

THE EFFECT OF PRODUCT QUALITY, BRAND IMAGE AND TASTE ON THE PURCHASE DECISION OF KUDA CAP TENGGIRI FISH CRACKERS SEA IN BANGKOK CITY

Desi Eka Pratiwi¹, Mohd. Heikal², Jullimursyida³, Hamdiah⁴

^{1,2,3,4}Universitas Malikussaleh, Indonesia

Corresponding Author: mohdheikal@unimal.ac.id

Received: 28/06/2026 | Revised: 02/07/2026 | Accepted: 26/07/2026 | Published: 22/08/2026

Abstract

The increasingly tight competition among processed seafood products requires every producer to keep innovating in order to compete with its rivals. Product quality, brand image, and taste are important factors that producers need to pay attention to in order to maintain and improve consumer purchasing decisions. Pre-survey results on Cap Kuda Laut Mackerel Fish Crackers show a declining trend in consumer purchase interest, which is suspected to be related to these three factors. This study aims to determine the influence of Product Quality (X1), Brand Image (X2), and Taste (X3) on Purchasing Decisions (Y) of Cap Kuda Laut Mackerel Fish Crackers in Pangkalan Brandan, Langkat Regency, North Sumatra. The population of this study consists of consumers of the product. The sample consisted of 100 respondents, determined using the purposive sampling technique. The variables in this study consist of dependent and independent variables. The dependent variable is Purchasing Decision (Y), while the independent variables are Product Quality (X1), Brand Image (X2), and Taste (X3). The method used in this study is a quantitative research method, with multiple linear regression as the analysis model. Data processing was carried out using the SPSS program. Based on the analysis results, this study found that the Product Quality variable has a positive and significant effect on Purchasing Decision, Brand Image has a positive and significant effect on Purchasing Decision, and the Taste variable has a positive and significant effect on Purchasing Decision. The results of this study also show that Product Quality, Brand Image, and Taste have a partial and simultaneous effect on the Purchasing Decision of Cap Kuda Laut Mackerel Fish Crackers.

Keywords: Product Quality, Brand Image, Taste, Purchasing Decision

INTRODUCTION

The processed food industry derived from fisheries has developed into a crucial sector in the global economy, particularly for coastal countries. Indonesia, as an archipelagic nation with vast territorial waters, offers significant opportunities for advancement in the seafood processing industry, including fish crackers, a staple of traditional culinary traditions. Indonesia's marine and fisheries sector has shown a positive growth trend in recent years. According to data from the Ministry of Maritime Affairs and Fisheries, national fisheries production reached approximately 23.21 million tons in 2023 and increased to 23.57 million tons in 2024, with a projection of 26.26 million tons in 2025. Consistently, the fisheries sector's contribution to the national economy has also increased, as reflected in the 2.25% growth in Gross Domestic Product (GDP) of the fisheries sector through the third quarter of 2024. This demonstrates that the fisheries sector not only plays a role in meeting the community's protein needs but also holds significant potential in driving economic growth through the development of value-added processed products, such as fish crackers.

MSMEs play a crucial role as a potential sector and maintain economic stability, as they play a significant role in absorbing labor and improving community welfare. MSMEs are an abbreviation for Micro, Small, and Medium Enterprises, but their meaning is broader when viewed from various perspectives. For business people, MSMEs encompass businesses run by individuals, families, or small businesses. According to Prof. Ina Primiana, a senior economist, MSMEs are small-scale businesses that drive the development and progress of the Indonesian

economy. Meanwhile, M. Kwartono Adi provides a more specific definition, stating that MSMEs are business entities with annual profits of no more than 200 million rupiah. A business can be categorized as an MSME if it meets the criteria for a micro business. North Sumatra Province boasts abundant natural resources, particularly in the fisheries sector, with coastal areas rich in high-quality seafood. Langkat Regency, particularly Pangkalan Brandan City, is one of the coastal areas with significant potential for developing the fisheries processing industry. Its geographical location in the coastal region provides easy access to fresh fish, including mackerel, the primary ingredient in fish crackers. This potential has encouraged the growth of mackerel cracker processing businesses, a regional specialty with both economic and cultural value. Marketing of seahorse brand mackerel fish crackers reaches several areas on the island of Sumatra, but in recent years sales of seahorse brand mackerel fish crackers have fluctuated as can be seen in the following table:

Table 1
Production and Sales

Year	Total Production (kg)	Total Sales (kg)	% Sale
2020	91,100	7,360	91.9%
2021	91,100	103,800	113.9%
2022	109,350	106,613	97.5%
2023	109,350	111,953	102.4%
2024	127,600	131,355	102.9%
Total	528,500	537,460	101.7%

Source: Seahorse brand mackerel fish cracker business actors, 2025

One business leveraging this potential is the producer of Kuda Laut Brand Spanish Mackerel Fish Crackers, which are well-known and marketed throughout Sumatra. However, in recent years, sales of this product have shown an unstable trend. Sales data from 2020 to 2024 shows significant fluctuations, with significant discrepancies between production and sales volume in certain years. This indicates that market demand for the product is not yet consistent, leading to problems in the consumer purchasing decision process.

Although data shows sales growth above 100% in some years, this does not necessarily reflect the growth of a new consumer base, but rather the utilization of accumulated stock from previous periods. This condition differs from the ideal situation where increased production should be followed by linear and consistent sales growth without extreme fluctuations between periods. A similar situation was experienced by the Tengiri Mas Crackers MSME in Pati Regency, which experienced sales fluctuations of up to IDR 32,713,000 in December 2023, indicating that consumer interest in fish cracker products was not yet optimal (Ahmad, 2024). Fish cracker sales in Sungai Langkai Village, Batam, showed the largest fluctuation of 5% in August, caused by the emergence of new competitors, resulting in decreased purchases (Evyanto et al., nd). A similar condition was also seen in the Tamban IK Berkah Fish Cracker MSME in Bintan Regency, which experienced sales fluctuations throughout 2021-2022, with factors such as product quality, brand image, and price being the main determinants in consumer purchasing decisions (Dwi Kurnia Saputri et al., 2024).

Various previous studies provide empirical evidence regarding the influence of these variables on purchasing decisions. Fatmaningrum et al. (2020) in Ahmad (2024) found that product quality and brand image have a positive and significant influence on purchasing decisions with a determination level of 57.5%. Dwi Kurnia Saputri et al., (2024) who conducted research on the Tamban Fish Cracker MSME revealed that product quality, brand image, and price simultaneously have a significant influence on purchasing decisions with an R^2 value of 57.1. Previous studies also have not specifically examined the phenomenon of extreme sales fluctuations such as those that occurred at the Kuda Laut Brand Mackerel Fish Crackers, where there was a difference in demand of up to 50% between the first and second semesters of the same year.

Based on the results of the pre-survey conducted by researchers, several indications of problems were found, including inconsistencies in product quality, reflected in the texture of the crackers which is not yet uniform and the taste that tends to change between production times. Furthermore, the product's brand image is considered not yet firmly embedded in the minds of consumers, as indicated by the still low level of brand recognition compared to similar competing products. From the taste aspect, the limited variety of flavors offered is also a factor that encourages some consumers to switch to other products with a wider variety of flavors. Theoretically, a product with good quality, a strong brand image, and a taste that aligns with consumer preferences should be able to drive sustained increases in purchasing decisions. However, the phenomenon of Kuda Laut Brand Mackerel Fish Crackers actually indicates the opposite, namely, sales instability that has persisted over the past few years. This gap between the theoretically

ideal and the actual conditions in the field is an important basis for further study. Based on the phenomena described, the fluctuation in sales of Kuda Laut Brand Mackerel Fish Crackers indicates a suboptimal marketing strategy. These issues are thought to be related to inconsistent product quality, a weak brand image in consumers' minds, and limited flavor variety. Therefore, further research is needed to analyze the extent to which product quality, brand image, and flavor influence consumer purchasing decisions, thereby providing appropriate solutions to address the resulting sales fluctuations.

LITERATURE REVIEW

The Influence of Product Quality on Purchasing Decisions

Product quality is a crucial factor that plays a strategic role in influencing consumer purchasing decisions, particularly for food-based products. Theoretically, product quality influences purchasing decisions through the mechanism of perceived value: consumers who perceive high product quality will assess that the benefits obtained are commensurate with or even exceed the sacrifices made, thus encouraging a purchase decision. Kotler and Keller (2021) emphasize that positive quality perceptions will increase consumer trust, reduce perceived risk, and ultimately strengthen purchase intentions. Various empirical studies have demonstrated a positive and significant relationship between product quality and purchasing decisions. Yuliana et al. (2025) in their study of opak crackers found that product quality had a significant positive effect on product demand with a coefficient of determination of 83.0%, indicating that product quality is the dominant variable explaining variations in consumer purchasing decisions.

Evyanto et al. (2025) in their study of fish chips in Batam also demonstrated that product quality had a significant positive effect on purchasing decisions, with a t-value of 2.043 and a significance level of 0.037. This finding indicates that a consistent increase in perceived product quality will lead to an increase in consumer purchasing decisions for processed fish products. Dwi Kurnia Saputri et al. (2024) in their study of the Tamban IK Berkah Fish Cracker MSME found that product quality, along with brand image and price, simultaneously had a significant positive effect on purchasing decisions, with an R^2 value of 57.1%. Partially, product quality provided the largest contribution compared to other variables, confirming quality's position as a primary factor in purchasing decisions for fish crackers. Ahmad (2024), in his study of Krupuk Tengiri Mas in Pati Regency, also demonstrated that product quality had a positive and significant impact on purchasing decisions. Maintaining fish cracker quality, from raw materials and production to packaging, has been shown to increase consumer trust and encourage purchase decisions.

Ichou and Manar (2024) corroborate these findings by explaining that in traditional food products, superior product quality is often associated with better perceived value, increased consumer trust, and the formation of an emotional connection between consumers and the product. This is particularly relevant for mackerel crackers, where consumers' sensory experiences, including taste, aroma, and texture, are the primary basis for assessing quality. Based on the theoretical review and the support of various empirical studies, it can be concluded that product quality has a positive and significant effect on purchasing decisions. The higher the product quality perceived by consumers, the greater the likelihood of consumers making a purchase decision for Kuda Laut Brand Mackerel Fish Crackers. Thus, the first hypothesis in this study is formulated as follows: H1: Product quality has a positive and significant effect on purchasing decisions for Kuda Laut Brand Mackerel Fish Crackers in Pangkalan Brandan City. Based on the results of the discussion that have been systematically described, the formulation of the hypothesis in this study is structured as follows:

H1: Product quality has a positive influence on purchasing decisions for Sea Horse Brand Mackerel Fish Crackers in Pangkalan Brandan City.

The Influence of Brand Image on Purchasing Decisions

Brand image can be understood as the image and assessment formed in the minds of consumers towards a brand, which comes from the accumulation of experiences, information, and various associations stored in their memories. These associations include perceptions of product quality, level of reliability, reputation, and perceived value by consumers. Kumaresan & Chandramohan (2024:2) state that brand image is a form of consumer perception that is believed to be able to reflect the character and identity of a brand. In the traditional food industry such as mackerel fish crackers, the role of brand image becomes increasingly important because consumers generally cannot evaluate product quality directly before consuming it. The related empirical study has been described in the previous paragraph. A positive brand image can build consumer trust in product quality, strengthen brand preference, and increase the likelihood of a purchase decision. This confirms that brand image serves not only as a visual identity but also as a strategic asset that makes a significant contribution to a company's marketing performance. Furthermore, Kumar (2024:903) suggests that a strong brand identity has a significant influence on the brand's lifestyle fit with

consumers, the level of brand satisfaction, and repurchase intentions. A strong brand image is built through various elements, including a memorable name and logo, a positive reputation, consistent product quality, and the pleasant experience consumers experience in every interaction with the brand. Based on the results of the systematic discussion, the formulation of the hypotheses in this study is as follows:

H2: Brand image has a positive influence on purchasing decisions for Kuda Laut Brand Mackerel Fish Crackers in Pangkalan Brandan City.

The Influence of Taste on Purchasing Decisions

Taste is a fundamental component in the food industry that directly influences consumer purchasing decisions. Theoretically, taste influences purchasing decisions through the mechanism of sensory satisfaction: when consumers consume a food product and experience a pleasant sensory experience, the resulting satisfaction will strengthen repurchase intentions and encourage recommendations to others. Mardiyah and Soegesti (2022) explain that taste is the result of a multisensory assessment involving the sense of taste and is influenced by visual elements, aroma, texture, and temperature of the product, which together determine consumer satisfaction and preference. Sari and Mulyani (2021) empirically demonstrated that taste has a positive and significant effect on purchasing decisions for shrimp crackers, with an R^2 value of 44.9%. This finding indicates that almost half of the variation in purchasing decisions can be explained by taste, confirming taste's position as a key determinant of consumer purchasing behavior in the cracker product category.

Hikmah (2022) in Annibras (2023) found that taste is a dominant factor shaping consumer preferences for traditional foods. Consumers who are satisfied with the taste of a traditional food product are much more likely to repurchase and recommend the product to others, compared to consumers who are dissatisfied with the product's sensory aspects. Alang et al. (2021) emphasized that taste dimensions, including appearance, aroma, flavor, and texture, simultaneously influence consumer evaluations of food products. In mackerel fish crackers, the consistency of these four dimensions is crucial because consumers use these dimensions. previous sensory experiences as a benchmark for quality in any subsequent purchasing decision. Resky (2021) added that a positive taste experience not only encourages repeat purchases, but also increases consumers' willingness to recommend the product to others through word-of-mouth communication, which in turn expands the product's market reach organically.

Mardiyah and Soegesti (2022) also emphasized that in the traditional food market, distinctive and authentic flavors are the primary differentiating factor that distinguishes local products from mass-produced products. Consumers who value authentic local flavors tend to be loyal to brands that consistently maintain flavor profiles that meet their expectations. Based on the theoretical review and support from various empirical studies, it can be concluded that taste has a positive and significant influence on purchasing decisions. The better and more consistent the taste offered by a product, the more likely consumers are to choose and purchase that product. Therefore, the third hypothesis in this study is formulated as follows:

H3: Taste has a positive influence on purchasing decisions for Sea Horse Brand Mackerel Fish Crackers in Pangkalan Brandan City.

Conceptual Framework

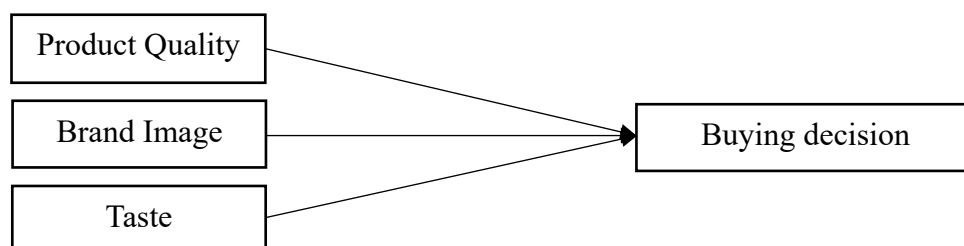


Figure 1 Conceptual Framework of the Research

METHOD

The object of this study is Seahorse Brand Mackerel Fish Crackers. This research was conducted in Pangkalan Brandan City, Langkat Regency, North Sumatra. The research period was 1 month. The target population in this study was all consumers who have purchased and consumed Seahorse Brand Mackerel Fish Crackers. This population is categorized as an infinite population, considering that the actual number of consumers cannot be identified with certainty and tends to continue to increase over time and with the expansion of product distribution in the market. This population was determined based on fundamental considerations: consumers who have directly purchased and consumed the product have real-world experience and subjective assessments of various product aspects, including product quality, brand image strength, and distinctive flavors. Therefore, they are considered capable of providing relevant, valid, and representative responses and assessments of the variables focused on in this study.

The sampling technique applied in this study is non-probability sampling, an approach in which not all members of the population have an equal chance of being selected as respondents. The specific method used is purposive sampling, a sampling technique based on certain criteria or considerations previously determined by the researcher in accordance with the research objectives. Purposive sampling technique in this study aims to ensure that the selected respondents truly have direct knowledge and experience of the product being studied, so that the data obtained is accurate and accountable.

The sample size determination in this study refers to the approach proposed by Hair et al. (2010), which states that the ideal minimum sample size is 5 to 10 times the total number of indicators used in the research instrument. This guideline is widely used in quantitative research because it is considered capable of producing stable and reliable estimates in the data analysis process. Based on the research instrument that has been developed, a total of 20 indicators used in this study are spread across all research variables. Using the lower limit of the provisions of Hair et al. (2010), the calculation of the minimum sample size is as follows:

$$\text{Number of samples} = \text{Number of indicators} \times 5$$

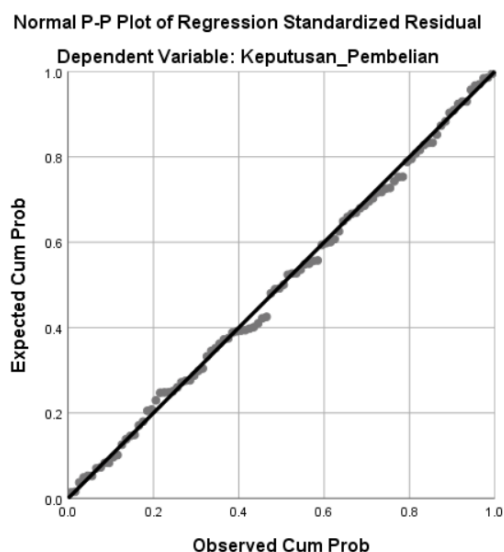
$$\text{Number of samples} = 20 \times 5 = 100 \text{ respondents}$$

Based on the results of these calculations, it was determined that the number of samples used in this study was **100 respondents**.

Based on the source of data, the data used in this study consists of primary and secondary data. Primary data is the primary source collected directly by the researcher from the research subjects or respondents. Primary data collection is conducted through direct contact with respondents, such as interviews, observations, and questionnaires, so that the information obtained reflects the actual conditions and actual perceptions of the respondents (Rukhmana, 2021). In this study, data collection was conducted through a survey method by distributing an online questionnaire using Google Forms. The questionnaire was aimed at consumers who had purchased and consumed Kerupuk Ikan Tenggiri Cap Kuda Laut (Sea Horse Mackerel Crackers) in Pangkalan Brandan City. The use of online media was chosen because it is more practical and efficient in terms of time and cost, and allows researchers to reach a larger number of respondents without being limited by location. Furthermore, the Google Forms platform assists researchers in data management because respondents' answers can be automatically summarized, thus making the data processing process more systematic. In this research, data measurement was carried out using a five-point Likert Scale, which was designed to measure the level of attitudes, perceptions or opinions of respondents towards the variables studied. The Likert scale is one of the most commonly used types of psychometric scales in survey research because it is able to convert respondents' subjective responses into numerical data that can be analyzed systematically (Joshi et al., 2021).

RESULTS AND DISCUSSION

Normality Test



Source: Data processed in 2026

Figure 2 *Normality probability plot test graph*

Based on the Normal P-P Plot graph which shows the points spread following and approaching the diagonal line, it can be stated that the residuals of the regression model are normally distributed. This is supported by the results of the One Sample Kolmogorov-Smirnov test which shows Asymp. Sig. (2-tailed) = 0.200, far above the significance limit of 0.05 ($0.200 > 0.05$), and Test Statistic = 0.046 with a sample of $N = 100$ respondents. The Mean residual value of 0.0000000 and Std. Deviation = 4.10457695 indicate that the residuals are centered around zero as expected. Thus, the normality assumption is met and the multiple linear regression model can be continued to the next test.

Heteroscedasticity Test

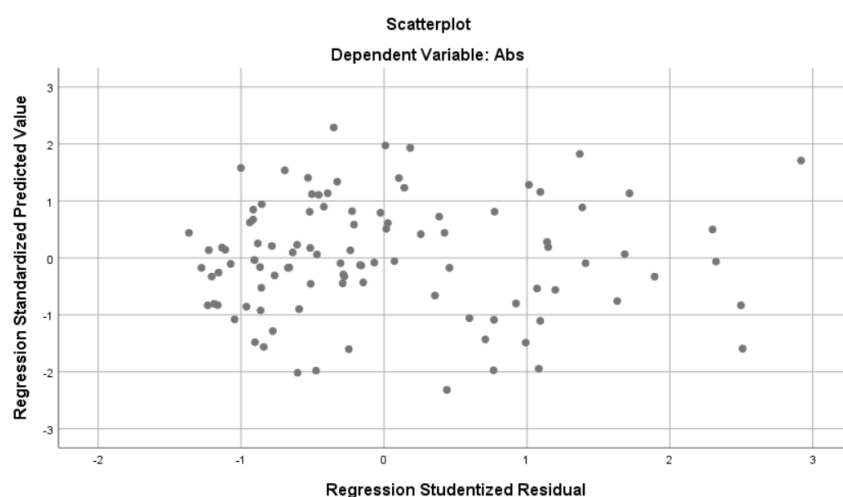


Figure 3 *Heteroscedasticity Test Graph*

Based on the Glejser test with a significance value of the Product Quality (X1) variable of 0.719, Brand Image (X2) of 0.573, and Taste (X3) of 0.930, all are greater than the significance limit of 0.05 so that no indication of heteroscedasticity was found in the model. This finding is supported by the Scatterplot in Figure 3 which shows the points -spread randomly without a particular pattern around the zero line, which indicates a constant residual variance (homoscedasticity). Thus, the assumption of being free from heteroscedasticity is met and the multiple linear regression model can be continued to the next analysis.

Multiple Linear Regression

Table 2
Multiple Linear Regression Test Results

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	8,398	1,921		4,613	.000
Product Quality (X1)	0.419	0.030	0.702	14,091	.000
Brand Image (X2)	0.330	0.043	0.383	7,767	.000
Taste (X3)	0.285	0.043	0.329	6,627	.000

a. Dependent Variable: Purchasing Decision

Source: Primary data processed in 2026

Based on the table above, the regression equation obtained is:

$$Y = 8.398 + 0.419X1 + 0.330X2 + 0.285X3$$

The coefficients indicate that the three independent variables have a positive influence on the Purchase Decision (Y). Product Quality (X1) has the strongest influence with a coefficient of 0.419, followed by Brand Image (X2) of 0.330 and Taste (X3) of 0.285. In addition, all independent variables have a significance value of 0.000 (<0.05), so that partially Product Quality, Brand Image, and Taste have a positive and significant influence on the Purchase Decision of Kuda Laut Brand Mackerel Fish Crackers in Pangkalan Brandan.

Simultaneous Test (F Test)

Table 3
F Test Results
ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1	5505.802	3	1835.267	105,633	.000 ^b
Regression					
Residual	1667,908	96	17,374		
Total	7173.710	99			

a. Dependent Variable: Purchasing Decision

Source: Primary data processed in 2026

Based on Table 3, the calculated F = 105.633 with significance = 0.000. The F table value is calculated from the F distribution table at $\alpha = 0.05$ with $df1 = 4 - 1 = 3$ and $df2 = 100 - 3 - 1 = 96$, so that the F table = 2.70. Because the calculated F (105.633) > F table (2.70) and the significance value is far below 0.05 (0.000 < 0.05), then H0 is rejected and Ha is accepted. Thus, simultaneously the variables Product Quality (X1), Brand Image (X2), and Taste (X3) have a significant effect on the Purchase Decision (Y) of Mackerel Fish Crackers with Kuda Laut Brand in Pangkalan Brandan.

Adjusted Correlation and Determination Coefficient (RR^2)

Table 4
Results of Adjusted Correlation and Determination Tests (RR^2)
Model Summary^b

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.876 ^a	.767	.760	4.16822

a. Predictors: (Constant), Taste, Brand Image, Product Quality

b. Dependent Variable: Purchase Decision

Source: Primary data processed in 2026

Based on Table 4, the R Square value is 0.767 and the Adjusted R Square is 0.760, which illustrates the magnitude of the combined influence of Product Quality (X1), Brand Image (X2), and Taste (X3) on the Purchase Decision (Y) of Mackerel Fish Crackers with the Sea Horse Brand in Pangkalan Brandan. The correlation coefficient (R) value of 0.876 indicates a very strong relationship between the independent and dependent variables. According to Ghozali (2021), the coefficient of determination (R^2) shows how much variation in the dependent variable can be explained by the independent variables in the research model.

Discussion

The Influence of Product Quality on Purchasing Decisions

The research results show that product quality has a positive and significant effect on purchasing decisions. These findings indicate that the higher the product quality perceived by consumers, the greater their likelihood of making a purchase. These results align with Ahmad's (2024) research, which reported a significant influence of product quality on purchasing decisions for fish crackers. Similar findings were also presented by Sihombing et al. (2023), who stated that product quality is a major factor in shaping consumer satisfaction and subsequently influencing purchase intentions. Iswahyudi et al. (2023) added that good product quality contributes to increased customer loyalty and repeat purchase tendencies. Thus, the significant influence of product quality in this study indicates that product quality is a very important factor, yet it has not been consistently managed. Therefore, continuous efforts to improve and control quality are needed to create more stable purchasing decisions.

The Influence of Brand Image on Purchasing Decisions

The research results show that brand image has a positive and significant influence on purchasing decisions. This finding indicates that the more positive a brand's image is in the eyes of consumers, the greater their level of trust and likelihood of making a purchase. These results are consistent with the findings of Ristanti and Iriani (2022), who reported a significant influence of brand image on purchasing decisions. Furthermore, Firmansyah (2023) emphasized that a strong brand image contributes to increased consumer trust, while research by Kumaresan and Chandramohan (2024) highlighted the crucial role of brand image in shaping consumer perceptions of products and services.

Theoretically, the influence of brand image on purchasing decisions can be explained through several mechanisms. First, brand image serves as a signal of quality and reputation that facilitates the product evaluation process for consumers, thereby reducing perceived risk in decision-making. Second, a positive brand image fosters trust and credibility, which serve as cognitive and affective determinants in the purchasing process. Third, brand image can form emotional and cognitive associations that increase brand preference and lead consumers to choose that brand over competitors, especially under conditions of incomplete information or similar choices.

The Influence of Taste on Purchasing Decisions

The results of this study indicate that taste has a positive and significant influence on purchasing decisions. These findings indicate that taste quality is a significant determinant in consumer decision-making; the better the taste consumers perceive, the more likely they are to choose and purchase a product. These results align with previous studies, including those by Mardiyah and Soegesti (2022), who stated that taste is a key factor in food purchasing decisions, and by Anugrah et al. (2022), who found a significant influence of taste quality on purchase intention. Other research also confirms that taste preference is a key determinant of consumer satisfaction, which in turn influences repeat purchase decisions. Theoretically, the influence of taste on purchasing decisions can be explained through several mechanisms. First, taste is a product attribute directly related to consumers' sensory experiences and therefore has a direct impact on post-purchase satisfaction evaluations; positive evaluations increase the probability of repeat purchases. Second, consistency and uniqueness of taste differentiate products in the eyes of consumers, thus

influencing brand preference and loyalty; products with consistent taste are more likely to receive word-of-mouth recommendations. Third, taste that meets consumer preferences reduces uncertainty in product choices—especially for food products—thus accelerating purchasing decisions.

CONCLUSION

1. Product quality has a positive and significant effect on purchasing decisions with a regression coefficient value of 0.419.
2. Brand image has a positive and significant influence on purchasing decisions with a regression coefficient value of 0.330.
3. Taste has a positive and significant influence on purchasing decisions with a regression coefficient value of 0.285.

REFERENCES

- Ahmad, M. F. (2024). Analisis strategi pemasaran UMKM kerupuk ikan tenggiri di Kabupaten Pati. *Jurnal Ekonomi dan Bisnis UMKM*, 12(2), 145–158.
- Ani, S. W., Maulana, A., & Cahyadi, I. (2021). Pengaruh citra merek terhadap loyalitas konsumen produk makanan lokal. *Jurnal Manajemen Pemasaran Kontemporer*, 5(1), 78–92.
- Annibras, M. (2023). *Konsep dasar penelitian kuantitatif dalam manajemen*. PT Rajagrafindo Persada.
- Anugrah, R., Perwirianto, H. W., Zulfania, M., Ratih, D., Aprilianda, E. N., Haryawan, S. H., Putra, M. A. R., Wardana, B. S., Cahya, R. A., Ramadhan, R. T., & Arum, D. P. (2022). Penerapan branding produk dan digital marketing sebagai strategi pemasaran UMKM. *Community Development Journal: Jurnal Pengabdian Masyarakat*, 3(2), 740–746. <https://doi.org/10.31004/cdj.v3i2.4702>
- Apuke, O. D. (2021). Quantitative research methods: A synopsis approach. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 6(11), 40–47.
- Arifin, J. (2020). *Validitas dan reliabilitas instrumen penelitian*. Deepublish.
- Arifin, J. (2021). *SPSS 24 untuk penelitian dan skripsi*. PT Elex Media Komputindo.
- Armstrong, G. (2020). *Marketing: An introduction* (14th ed.). Pearson Education Limited.
- Armstrong, G. (2023). *Principles of marketing* (18th ed.). Pearson Education Limited.
- Bevans, R. (2023). Understanding quantitative and qualitative research methods. Scribbr Methodology Series. <https://www.scribbr.com/methodology/quantitative-qualitative-research/>
- Bhandari, P. (2023). Population vs sample: Definitions, differences & examples. Scribbr Research Methods. <https://www.scribbr.com/methodology/population-vs-sample/>
- Bougie, R., & Sekaran, U. (2020). *Research methods for business: A skill-building approach* (8th ed.). John Wiley & Sons.
- Chin, W. W. (2020). How to write up and report PLS analyses. In G. E. M. Tenenhaus & V. E. Vinzi (Eds.), *Handbook of partial least squares* (pp. 655–690). Springer.
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.
- Daoud, J. I. (2021). Multicollinearity and regression analysis. *Journal of Physics: Conference Series*, 949(1), Article 012009. <https://doi.org/10.1088/1742-6596/949/1/012009>
- Dwi Kurnia Saputri, R., Ningsih, S., & Pratiwi, A. (2024). Pengaruh kualitas produk, citra merek dan harga terhadap keputusan pembelian pada UMKM Kerupuk Ikan Tamban IK Berkah di Kabupaten Bintan. *Jurnal Manajemen dan Bisnis Terapan*, 6(1), 89–102.
- Etikan, I., & Bala, K. (2023). Sampling and sampling methods. *Biometrics & Biostatistics International Journal*, 5(6), 215–217.
- Evyanto, R., Wijaya, A., & Sari, D. P. (n.d.). Analisis fluktuasi penjualan keripik ikan di Kelurahan Sungai Langkai Batam. *Jurnal Ekonomi Maritim*, 8(2), 156–170.
- Fatmaningrum, D., Santoso, B., & Wijaya, T. (2020). Pengaruh kualitas produk dan citra merek terhadap keputusan pembelian. *Jurnal Riset Manajemen dan Bisnis*, 15(1), 45–58.
- Feldman, R. S. (2023). *Understanding research methods* (2nd ed.). McGraw-Hill Education.
- Field, A. (2024). *Discovering statistics using IBM SPSS statistics* (6th ed.). SAGE Publications.
- Frost, J. (2020). *Regression analysis: An intuitive guide for using and interpreting linear models*. Statistics by Jim Publishing.

- Ghozali, I. (2020). *Aplikasi analisis multivariate dengan program IBM SPSS 26* (Edisi 10). Badan Penerbit Universitas Diponegoro.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2021). *Multivariate data analysis* (8th ed.). Cengage Learning.
- Hamid, R. S., Ariasih, M. P., Suarniki, N. N., Purwoko, P., Nurchayati, N., Tarmizi, A., Efdison, Z., Pasaribu, A. W., Fitriya, S., & Solihin, A. (2023). *Manajemen pemasaran modern: Strategi dan taktik untuk kesuksesan bisnis*. PT. Sonpedia Publishing Indonesia.
- Hardani, Auliya, N. H., Andriani, H., Fardani, R. A., Ustiawaty, J., Utami, E. F., Sukmana, D. J., & Istiqomah, R. R. (2020). *Metode penelitian kualitatif & kuantitatif*. CV. Pustaka Ilmu Group.
- Hayes, A. F., & Cai, L. (2020). Using heteroskedasticity-consistent standard error estimators in OLS regression: An introduction and software implementation. *Behavior Research Methods*, 39(4), 709–722.
- Hikmah, N. (2022). *Konsep dan aplikasi penelitian bisnis*. Scopindo Media Pustaka.
- Iriani, S. S. (2020). *Perilaku konsumen: Teori dan aplikasi*. Universitas Brawijaya Press.
- Istiqomah, N. (2023). *Digital marketing strategy untuk UMKM*. PT Elex Media Komputindo.
- Iswahyudi, M. S., Budaya, I., Purwoko, P., Riswanto, A., Lestari, A. A., Widawati, E., Zahara, A. E., Ardyan, E., Nurchayati, N., & Efdison, Z. (2023). *Manajemen pemasaran: Strategi dan praktek yang efektif*. PT. Sonpedia Publishing Indonesia.
- Joshi, A., Kale, S., Chandel, S., & Pal, D. (2021). Likert scale: Explored and explained. *British Journal of Applied Science & Technology*, 7(4), 396–403.
- Joshi, Y., Upadhyay, A., & Rawat, S. (2023). Understanding Likert scale and its applications in survey research. *International Journal of Research and Analytical Reviews*, 10(2), 758–764.
- Keller, K. L., & Swaminathan, V. (2020). *Strategic brand management: Building, measuring, and managing brand equity* (5th ed.). Pearson Education Limited.
- Keller, K. L., & Swaminathan, V. (2022). *Strategic brand management: Building, measuring, and managing brand equity* (6th ed.). Pearson Education Limited.
- Khoiri, M. (2022). Analisis kualitas produk dalam perspektif manajemen operasional. *Jurnal Manajemen dan Bisnis*, 8(2), 112–125.
- Kotler, P., & Armstrong, G. (2024). *Principles of marketing* (19th ed.). Pearson Education.
- Lailiyah, N. I., & Istiqomah, N. H. (2023). Literature review: KOL marketing sebagai strategi pemasaran digital di era sosial 5.0. *Jurnal Informatika Ekonomi Bisnis*, 5(3), 1055–1058. <https://doi.org/10.37034/infek.v5i4.576>
- Matondang, N. (2020). *Digital marketing untuk UMKM Indonesia*. Universitas Negeri Medan Press.
- Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2020). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia*, 22(1), 67–72.
- Mohajan, H. K. (2021). Quantitative research: A successful investigation in natural and social sciences. *Journal of Economic Development, Environment and People*, 6(4), 52–79.
- Mohajan, H. K. (2022). An overview on the sampling methods in social research. *Journal of Economic Development, Environment and People*, 6(4), 25–47.
- Nasir, A. (2021). *Dimensi kualitas produk dalam pemasaran modern*. Airlangga University Press.
- Nurliyanti, E., Setyawan, A., & Rahayu, S. (2022). *Keputusan pembelian: Konsep, teori dan pengukuran*. CV. Media Sains Indonesia.
- Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (7th ed.). Open University Press.
- Putri Febriyanti, N., Sari, R. P., & Kusuma, A. W. (2023). Analisis pengaruh kualitas produk terhadap kepuasan konsumen pada produk makanan tradisional. *Jurnal Manajemen dan Kewirausahaan*, 11(2), 189–202.
- Qu, Y. (2024). Testing assumptions in statistical analysis: A comprehensive guide. *Journal of Statistical Research*, 28(1), 45–67.
- Rahayu, M., & Purnomo, D. (2023). Validitas dan reliabilitas instrumen penelitian kuantitatif. *Jurnal Ilmiah Pendidikan*, 12(1), 78–89.
- Ramdan, A. M., Siwiyanti, L., Komariah, K., & Saribanon, E. (2023). *Manajemen pemasaran*. Penerbit Widina.
- Rebels, F. (2024). Consumer behavior in digital era. *International Journal of Marketing Studies*, 16(1), 34–48.
- Resky, A. (2021). *Metodologi penelitian sosial dan ekonomi*. Universitas Hasanuddin Press.
- Rukhmana, N. (2021). Populasi dan sampel dalam penelitian kuantitatif. *Jurnal Metodologi Penelitian*, 9(2), 145–158.
- Sigit, A. T., Rahmawati, D., & Kusuma, P. (2021). Analisis cita rasa dan preferensi konsumen terhadap produk makanan tradisional. *Jurnal Teknologi Pangan dan Gizi*, 20(1), 67–78.

- Siyoto, S., & Sodik, M. A. (2021). *Dasar metodologi penelitian* (Edisi revisi). Literasi Media Publishing.
- Soegesti, R. (2022). *Teori dan praktik pemasaran kontemporer*. Salemba Empat.
- Sugiyono. (2020). *Metode penelitian kuantitatif, kualitatif, dan R&D* (Cetakan ke-2). Alfabeta.
- Sugiyono. (2021). *Metode penelitian kuantitatif, kualitatif, dan R&D* (Cetakan ke-3). Alfabeta.
- Suryadi, B. (2021). *Manajemen kualitas produk dan jasa*. Penerbit Salemba Empat.
- Syarifah, I. (2020). *Strategi pemasaran untuk produk lokal*. PT Remaja Rosdakarya.
- Taber, K. S. (2023). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48(6), 1273–1296.
- Taherdoost, H. (2021). Data collection methods and tools for research: A step-by-step guide to choose data collection technique for academic and business research projects. *International Journal of Academic Research in Management*, 10(1), 10–38.
- Taherdoost, H. (2022). Validity and reliability of the research instrument: How to test the validation of a questionnaire/survey in a research. *International Journal of Academic Research in Management*, 5(3), 28–36.
- Tarawneh, S., Al-Nasser, A., & Al-Adamat, A. (2024). Comprehensive guide to data analysis in social research. *International Journal of Research Methodology*, 18(2), 234–256.
- Thompson, C. G., Kim, R. S., Aloe, A. M., & Becker, B. J. (2023). Extracting the variance inflation factor and other multicollinearity diagnostics from typical regression results. *Basic and Applied Social Psychology*, 39(2), 81–90.
- Tjiptono, F. (2020). *Strategi pemasaran: Prinsip dan penerapan*. Andi Publisher.
- Yap, B. W. (2021). Research methodology: Data collection methods and questionnaire design. *Malaysian Journal of Mathematical Sciences*, 15(1), 11–26.
- Zahediasl, S. (2023). Normality tests for statistical analysis