80,000
	<b>Total Variable Costs</b>	<b>535,000</b>
<b>Production Cost</b>		1,535,000
<b>Target Profit (5%)</b>	Rp. 1,535,000 + (Rp. 1,535,000 x 5%) = Rp. 76,750	1,611,750
<b>Selling Price Per Unit</b>	<b>Rp. 1,590,750 : 200 (bottles)</b>	<b>8,000</b>
<b>BEP</b>	Selling Price per Unit	8,000
	Total fixed costs	1,000,000

Component	Parameter	Calculation Details (IDR)
	Variable cost per unit	2,675
	<b>Break-even point</b>	<b>188 units</b>

Source: Processed data, 2025.

The calculation is based on a production capacity of 200 bottles per month. The selling price is determined by adding a profit margin of 5% to the total cost of production. Therefore, the profit target of IDR 76,750 results in a total sales value of IDR 1,611,750. Thus, the selling price per bottle of nutmeg juice is set at IDR 8,000. This price is designed to cover all production costs. The Break Even Point (BEP) indicates that when the business successfully sells at least 188 units, the business will break even.

Furthermore, labels and packaging serve as physical protection for the product, but also act as a direct means of communication with consumers. Labels contain essential information that guides consumers in their decision-making, while packaging creates a visual and functional experience. Strategic label and packaging design can attract attention, build product image, and influence consumers' perceptions of product quality and value. The following are the labels and packaging for nutmeg juice products:



**Figure 1.**  
**Palanida Nutmeg Fruit Juice Packaging**  
 Source: Palanida, 2025.

## REVIEW OF LITERATURE

### Entrepreneurship

Entrepreneurship is a creative endeavor built on innovation to produce something new, add value, provide benefits, create jobs, and produce results that are useful to others (Manap, 2018). Entrepreneurship is a discipline that studies the values, abilities, and behaviors of individuals in facing life's challenges and ways of seizing opportunities despite the various risks that may be encountered (Suryana, 2020). Entrepreneurship is a science that examines the development and cultivation of creativity and the courage to take risks in one's work in order to realize the results of that work (Fahmi, 2016). Based on these definitions of entrepreneurship, it can be concluded that entrepreneurship is a creative endeavor that involves the development of values, abilities, and behaviors to create something new and useful, the courage to take risks, and the ability to open up opportunities and jobs for others.

### Product Quality

Product quality is one aspect of the business world that reflects a product's ability to meet or even exceed consumer expectations. Product quality is the overall combination of product characteristics that meet consumer expectations or desires (Wijaya, 2019). Product

quality is a characteristic of a product in its ability to meet predetermined needs and has latent properties (Tjiptono, 2020), while according, product quality is the ability of a product to provide results or performance that meets or even exceeds consumer desires (Kotler, P. & Keller, 2024). In other words, quality not only reflects the suitability of a product to technical specifications, but also the extent to which the product is able to provide added value that is felt by consumers or end users. Based on these several definitions of product quality, it can be concluded that product quality is the totality of characteristics inherent in a product, which includes the ability to meet the needs, expectations, and desires of consumers, and even provide added value that exceeds expectations.

The indicators of product quality are as follows: 1) Performance; 2) Aesthetics; 3) Ease of maintenance and repair; 4) Features; 5) Reliability; 6) Quality of conformance; 7) Fitness for use (Wijaya, 2019).

### **Marketing Strategy**

A marketing strategy can be viewed as a plan to maximize opportunities to achieve targeted business through the management of factors that can be controlled by the company, such as product design, pricing, distribution systems, and marketing communications (Tjiptono, 2020). A marketing strategy is a comprehensive, integrated, and unified plan in the field of marketing, which provides guidance on the activities to be carried out to achieve a company's marketing objectives (Assauri, 2019). Marketing strategy is a tool designed to achieve company objectives by developing sustainable competitive advantages through the markets entered and the marketing programs used to serve those target markets (Tjiptono & Diana, 2020). Based on these definitions of marketing strategy, it can be concluded that a marketing strategy is a comprehensive plan developed by a company to achieve its marketing objectives through the management of various controllable factors such as product, price, place, and promotion. This strategy also involves decision-making and actions focused on building competitive advantages in the eyes of customers, thereby creating added value for the company.

## **RESEARCH METHOD**

This study uses a descriptive qualitative approach that aims to obtain an overview of the quality characteristics of nutmeg juice products in the city of Bogor, which consists of six districts, namely South Bogor District, East Bogor District, North Bogor District, Central Bogor District, West Bogor District, and Tanah Sareal District. The population in this study was all consumers of "Palanida" nutmeg juice products, with sampling using purposive sampling so that the sample used was 75 respondents.

The sample selected in this study was a stratified random sample (Sugiyono, 2020). This was done because the research object was relatively homogeneous. Proportional random sampling was used to determine the sample size of consumers of nutmeg juice products in the Bogor City area.

**Table 3.**  
**Sample Size Data**

No	District	Population (People)	Calculation	Sample Size (Consumers)
1	South Bogor	210,600	210,600/1,070,700x75	15
2	East Bogor	106,900	106,900/1,070,700x75	7
3	North Bogor	191,200	191,200/1,070,700x75	13
4	Central Bogor	96,000	96,000/1,070,700x75	7
5	West Bogor	240,000	240,000/1,070,700x75	17
6	Sareal Land	226,100	226,100/1,070,700x75	16
<b>Total</b>		<b>1,070,700</b>		<b>75</b>

Source: Central Statistics Agency (BPS) of Bogor City, 2024.

The research instrument was a closed questionnaire using a Likert scale. The data analysis technique used was Importance Performance Analysis (IPA) to measure and identify the attributes that were the main priorities for improvement. The analysis was assisted by SPSS Version 22.00.

To calculate the average importance rating (expectation) for each attribute according to consumers, the average importance is calculated, while the average performance rating for each attribute is calculated using the following formula (Wardhana, 2024):

$$\bar{Y} = \frac{\sum Yi}{n}$$

$$\bar{X} = \frac{\sum Xi}{n}$$

Explanation:

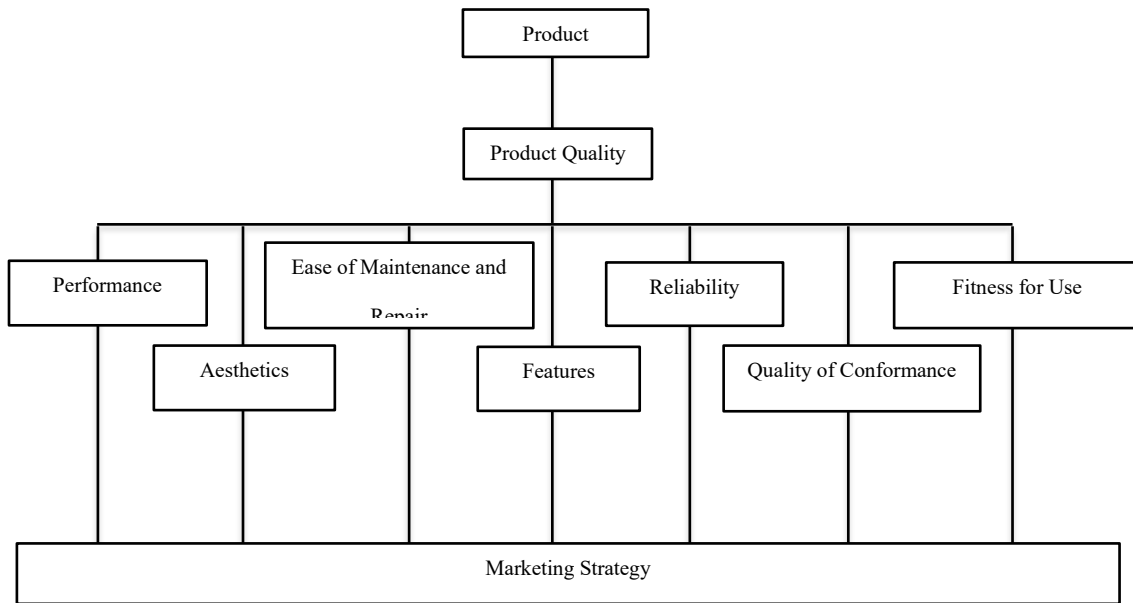
$\bar{Y}$  = Average score of the level of importance (expectation) of consumers

$\bar{X}$  = Average performance score (product quality)

n = Number of consumers

### Research Framework

A comprehensive understanding of product quality is very important for companies in their efforts to maintain competitiveness and increase customer satisfaction in an increasingly competitive market. There are seven aspects that need to be considered in building product quality: 1) Performance; 2) Aesthetics; 3) Ease of maintenance and repair; 4) Features; 5) Reliability; 6) Quality of conformance; 7) Fitness for use. The use of product quality indicators enables companies to carry out systematic and continuous quality control, thereby ensuring the consistency of the products produced and increasing competitiveness.



**Figure 2.**  
**Conceptual Framework**  
 Source: (Wijaya, 2019) (adapted by the author, 2025)

**RESULTS AND DISCUSSION**

**Table 4.**  
**Summary of Consumer Characteristics of Nutmeg Juice Products**

No	Characteristics	Majority	Number of Consumers (People)	Percentage (%)
1	Gender	Female	44	59
2	Age	26 - 35 years	29	39
3	Education	Bachelor's Degree (S1)	38	51
4	Occupation	Entrepreneur	20	27
5	Income	Rp 3,100,000 - Rp 5,000,000	34	45

Source: Processed data, 2025.

Based on Table 4, most consumers are female, totaling 44 people or 59%, aged between 26-35 years old, totaling 29 people or 39%, with the majority having a bachelor's degree (S1) as their highest level of education, totaling 38 people or 51%, where 20 people or 27% work as entrepreneurs, and 34 people or 45% have a monthly income between Rp 3,100,000 and Rp 5,000,000.

**Validity Test**

**Table 5.**  
**Summary of Research Instrument Validity Test Results**

Variable	Statement Item	Valid Count	Number of Invalid Items	Number of Statement Items Used
Product Quality	<i>Performance</i>	1 - 21	21	0

<i>Importance</i>	1 - 21	21	0	21
<b>Number</b>	42	42	0	42

Source: Results of Statistical Data Processing using SPSS Version 22.00, 2025

The validity test results for the seven product quality variable indicators on performance and importance values show that all 21 instruments are valid, in accordance with the stipulation that the calculated value is greater than the table value (0.361). Validity testing is a process to determine the extent to which a measurement instrument can measure what it is supposed to measure (Supardi, 2016). Instruments can be used to measure the data that occurs in objects with the data that can be collected by researchers.

**Reliability Test**

Reliability testing is an assessment of the level of consistency between several variable measurements (Hair et al., 2017). A questionnaire can be said to be reliable if the respondents' answers to the questionnaire questions are consistent or remain the same over time. The purpose of this reliability test is to see whether the research instrument is a reliable and trustworthy instrument. If the research variable uses a reliable and trustworthy instrument, the research results can also have a high level of confidence.

**Table 6.**

**Results of the Research Instrument Reliability Test**

<b>Variable</b>	<b>Cronbach Alpha (α)</b>	<b>Consistency</b>	<b>Description</b>	
Product Quality	<i>Performance</i>	0.842	0.7	Reliability
	<i>Importance</i>	0.834	0.7	Reliable

Source: Results of Statistical Data Processing using SPSS Version 22.00, 2025

The reliability test results for the variables in this study have a Cronbach Alpha value greater than the minimum threshold of 0.7. This indicates that the measurement tool used is reliable, so it can be concluded that the measurement tool used for the product quality variable has produced consistent results.

**Results of the Analysis of the Level of Importance and Performance Level on Product Quality**

To obtain a more in-depth picture of the quality of nutmeg juice products, a comparative analysis was conducted between the average performance and importance values for each quality variable. This analysis aimed to see the extent to which product performance has met the level of importance expected by consumers.

**Table 7.**

**Assessment of Product Quality Variables**

<b>No</b>	<b>Indicator</b>	<b>Product Quality</b>	
		<b>Performance Level/</b> <i>Performance</i> <b>(%)</b>	<b>Importance Level/</b> <i>Importance</i> <b>(%)</b>
1	Performance	77	86
2	<i>Aesthetics</i>	83	82
3	Ease of Maintenance and Repair	84	84
4	<i>Unique Features</i>	84	82
5	<i>Reliability</i>	81	84

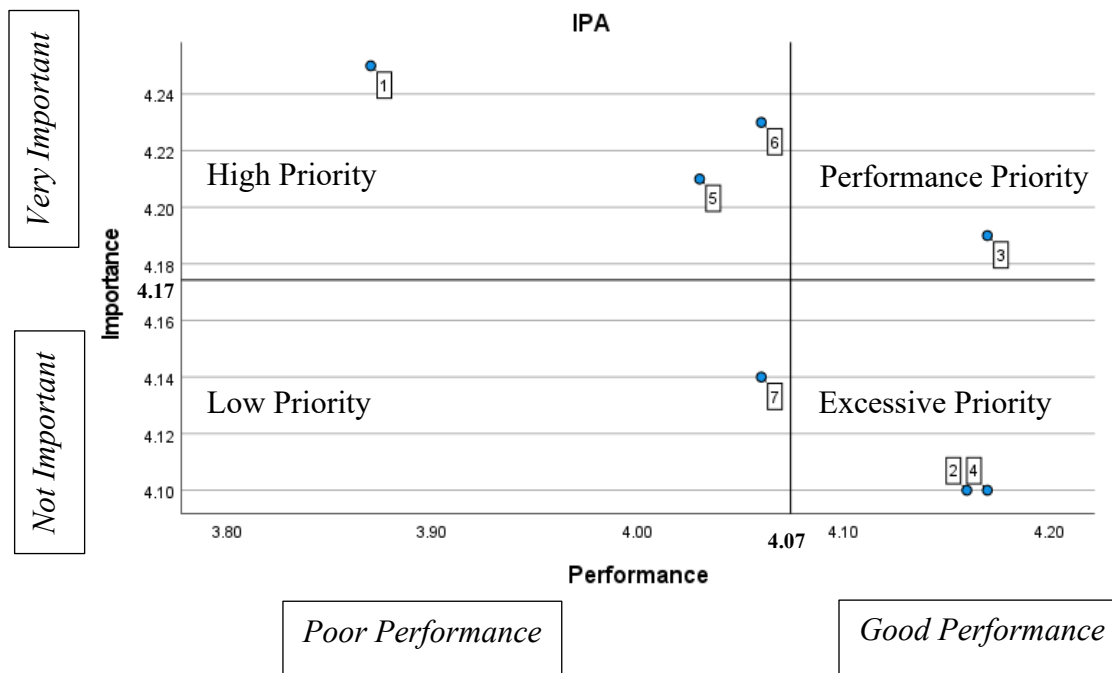
6	<i>Quality of Conformance</i>	81	85
7	<i>Fitness for Use</i>	81	83
<b>Average</b>		<b>81</b>	<b>84</b>

Source: Processed data, 2025.

The product quality variables for nutmeg juice have an average performance value of 81% and an importance value of 84%. The indicators with the highest average performance values are ease of maintenance and repair and features with a value of 84%, while the lowest average value is found in the performance indicator with a value of 77%. The highest average importance value is found in the performance indicator with a value of 86%, while the lowest is found in the aesthetics and uniqueness indicators with a value of 82%. These results show a difference, where the average performance value is still below the average importance value. Thus, a comparison between the average performance and importance values shows that although the quality of nutmeg juice products is considered good overall, there are gaps in several key indicators, particularly performance, reliability, and suitability quality, which require more attention from producers.

**Results of the Importance and Performance Analysis (IPA) of Product Quality**

Perceptual Mapping Importance and Performance Analysis (IPA) is used to determine improvement priorities by combining measurements of importance and performance levels. Through this analysis, each product indicator can be mapped onto a Cartesian diagram consisting of four quadrants, making it easier to interpret the position of each attribute based on consumer perceptions.



**Figure 3.**  
**Importance Performance Analysis (IPA)**

Source: Processed data, 2025.

Explanation:

- 1. Performance
- 2. Aesthetics
- 3. Ease of Maintenance and Repair
- 4. Features
- 5. Reliability
- 6. Quality of Conformance
- 7. Fitness for Use

QUADRANT 1 (Top Priority)	1, 6, 5
QUADRANT 2 (Performance Priority)	3
QUADRANT 3 (Low Priority)	7
QUADRANT 4 (Excessive Priority)	2, 4

Next, to obtain an overview of the quality of nutmeg juice products in Bogor City, calculations were made by accumulating the answers "Good" and "Very Good" and then finding the percentage value. The results of these calculations on product quality performance are as follows:

**Table 8.**  
**Recapitulation of Good and Very Good Product Quality Assessment Calculations at the Performance Level**

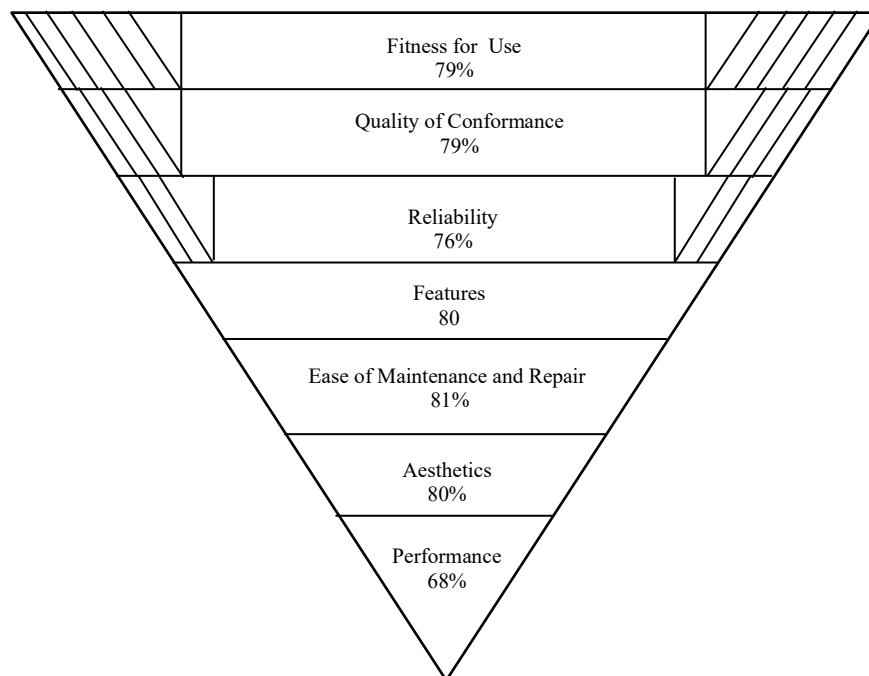
No	Indicator	Statement	Average (%)	Percentage (%)
1	Performance	Nutmeg juice products have an attractive appearance	79	69
		Nutmeg juice products have consistency in producing packaged juice products.	77	71
		Nutmeg juice products can quench thirst.	76	64
<b>Average Performance</b>			<b>77</b>	<b>68</b>
2	Aesthetics	The packaging design of nutmeg juice products is attractive.	81	76
		Innovative nutmeg juice product display	83	79
		Using nutmeg juice products can improve appetite	86	84
<b>Average Aesthetics</b>			<b>83</b>	<b>80</b>
3	Ease of Maintenance and Repair	Ease of opening nutmeg juice packaging	80	75
		Nutmeg juice products are easy to obtain or purchase anywhere.	86	84
		Nutmeg juice products can be easily stored at room temperature or in the refrigerator.	85	84
<b>Average Ease of Maintenance and Repair</b>			<b>84</b>	<b>81</b>
4	Features	Nutmeg juice products provide a new taste experience	82	75
		Uniqueness of the nutmeg juice product packaging logo with a nutmeg icon	83	80
		Feeling interested when seeing the shape of the nutmeg juice product packaging	85	85

No	Indicator	Statement	Average (%)	Percentage (%)
<b>Average Features</b>			<b>84</b>	<b>80</b>
5	<i>Reliability</i>	Nutmeg juice products have a long shelf life	81	76
		Nutmeg juice products can be consumed in all conditions.	80	75
		Nutmeg juice products are safe for consumption by all ages.	81	76
<b>Average Reliability</b>			<b>81</b>	<b>76</b>
6	<i>Quality of Conformance</i>	The flavor description on the packaging matches the nutmeg juice.	82	80
		Nutmeg juice specifications do not use preservatives.	81	79
		The production process of nutmeg juice uses <i>modern</i> technology	81	77
<b>Average Quality of Conformance</b>			<b>81</b>	<b>79</b>
7	<i>Fitness for Use</i>	The quality of nutmeg juice products meets consumer expectations	77	71
		Nutmeg juice products are beneficial for maintaining health.	86	87
		The taste of nutmeg juice suits consumers' palates	81	80
<b>Average Fitness for Use</b>			<b>81</b>	<b>79</b>

Source: Processed data, 2025.

The highest calculation results were for the indicators of ease of maintenance and repair, with an average value of 84% and a good rating of 81%. which indicates that consumers consider the ease of access and storage of nutmeg juice products to be good, as well as the indicators of features and aesthetics with average scores of 84% and a good rating of 80%, which indicates that consumers consider the uniqueness and aesthetics of nutmeg juice products to be good.

Furthermore, the lowest calculation results were in the performance indicator with an average score of 77% and a good rating of 68%, which is in the good category but has the smallest percentage among the other indicators.



**Figure 3.**  
**Product Quality Pyramid**

Source: Data processed by the author, 2025

The quality of nutmeg juice products is good, as the pyramid is inverted, becoming wider towards the top, but at the reliability level, suitability quality and appropriate use appear to be decreasing. Manufacturers should improve the indicators of reliability, suitability quality, appropriate use, and performance, which have the lowest percentage values.

### **Consumer Expectations for Nutmeg Juice Products in Bogor City**

Consumer expectations are the perceptions, expectations, and desires that consumers have regarding the quality, benefits, and aspects offered by nutmeg juice products. Expectations are formed from previous purchasing experiences, such as product information and product image, so that these expectations become the main reference when consumers assess product performance after consumption.

Consumer expectations of nutmeg juice products include the uniqueness of the product packaging logo. This shows that consumers consider the uniqueness of the packaging logo with the nutmeg icon to be important in distinguishing nutmeg juice products from other beverages on the market. Packaging with a unique logo is easily recognizable, thereby increasing its appeal, trustworthiness, and purchase interest. The uniqueness of a logo increases product brand identity and brand awareness, thereby facilitating product recognition and encouraging purchasing decisions (Cahyani & Wardani, 2024).

Furthermore, the product has an attractive appearance. This shows that consumers of nutmeg juice products consider the appearance of the product to be very important in deciding to purchase and as a product attraction. An attractive appearance can increase consumer interest to try the product when they first see it. Visually attractive product

packaging attracts attention, thereby increasing satisfaction and perception of product quality (Novianti et al., 2024)

The flavor description on the packaging is appropriate. This indicates that consumers of nutmeg juice products consider the clarity of the description on the packaging to be very important. The consistency between the flavor description on the packaging and the perceived product quality determines consumer perception of the product because the description serves as the primary means of communication between the manufacturer and consumers regarding product identity. It is important for products to be presented in accordance with their description in order to build consumer trust (Chaerunnisa & Safria, 2024).

### **Consumer Performance on Nutmeg Juice Products in Bogor City**

Consumer performance is the assessment and response of consumers to actual performance after using the product and its suitability to initial expectations. The higher the product performance, the higher the level of satisfaction felt by consumers, while any discrepancies will cause disappointment.

Consumer performance of nutmeg juice products includes the ease of storing nutmeg juice products at room temperature or in the refrigerator. This is due to the practical size of the packaging for a single serving, which makes it easier to handle, store, and consume, allowing consumers to maintain the quality and freshness of the product for a long period of time. Consumer demand for practical products that are easily adapted to their lifestyle is an important aspect in choosing products (Al-Farsi et al., 2024).

Furthermore, nutmeg juice products are beneficial for maintaining health. This shows that consumers consider nutmeg juice products to always provide health benefits after consumption because the antioxidants and vitamin C in nutmeg function as immune boosters and support a healthy lifestyle. Modern consumer preferences are increasingly leaning towards natural products that offer health benefits (Pahari et al., 2024).

Nutmeg juice products have a long shelf life. This is due to the processing of nutmeg juice through pasteurization or mild heat treatment, which effectively reduces the number of pathogenic and spoilage microorganisms, thereby extending the product's shelf life. Thus, shelf life is a consideration for consumers in their purchasing decisions because it affects their sense of security regarding product quality during consumption. A long shelf life is an important competitive advantage in packaged beverage products because it facilitates distribution and storage without reducing product quality (Rosmawati et al., 2021).

### **Indicators That Producers Can Improve to Achieve Strategic Marketing Planning**

Based on the Importance and Performance Analysis (IPA) included in quadrant A or the category deemed very important by consumers, but whose performance has not been able to meet expectations, it has become a top priority that can be improved by manufacturers in their efforts to plan effective marketing strategies, including performance. This shows that product performance, such as product appearance, product consistency, and the product's ability to quench thirst, has not been able to meet consumer needs and expectations. Performance includes product attributes and aspects that can be measured and are based on consumers' subjective preferences (Prawirosentono, 2021). The better the product performance, the higher the level of consumer satisfaction. What nutmeg juice producers can do is optimize the visual design of the product, implement Standard Operating Procedures (SOP) at every stage of production, and provide appropriate serving suggestions on the

packaging. The better consumers' perception of product performance, the higher their level of satisfaction (Denny & Wibowo, 2024).

Next is reliability. This shows that product reliability, such as shelf life, suitability for consumption in all conditions, and suitability for consumption by all ages, has not been able to meet consumer needs and expectations. Reliability is related to the probability or possibility of a product successfully performing its function every time it is used (Prawirosentono, 2021). The inability of a product to function properly in different conditions will reduce consumer trust and satisfaction. What nutmeg juice producers can do is to apply a pasteurization process to kill microorganisms, thereby naturally extending the shelf life of the product, producing products in various package sizes according to needs, and ensuring that the raw materials are not harmful to health, especially for children and the elderly. Product reliability influences purchasing decisions and consumer satisfaction (Arpi et al., 2023).

Quality of conformance. This shows that the conformity of packaging descriptions, specifications that do not use preservatives, and production processes using modern technology have not been able to meet consumer needs and expectations. Quality of conformance reflects the consistency of the production process so that all product units are identical and in accordance with the specifications promised to consumers (Wahyudi, 2022). This means that products with high conformity will be free from defects and meet consumer quality expectations. What nutmeg juice producers can do is provide clear information on the packaging label, obtain organic product certification, and ensure the use of modern machinery in the production process to guarantee product quality and safety. Conformity quality influences consumers' perceptions of the professionalism of producers, so that products that do not match the claims on the label can damage the brand's reputation and trigger consumer distrust (Rachim et al., 2023).

### **Efforts That Can Be Made to Achieve Marketing Strategies**

The productivity of functional food product marketing strategies is highly dependent on the producer's ability to manage product quality, which directly affects consumer perception and satisfaction. Efforts that producers can make to achieve marketing strategies include maintaining the ease of product maintenance and repair. This shows that nutmeg juice products are easy to open, easy to buy anywhere, and easy to store at room temperature or in the refrigerator. Ease of maintenance and repair is the ability of a product to be easily maintained or repaired so that it can function optimally for a long period of time (Prawirosentono, 2021). Manufacturers can maintain the ease of product maintenance and repair through several strategies, including ensuring that the packaging is easy to open or close, expanding the distribution network by establishing partnerships, and providing clear storage instructions on the packaging. Packaging must be easy to use and maintain so that quality does not deteriorate quickly during use (Dabija et al., 2024).

Furthermore, maintaining product uniqueness. This shows that nutmeg juice products provide a new taste experience, a unique packaging logo, and attractive packaging. Product aesthetics are the entire range of sensory experiences offered by a product (Luchs et al., 2021). Producers can maintain product uniqueness through several strategies, including innovating unique flavors that differentiate the product from similar products on the market, strengthening distinctive logo designs for easy recognition, and using practical and modern

ergonomic packaging. Packaging aesthetics influence consumer preferences in Indonesia, so unique designs can increase product appeal (Andiani & Nailul, 2025).

Maintaining product aesthetics. This shows that nutmeg juice products have attractive packaging designs, innovative product appearances, and enhance taste when consumed. Product aesthetics are consumers' perceptions of a product's visual appeal, including elements such as color, shape, texture, and design composition (Solomon et al., 2020). Producers can maintain product aesthetics through several strategies, including using modern packaging designs, packaging innovations using environmentally friendly materials, and maintaining consistency in taste and fresh aroma through hygienic processing. Product aesthetics can strengthen purchasing decisions because they provide strong emotional appeal to consumers (Wulandari et al., 2024).

Meanwhile, efforts that manufacturers can make to achieve effective marketing strategies include improving product performance. This shows that consumers are not only looking for quality products, but also products with attractive appearances, consistency in packaging, and the ability to quench thirst. Product performance is a primary functional attribute that is the main reason consumers buy the product (Evans & Lindsay, 2020). Performance includes measurable operational characteristics and forms the basis for comparison between products in the same category. The process of processing nutmeg into juice or syrup involves local labor who play an active role, thereby creating jobs. Producers can improve product performance through several strategies, including optimizing visual design such as color, shape, and attractive labels that are in line with product characteristics and market tastes, implementing strict quality control at every stage of production from raw material selection, production process to packaging, utilizing quality materials with hygienic production processes, and ensuring that the product provides a consistent refreshing sensation. and utilizing production waste as an alternative raw material with economic value, such as for making by-products. Product performance is an important factor in determining customer satisfaction (Pratama, 2023).

As for improving product reliability, this shows that consumers are not only looking for quality products, but also products with a long shelf life, that can be consumed in all conditions and are safe for consumption by all ages. Reliability is the ability of a product to consistently perform its intended function accurately and precisely over a period of time under specified conditions of use (Solomon et al., 2020). Manufacturers can improve product reliability through several strategies, including selecting high-quality raw materials and hygienic processing methods to ensure product longevity without compromising nutritional content and safety, conducting product durability tests under varying temperatures and environmental conditions to ensure flavor and texture stability during storage, and ensuring the use of allergen-free and hazardous substance-free ingredients, as well as food safety certification. Consumers feel more satisfied and confident in reliable products, not only in terms of taste but also in terms of safety and durability (Trianti et al., 2024).

Improving product conformity quality. This shows that consumers are not only looking for quality products, but also products with appropriate flavor descriptions on the packaging, no preservatives, and modern production technology. Conformity quality is defined as the degree to which a product or service conforms to established requirements and standards (Evans & Lindsay, 2020). Manufacturers can improve product conformity quality through several strategies, including ensuring that the flavor description on the packaging is

clear and consistent with the consumer's sensory experience in order to build appropriate expectations, applying pasteurization or aseptic sterilization techniques that maintain product freshness and safety without the use of harmful additives, and applying modern technology in the production process, such as automated quality control. Conformity quality affects consumer satisfaction (Nizam et al., 2025).

Improving the usefulness of suitable products. This shows that consumers are not only looking for quality products, but also products that suit consumer desires, have health benefits, and suit consumer tastes. Fitness for use is a quality concept that focuses on the ability of a product or service to consistently meet the needs and expectations of users (Malhotra, 2020). Manufacturers can improve the suitability of products through several strategies, including conducting in-depth market research to understand consumer taste preferences and health needs, conducting repeated taste tests involving consumer samples to help adjust product formulas, and utilizing nutmeg extract as a source of natural and healthy antioxidants as a key selling point in marketing products as functional beverages that support consumer health. Product utility attributes influence consumer satisfaction (Hardini et al., 2022).

## CONCLUSION

This study aimed to analyze product quality as a tool to design marketing strategies for nutmeg juice products in Bogor City using the *Importance and Performance Analysis* (IPA) approach. The following conclusions were drawn:

1. Consumer expectations of nutmeg juice products in Bogor City include unique packaging logos, attractive product appearance, and appropriate flavor descriptions on the packaging.
2. Consumer performance regarding nutmeg juice products in Bogor City includes the ease of storing nutmeg juice products at room temperature or in the refrigerator, nutmeg juice products being beneficial for maintaining health, and nutmeg juice products having a long shelf life.
3. Based on the results of the *Importance and Performance Analysis* (IPA) quadrant analysis, there are three indicators that manufacturers should prioritize for improvement because they are considered very important but their performance is not yet optimal. These indicators include performance, *reliability*, and quality of *conformance*.
4. Efforts that producers can make to achieve their marketing strategy include maintaining the ease of product maintenance and repair, product uniqueness, product aesthetics, and improving product performance, product reliability, quality of conformance, and suitability for use.

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