



## Research Article

# Consumers' Willingness to Pay for Gamy Salt in Jabodetabek

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### ABSTRACT

Seaweed, being an abundant resource, has the potential to be processed into raw material for salt. This potential is supported by the high demand for salt consumption and the serious problem of hypertension in Indonesia. Consuming salt made from seaweed can be an alternative with low sodium content, which can help manage hypertension. Currently, the salt made from seaweed that is available to be purchased is Gamy salt. However, Gamy salt is more expensive than other low-sodium salts. This research aims to estimate the amount of consumers' willingness to pay for Gamy salt and identify factors that influence their willingness to pay. The analytical methods used in this research include descriptive analysis, Contingent Valuation Method, and logistic regression. The research involved 103 respondents aged 30 years and above, residing in Jabodetabek, and having a history or risk of hypertension. The results indicate that the average willingness to pay for Gamy salt is Rp17,873.79 per 100 grams. Factors that significantly influence consumers to pay an extra price for Gamy salt are income, knowledge regarding seaweed salt, and health awareness.

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## INTRODUCTION

Household salt needs continue to increase from 3.5 million metric tons in 2016 to around 5 million metric tons in 2023. Meanwhile, hypertension or high blood pressure still becomes a health problem in Indonesia with a prevalence in 2019 showing 40% in the population aged 30-79 years (World Health Organization [WHO], 2023). One of the causes of high blood pressure is excessive salt consumption, because sodium as a content of salt can increase blood pressure. Therefore, people can switch from household salt to diet salt with a lower sodium content. The standard for dietary salt is to have a maximum NaCl content of 60% (Indonesian Ministry Regulation of Industry, 2014). One of the low sodium salts that can be produced is salt made from seaweed. The results of the study showed that salt with certain treatments can meet the criteria for dietary salt, namely NaCl content <60%, and even has the potential to be a source of antioxidants. (Nurjanah et al., 2018; Nurjanah et al., 2020). Seaweed also contains a number of bioactive components, namely flavonoids, phenolics, phlorotannins, saponins, terpenoids, steroids, and alkaloids (Ramakrishnan et al., 2015; Erniati et al., 2016; Nufus et al., 2017; Mantau et al., 2018; Nazarudin et al., 2021). According to Mantau et al. (2021), minerals Ca, Mg, and K in seaweed salt function in the process of lowering blood pressure.

Currently, seaweed-based salt is already available on the market, which is the result of innovation from a research team from the Faculty of Fisheries and Marine Sciences, Institute of Agriculture Bogor (IPB). The

seaweed salt is then marketed under the Gamy brand by PT Akuanutrindo Sukses Makmur. Gamy salt has been proven to have a NaCl content of <60% in accordance with dietary salt regulations. The seaweed in Gamy salt provides a number of contents, namely fiber, antioxidants, and minerals such as magnesium, calcium, iron, zinc, iodine, and other mineral elements. In addition, Gamy salt has a different taste compared to other salts. Gamy salt not only has a salty taste, but also savory taste. The distinctive taste and content of Gamy salt makes it superior to other low-sodium salts. Currently, there are two product variants, namely brown seaweed salt and green seaweed salt. According to its claim as an alternative salt, Gamy salt is aimed primarily at people with hypertension. Gamy Salt also targets consumers who have a healthy lifestyle and are interested in health products.

However, the price difference between Gamy Salt and other variants of salt, even other low-sodium salts, can be a challenge. A comparison of the prices of salts with low sodium content is presented in Table 1. The selling price range for low sodium salt in 2024 is selected based on information from various e-commerce platforms. In Table 1, it can be seen that Gamy salt is sold at a higher price at IDR 25,000 and IDR 30,000 per 100 grams. The high price of Gamy salt can be caused by the high price of raw materials. The added value of seaweed salt, such as additional nutritional content, can also affect the price of salt to become more expensive. The additional health benefits gained by consumers and the increased selling price, it is essential to know for sure whether consumers are willing to pay a higher price for this salt compared to other salts.

**Table 1.** Low sodium salt price (in Rupiah)

Salt Brand	Price
Lososa	≈ 22,000/250 gr = 8,800/100 gr
Garena	≈ 16,000/200 gr = 8,000/100 gr
Nutrisalin	≈ 54,000/200 gr = 27,000/100 gr
Gamy	= 25,000-30,000/100 gr

Apart from the higher price, the limited sales of Gamy salt are also due to the lack of information consumers have about this product. This shows that consumer understanding of the benefits of Gamy salt needs to be improved. Therefore, the company must develop more effective marketing strategies, focusing on educating and counseling consumers about the health benefits offered by this product. Information on willingness to pay (WTP) is very important in this context, as it can provide in-depth insights into how consumers perceive the value of Gamy salt compared to conventional salt. By identifying how much consumers are willing to pay for the product, the company can design more appropriate pricing strategies and adjust product offerings to make them more attractive to consumers. Furthermore, the magnitude of the WTP value for Gamy salt can also help companies in market segmentation, identifying consumer groups with the most potential to make Gamy salt their choice, and developing marketing messages that suit their needs and preferences. Through this approach, it is expected that sales of Gamy salt will not only increase, but can also expand market range and increase public awareness of healthier salt alternatives, thereby making a positive contribution to overall public health.

Willingness to pay is the maximum amount of money that a person is willing to spend to obtain a particular good or service. There are various methods for calculating WTP values, which can be divided into stated preference and revealed preference methods. Numerous studies have examined WTP using a variety of approaches, including those conducted by De-Magistris & Lopéz-Galán (2016), Di Vita *et al.* (2016), Romano *et al.* (2016), Vecchio *et al.* (2016), Van der Stricht *et al.* (2023), etc. The above studies explore consumers' willingness to pay more (WTP) for various food products associated with health and innovation claims. De-Magistris & Lopéz-Galán (2016) have found that consumers in Spain are willing to pay more for low-fat and low-salt cheese in a bid to overcome obesity. Di Vita *et al.* (2016) identified that a limited WTP of Italian consumers for low-salt bread, namely only 20% above the price of regular bread. Meanwhile Romano *et al.* (2016) found that consumers in Brazil were willing to pay more for value-added pomegranate juice. Vecchio *et al.* (2016) examined WTP for conventional, organic, and functional yogurts. The research showed that consumers are willing to pay 38-euro cents (26%) more for organic yogurt compared to conventional yogurt, while WTP for functional yogurt is 8-euro cents (5%) lower. This low WTP is likely due to respondents' lack of familiarity with functional products. However, with the addition of health claims, WTP for functional yogurt increased. Furthermore, Van der Stricht *et al.* (2023) found that the use of organic, nutri-score, and vegan labels on pasta products with microalgae protein can increase the WTP of the product.

Consumer's willingness to pay is influenced by a variety of things, including demographic characteristics and knowledge. Lutfiadi *et al.* (2023) highlighted demographic factors as variables supposed to influence consumers' willingness to pay. Otherwise, Sonya (2021) added the variables of health awareness and product knowledge as potential factors that influence willingness to pay, showing that both variables have a significant influence. Another research conducted by Hasanah & Yanuar (2024) and Narine *et al.* (2015) also introduced the perception of health benefits as a factor that may influence consumers' willingness to pay. Both research provided significant results,

however Hasanah & Yanuar (2024) found that perceived health benefits had a negative impact on consumers' willingness to pay..

Although various studies have examined consumers' willingness to pay for food products associated with health claims, research on WTP for Gamy salt, especially in the Jabodetabek area, still does not exist. This study attempts to fill this gap by using the Contingent Valuation Method to analyze consumers' willingness to pay for Gamy salt and the factors that influence it, so that it can provide more specific guidance for marketing strategies in the local market.

This study aims to analyze the value of consumers' willingness to pay for Gamy salt in Jabodetabek area and to identify the factors that influence willingness to pay. By using the Contingent Valuation method, this study is expected to provide a deeper understanding of how consumers assess Gamy salt products and what the main considerations are in their purchasing decisions. Moreover, the results of this study will support the company in evaluating and adjusting pricing and marketing strategies to be more effective and relevant to consumer preferences. The results are also expected to contribute to the development of more innovative and sustainable Gamy salt products, while supporting the utilization of seaweed potential in Indonesia as a broader health solution. In conclusion, this study not only provides insight for the company, but also plays a role in increasing public awareness about healthier salt alternatives.

## METHOD

The study was conducted online to community of Jabodetabek for six months from November 2023 to May 2024. The sampling method used is non-probability sampling with purposive sampling technique where samples are taken based on predetermined criteria (Sugiyono, 2018). The sample criteria were persons domiciled in Jabodetabek with a history or risk of hypertension, and were 30 years and over. The number of the population of Jabodetabek that meets the criteria of this study is not known with certainty, so this study uses the Lemeshow formula (Lemeshow et al., 1997).

$$n = \frac{z^2 P(1 - P)}{d^2}$$
$$n = \frac{1.96^2 0,5(1 - 0,5)}{0.1^2}$$
$$n = 96.04/100$$

Identified:

n = total sample

z = score z at level of trust 95%

P = proportion of unknown population (0.5)

d = distance in both directions (0.1)

Based on the calculations, the minimum research sample was 96.04 rounded up to 100 respondents. However, the sample in this study amounted to 103 respondents because after data collection, all respondents met the criteria.

The data used are primary data and secondary data. The primary data used are data from interviews and questionnaire distribution results. The interview was conducted with Mrs. Anggrei Viona Seulalae as the co-founder of PT Akuanutrindo Sukses Makmur to obtain information regarding the product and its marketing. Meanwhile, the questionnaires are processed using analysis tools to answer the research objectives. Online data was collected through Google Form and distributed via Whatsapp, X, Instagram, and Facebook to reach respondents widely in Jabodetabek. Data collected through questionnaires include demographic characteristics of respondents, value of willingness to pay, and factors influencing willingness to pay.

This study uses descriptive analysis, Contingent Valuation Method (CVM), factor analysis, and logistic regression. Descriptive analysis was conducted to describe the characteristics of research respondents. CVM analysis is used to estimate the consumer's willingness to pay for Gamy salt. There are several variants of elicitation formats that can be applied when collecting data using CVM (Fauzi, 2014), including open ended, payment card, bidding game, single bounded dichotomous, and double bounded dichotomous. In this study, the

elicitation technique used was payment card. Meanwhile, logistic regression analysis was conducted to identify factors that influence consumers' willingness to pay for Gamy salt. Dependent variable used is consumer willingness to pay more for Gamy salt compared to the average price of other low-sodium salts. Variable Y is a dummy, where 1 is that consumers are willing to pay more for Gamy salt and 0 is that consumers are not willing to pay more. Meanwhile, independent variables used are gender (GNDR), age (AGE), income (INCM), knowledge of low sodium salt (KNWLSN), knowledge of seaweed salt (KNWLSS), health awareness (HLTHAW), and perception of health benefits (HLTHBN). The logistic regression equation is as follows:

$$Y = 0 + 1GNDR + 2AGE + 3INCM + 4KNWLSN + 5KNWLSS + 6HLTHAW + 7HLTHBN +$$

Before conducting logistic regression analysis, factor analysis was conducted. Two independent variables of the logistic regression analysis were measured using a Likert scale and had a total of 8 indicators (Table 2). Factor analysis is used to ensure that all indicators are appropriate and can explain the measured variables. The scores of generated factors from this analysis are then used as input data in the logistic regression analysis.

**Table 2.** Variable Indicator

Variable	Indicator	Source
Health Awareness	Often think about health (X1)	Michaelidou & Hassan (2008)
	Understand and be aware of health (X2)	
	Be alert to changes in health (X3)	
	Responsible for health condition (X4)	
	Being aware of health condition while performing daily activities (X5)	
Perception of Health Benefits	Gamy salt can maintain health (X6)	Wang & Tsai (2019)
	Gamy salt has more health benefits than regular salt (X7)	
	Gamy salt effectively provides additional nutrition (X8)	

## RESULTS AND DISCUSSION

### Respondents' Characteristics

The demographic characteristics obtained were gender, age, education, income, family members, and medical record. The results of the descriptive analysis of demographic characteristics are presented in Table 3, which includes frequency, mean, and standard deviation. It is identified that the majority of respondents were female having a history of illness, 4-6 family members, 50-59 years old, 13-16 years of education, and a monthly income of IDR 4,000,000 to less than IDR 7,000,000.

**Table 3.** Respondents' Characteristics

Variable	Total	Percentage	Average	Deviation standard
Gender			-	-
Male	39	37.86		
Female	64	62.14		
Age			52.07	11.39
30-39	14	13.59		
40-49	19	18.45		
50-59	54	52.43		
60-69	11	10.68		
70-79	3	2.91		
80-86	2	1.94		
Education			14.74	3.35
0-6	3	2.91		
7-12	29	28.16		
13-16	42	40.78		
17-22	29	28.16		
Income (thousands)			6,514,281.55	9,171,453.64
< 1,000	15	14.56		
1,000 s.d < 4,000	29	28.16		
4,000 s.d < 7,000	36	34.95		
7,000 s.d < 10,000	3	2.91		
≥ 10,000	20	19.42		
Family members			4.83	2.03
1-3	21	20.39		
4-6	71	68.93		
7-9	8	7.77		
10-13	3	2.91		

Variable	Total	Percentage	Average	Deviation standard
Medical history/record			-	-
Yes	73	70.87		
No	30	29.13		

### Willingness to Pay

Willingness to pay is the highest price that a person (consumer) is willing to pay for a good or service, depending on the perceived economic value and utility of the product (Breidert, 2005). The calculation of consumer willingness to pay in this study uses the Contingent Valuation method with elicitation technique of payment card. There are three elements must be considered before calculating consumer' willingness to pay. First, respondents were given information about the characteristics and benefits of Gamy salt products. This information can provide an overview of the product to respondents, especially those who have no knowledge at all about the product. Then, respondents were given information about an increase in the price of regular table salt as a result of changes in the benefits obtained. Finally, respondents were asked to choose the maximum price they were willing to pay for Gamy salt based on the price options provided. There are six price options provided, to name IDR 10,000, IDR 15,000, IDR 20,000, IDR 25,000, IDR 30,000, and IDR 35,000. However, respondents were also given the additional option to directly determine the maximum price they were willing to pay for Gamy salt without relying on the price options given. The scenario is made as clear as possible so that respondents can understand well the changes in the characteristics of requested product, namely Gamy salt. The distribution of consumers' willingness to pay can be seen in Table 4.

Furthermore, respondents were classified based on their willingness to pay for Gamy salt into two categories, those willing to pay more and those unwilling to pay more. Standard price of the category created is the average price of three other low-sodium salt brands, which is IDR 14,600. It can be concluded that respondents who give prices above the average price are considered willing to pay more, while respondents who give prices below the average price are considered unwilling to pay more. The results of data collection showed that 59 respondents (57%) were willing to pay more, while other 44 respondents (43%) were not willing to pay more than the average price of other low-sodium salts.

**Table 4.** Distributed scores of willingness to pay for Gamy salt

WTP Score (Rp/100 gr)	Total (person)	Percentage (%)
50000	1	0.97
40000	1	0.97
35000	8	7.77
30000	7	6.80
25000	16	15.53
20000	13	12.62
15000	13	12.62
10000	38	36.89
5000	5	4.85
1000	1	0.97
<b>Total</b>	<b>103</b>	<b>100</b>

Willingness to pay in this study was compared with the price of IDR 14,600 which is the average price of three brands of low-sodium salt other than Gamy salt. Based on the results of the distribution of the willingness to pay for Gamy salt, it was found that the majority of respondents (57.28%) were willing to pay more than IDR 14,600 for Gamy salt. The results showed that the majority of respondents consider Gamy salt to be of high value if Gamy salt is sold at the same price as other alternative salt brands. Furthermore, in-depth analysis was carried out based on the score distribution of willingness to pay for Gamy salt by calculating the total and average willingness to pay (WTP). Total score of willingness to pay (TWTP) value for Gamy salt from all respondents was IDR 1,841,000. In addition, the average score of willingness to pay is obtained by dividing the total score of WTP by the number of respondents so that the average WTP value is IDR 17,873.79 The average WTP figure indicated that consumers are willing to pay Rp3,274 more for Gamy salt than other alternative (low sodium) salts. The results are relevant to Uliano *et al.*, (2024) stated that consumers are willing to pay more for functional foods, such as snack bars with high antioxidant value produced through sustainable production processes, compared to the average market price of conventional snack bars. Furthermore, the results of a systematic review assessing consumers' WTP for healthier foods (Alsubhi *et al.*, 2023) indicated that 23 of 26 experiments (15 studies) shows that consumers have a preference for healthier foods compared to conventional foods, with a willingness to pay a premium price ranging from 5.6% to 91% (average 30.74%) for healthier products.

Although the average score of WTP (IDR 17,873.79) shows a higher price compared to other alternative salts' price. In fact, this result is still far below IDR 25,000 which is the actual selling price of Gamy salt. The distribution



of willingness to pay for Gamy salt in Table 3 also showed that only 33 respondents (32.04%) were willing to pay for Gamy salt above the equivalent of IDR 25,000. These results can be used as a reference for companies to pay attention to prices from the consumers' perspectives. It can be done by evaluating the selling price or developing a strategy to increase consumers' WTP for Gamy salt. One of the strategies that needs to be designed is a marketing strategy based on the results of the analysis of factors that influence consumers' WTP for Gamy salt.

### Factors Influencing Willingness to Pay More (Higher Price)

There are seven variables that influence WTP, such as gender, age, income, knowledge of low-sodium salt, knowledge of seaweed salt, health awareness, and perception of health benefits. Logistic regression analysis was used to answer the suspected influence.

Table 5. Results of logistic regression analysis

	B	S.E.	Sig.	Exp(B)
Gender (GNDR)	0.427	0.493	0.387	1.532
AGE	-0.010	0.022	0.629	0.990
Income (INCM)	0.192***	0.064	0.003	1.212
Lack of Knowledge about Sodium Salt (KNWLSN)	-0.562	0.536	0.295	0.570
Knowledge of Seaweed Salt (KNWLSS)	1.327*	0.785	0.091	3.769
Health Awareness (HLTHAW)	-0.431*	0.244	0.078	0.650
Perception of Health Benefits (HLTHBN)	0.086	0.230	0.710	1.089
Constant	-0.363	1.333	0.785	0.695
	L <sub>0</sub>	140,596		
	L <sub>1</sub>	116,530		
	Cox and Snell R square	0.208		
	Nagelkerke R square	0.280		
	Hosmer and Lemeshow Test	0.926		
	Omnibus Tests of Model Coefficients	0.001		

Descriptions: \*\*\* significant 1%; significant 10%

Table 5 shows the level of significance of the model in the Omnibus tests of model coefficients is less than 0.05, namely 0.001, so H<sub>0</sub> is rejected. This means that there is at least one independent variable that has a real influence on the dependent variable. Nagelkerke R square value is 0.280, which means that the ability of the independent variable to explain the model is 28%, while the remaining 72% is explained by other factors outside the model. Based on the Wald test, three independent variables had a significant influence on respondents' willingness to pay a higher price for Gamy salt. These variables consist of one significant variable at 1% significance level, such as income, and two significant variables at 10% significance level, such as knowledge about seaweed salt and health awareness. Meanwhile, the other four independent variables do not have a significant influence on the dependent variable. The four variables are gender, age, knowledge of low-sodium salt, and perception of health benefits. Logistic regression equation based on the analysis results can be seen in the following equation:

$$Y = \ln \frac{p}{1-p} = -0,363 + 0,427 \text{ GNDR} - 0,010 \text{ AGE} + 0,192 \text{ INCM} - 0,562 \text{ KNWLSN} + 1,327 \text{ KNWLSS} - 0,431 \text{ HLTHAW} + 0,086 \text{ HLTHBN} + \epsilon$$

Income variable has a positive coefficient and odds ratio of 1.212 so that the income variable is in accordance with the research hypothesis, stating that it has a positive influence on consumers' willingness to pay higher price for Gamy salt. Consumers having high incomes are willing to pay more for Gamy salt because they have high purchasing power. The significance score of income variable is 0.003, which is smaller than the real level of 1%, so the income variable has a significant positive effect. The higher the consumer income, the greater the consumers' willingness to pay more for Gamy salt also increases by 1.212 times, *ceteris paribus*. According to Fajria *et al.* (2020) and Saraswati *et al.* (2023), the increase in income results causes increased opportunities for consumers' willingness to pay.

Knowledge variable of seaweed-based salt shows a significant positive influence on consumers' willingness to pay more for Gamy salt. Based on the odds ratio value, consumers who have knowledge about seaweed salt are 3.769 times more likely to pay more for Gamy salt, *ceteris paribus*. These results indicate that consumers who have knowledge about seaweed-based salt tend to respond more positively to Gamy salt customers. This finding can be used as a strategy for the company to increase consumers' knowledge regarding Gamy salt. This finding is relevant to Tyas & Fitriana (2023) stating that knowledge influences consumers' willingness to pay positively and significantly.

In contrast to the income and seaweed salt knowledge variables, the health awareness variable has a negative coefficient. This finding is inconsistent with the initial hypothesis which assumed that the health awareness variable would have a positive effect on consumers' willingness to pay more for Gamy salt. Variable of health awareness has a significance value of 0.078, which means that at a real level of 10%. It means that health awareness has a significant effect on consumers' willingness to pay. The high influence of the variables on the possibility of WTP occurrence is seen from the odds ratio value - if consumer awareness of health increases, then the chance of consumers' willingness to pay more for Gamy salt will decrease by 0.650 times, *ceteris paribus*. This finding of a significant negative effect differs from previous research conducted by Ali & Ali (2020), health awareness has a significant positive effect on the willingness to pay for healthy food products. Meanwhile, Ulfa *et al.* (2022) revealed that health awareness does not have a significant effect on consumers' willingness to pay for healthy food products. On the other hand, negative coefficient was found in the research conducted by Puspitasari *et al.* (2021) on the decision to purchase organic food products. Su *et al.* (2022) also indicated that there is a negative influence of health awareness on consumers' attitudes towards organic food products, although not significantly. Based on the results, it is concluded that health awareness of consumers does not always consider Gamy salt as the main preference. As a result, the consumers are not willing to pay more for Gamy salt.

Variables of gender and perception of product benefits for health are relevant to research hypothesis, having a positive influence on customers' willingness to pay more for Gamy salt. The positive influence of both variables is in line with the results of previous research (Narine *et al.*, 2015). However, the significance value of gender and perception of health benefits variables is greater than the specified real level, 0.387 and 0.710 respectively. Both variables do not statistically have a significant effect on the willingness to pay more for Gamy salt. This means that variables of gender and perception of health benefits of Gamy salt are not strong enough to encourage consumers to pay a higher price for the product. The finding of no significant influence exerted by gender is relevant to Fajria *et al.* (2020). Meanwhile, the variable of perception of product benefits for health has results that are very much inversely proportional to the research conducted by Hasanah & Yanuar (2024) stating that the variables negatively significantly influence WTP.

In contrast to variable of knowledge of seaweed-based salt, the coefficient of the low-sodium salt knowledge variable has a negative value, indicating that low-sodium salt knowledge has a negative effect on consumers' willingness to pay more for Gamy salt. However, the significance value shows 0.295 so that the variable does not have a significant effect. In addition to the low sodium salt knowledge variable, the age variable in the analysis results is not relevant to the research hypothesis. It is identified that younger ages tend to be more willing to pay more for Gamy salt. This is relevant to the current Gamy salt market, where the majority of customers are aged between 35-40 years. However, the age variable has a significance value of 0.629 so it does not have a significant effect on the willingness to pay more for Gamy salt. According to Romano *et al.* (2016), negative influence is caused since younger people tend to follow trendy food habits. In this study, young consumers are also supposed of being more open to innovations and new trends in Gamy salt, thus having a higher willingness to pay for Gamy salt. Differences in significance levels can occur due to differences in data variation and size.

## Managerial Implications

This research provides several implications for Gamy salt producers. Consumers' WTP for Gamy salt shows a higher score than the average selling price of other low-sodium salts, indicating that Gamy salt as an alternative salt has a fairly high value for consumers. However, WTP score is still far below the actual selling price of Gamy salt. Hence, consumers do not have a surplus if the company continues to sell Gamy salt at the current price. Based on these problems, the solutions for the company are to develop a strategy to increasing consumers' willingness to pay for Gamy salt and also to evaluating the selling price. The first step is to evaluate the target consumers and position of the Gamy salt product. Income variable has a significant positive effect on Gamy salt which is relevant to targeted consumer segments with high incomes. However, the company needs to ensure that the product marketing strategy can reach this group, for example by determining the proper marketing media. Then, the company can position Gamy salt as an innovative product that utilizes and increases the value of seaweed resources with a zero-waste concept. The company also emphasizes the product characteristics and advantages of using seaweed as the raw materials for Gamy salt. This process differs from other alternative salt products. Meanwhile, based on the results, consumers with less aware of their health are likely to pay more for products than those who are aware of their health. The results indicated that potential consumers of Gamy salt are not only limited to health-conscious consumers. Therefore, Gamy salt also needs to strengthen attributes other than health aspects to increase consumer interest that does not prioritize health products, such as packaging, taste, labels, and others.

The second step to perform promotions by providing product-related education to support consumers understand the value of the product by utilizing social media. This step can be considered to increase brand

awareness among consumers, increase consumer interest, and reach a wider market. In addition, collaboration with other parties can also be an approach to expanding market reach. One of the collaborations that can be done is B2B, such as selling to retailers or co-branding with healthy food producers. Through this collaboration, Gamy salt becomes popular and gains a wider market. If there is increasing demand from consumers, the company may consider increasing production capacity. Finally, the company may establish partnerships with seaweed farmers as raw material suppliers to obtain price stability and certainty of raw material quality. Having better prices can reduce production costs, so the company may consider evaluating selling prices.

## CONCLUSION

The average score for consumers' willingness to pay (WTP) is IDR 17,873.79 per 100 grams. WTP score is Rp3,274 higher compared to the average price of other low-sodium salts. However, WTP score is still below the selling price of Gamy salt, which is IDR 25,000 and IDR 30,000. Factors that significantly influence consumers' WTP for Gamy salt are income, knowledge of seaweed salt, and health awareness. Income and knowledge of seaweed salt have a positive effect, while health awareness has a negative effect.

Gamy salt producers should evaluate their selling prices to be closer to consumers' willingness to pay (WTP), for example by offering discounts or bundling packages to attract initial interest. In addition, it is important to strengthen marketing to high-income consumer segments through appropriate social media and digital platforms, with an emphasis on the innovative benefits of seaweed-based salt. Consumers' education about product advantages, both in terms of health and environmental value-added, must be strengthened through creative marketing campaigns and collaboration with influencers or health experts. The company also needs to establish strategic partnerships with seaweed farmers to ensure the stability of raw material supply and prices, and consider B2B partnership with retailers and healthy food manufacturers to expand the market. Lastly, if demand continues to increase, producers can increase the scale of production to reduce costs and increase the price competitiveness of products in the market.

## REFERENCES

- Ali, T., & Ali, J. (2020). Factors affecting the consumers' willingness to pay for health and wellness food products. *Journal of Agriculture and Food Research*, 2(October), 100076. <https://doi.org/10.1016/j.jafr.2020.100076>
- Alsubhi, M., Blake, M., Nguyen, T., Majmudar, I., Moodie, M., & Ananthapavan, J. (2023). Consumer willingness to pay for healthier food products: A systematic review. *Obesity Reviews*, 24(1). <https://doi.org/10.1111/obr.13525>
- BPS. (2022). Hasil Survei Komoditas Perikanan Potensi Rumput Laut 2021 Seri 2. Badan Pusat Statistik.
- Breidert, C. (2005). *mation of willingness-to-pay. Theory, measurement, and application*. [Doctoral thesis, WU Vienna].
- De-Magistris, T., & Lopéz-Galán, B. (2016). Consumers' willingness to pay for nutritional claims fighting the obesity epidemic: The case of reduced-fat and low salt cheese in Spain. *Public Health*, 135, 83–90. <https://doi.org/10.1016/j.puhe.2016.02.004>
- Di Vita, G., D'Amico, M., Lombardi, A., & Pecorino, B. (2016). Evaluating trends of low sodium content in food: The willingness to pay for salt-reduced bread, a case study. *Agricultural Economics Review*, 17(2), 82–99.
- Erniati, Zakaria, F. R., Prangdimurti, E., & Adawiyah, D. R. (2016). Potensi rumput laut : Kajian komponen bioaktif dan pemanfaatannya sebagai pangan fungsional. *Aquatic Sciences Journal*, 3(1), 12–17.
- Fajria, F., Ethika, D., & Kusnaman, D. (2020). Analisis Kesiediaan Membayar (Willingness To Pay) Konsumen Terhadap Sayuran Organik Di Pasar Modern Purwokerto Dan Faktor-Faktor Yang Mempengaruhi. *SEPA: Jurnal Sosial Ekonomi Pertanian Dan Agribisnis*, 17(1), 40–48. <https://doi.org/10.20961/sepa.v17i1.39863>
- FAO. (2022). *The State of World Fisheries and Aquaculture 2022. Towards Blue Transformation*. Rome, FAO.
- Fauzi A. (2014). *Valuasi ekonomi dan penilaian kerusakan sumber daya alam dan lingkungan*. PT Penerbit IPB Press.
- Hasanah, S. N., & Yanuar, R. (2024). Willingness to pay generasi muda terhadap sayuran organik di wilayah Bogor dan Tasikmalaya. *Jurnal Agribisnis Indonesia*, 12(1), 175–189.
- Lemeshow, S., Hosmer Jr. D.W., Klar, J., Lwanga, S.K. (1997). *Besar Sampel Dalam Penelitian Kesehatan*. Yogyakarta: Gadjah Mada University Press.
- Lutfiadi, R., Kamilah, A., & Danapriatna, N. (2023). Willingness to pay the organic vegetable: the impact of covid-19 pandemic in Indonesian experience. *IJESSS*, 4(3), 886–899.
- Manteu, S. H., Nurjanah, Abdullah, A., Nurhayati, T., & Seulalae, A. V. (2021). *Efektivitas karbon aktif dalam*



- pembuatan garam rumput laut cokelat (Sargassum polycystum dan Padina minor)*. 24.
- Manteu, S. H., Nurjanah, & Nurhayati, T. (2018). Karakteristik rumput laut cokelat (*Sargassum polycystum* dan *Padina minor*) dari perairan Pohuwato Provinsi Gorontalo. *JPHPI*, 21(3), 396–405. [journal.ipb.ac.id/index.php/jphpi](http://journal.ipb.ac.id/index.php/jphpi)
- Michaelidou, N., & Hassan, L. M. (2008). The role of health consciousness, food safety concern and ethical identity on attitudes and intentions towards organic food. *International Journal of Consumer Studies*, 32, 163–170. <https://doi.org/10.1111/j.1470-6431.2007.00619.x>
- Narine, L. K., Ganpat, W., & Seepersad, G. (2015). Trinidadian consumers' willingness to pay for organic tomatoes. *Journal of Agribusiness in Developing and Emerging Economies*, 5(1), 76–91. <https://doi.org/10.1108/jadee-04-2013-0015>
- Nazarudin, M. F., Alias, N. H., Balakrishnan, S., Wan Hasnan, W. N. I., Noor Mazli, N. A. I., Ahmad, M. I., Md Yasin, I. S., Isha, A., & Aliyu-Paiko, M. (2021). Chemical, nutrient and physicochemical properties of brown seaweed, *sargassum polycystum* c. Agardh (phaeophyceae) collected from port dickson, Peninsular Malaysia. *Molecules*, 26(5216). <https://doi.org/10.3390/molecules26175216>
- Nufus, C., Nurjanah, & Abdullah, A. (2017). Karakteristik rumput laut hijau dari Perairan Kepulauan Seribu dan Sekotong Nusa Tenggara Barat sebagai Antioksidan. *Jurnal Pengolahan Hasil Perikanan Indonesia*, 20(3), 620–632.
- Nurjanah, Abdullah, A., & Diachanty, S. (2020). Characteristics of *Turbinaria conoides* and *Padina Minor* As Raw Materials for Healthy Seaweed Salt. *Pharmacognosy Journal*, 12(3), 624–629. <https://doi.org/10.5530/pj.2020.12.93>
- Nurjanah, N., Abdullah, A., & Nufus, C. (2018). Karakteristik Sediaan Garam *Ulva lactuca* dari Perairan Sekotong Nusa Tenggara Barat bagi Pasien Hipertensi. *Jurnal Pengolahan Hasil Perikanan Indonesia*, 21(1), 109. <https://doi.org/10.17844/jphpi.v21i1.21455>
- Puspitasari, C. A., Yuliaty, L. N., & Afendi, F. (2021). Pengaruh Green Marketing, Kesadaran Lingkungan Dan Kesehatan Terhadap Keputusan Pembelian Produk Pangan Organik Melalui Sikap. *Jurnal Aplikasi Bisnis Dan Manajemen*, 7(3), 713–722. <https://doi.org/10.17358/jabm.7.3.713>
- Ramakrishnan, A. R., Mala, K., & Prakasam, A. (2015). Phytochemical analysis of marine macroalga *Caulerpa racemosa* (J. Agardh) (Chlorophyta - Caulerpaales) From Tirunelveli District, Tamilnadu, India. *Journal of Global Biosciences*, 4(8), 3055–3067. [www.mutagens.co.in](http://www.mutagens.co.in)
- Romano, K. R., Finco, D. B. A., Rosenthal, A., Finco, M. V. A., & Deliza, R. (2016). Willingness to pay more for value-added pomegranate juice (*Punica granatum* L.): An open-ended contingent valuation. *Food Research International*, 89, 359–364. <https://doi.org/10.1016/j.foodres.2016.08.039>
- Saraswati, N. P. E., Mukson, & Nurfadillah, S. (2023). Analisis kesediaan membayar (willingness to pay) konsumen terhadap produk kopi berlabel fairtrade di berbagai wilayah Indonesia. *Jurnal Sosial Ekonomi Pertanian (JSEP)*, 16(1), 69–80. <https://doi.org/10.19184/jsep.v16i1.33979>
- Sonya. (2021). *Analisis kesediaan membayar (willingness to pay) mie instan lemonilo goreng*. [Bachelor's Thesis, IPB University].
- Su, Y., Khaskheli, A., Raza, S. A., & Yousufi, S. Q. (2022). How health consciousness and social consciousness affect young consumers purchase intention towards organic foods. *Management of Environmental Quality: An International Journal*, 33(5), 1249–1270. <https://doi.org/10.1108/MEQ-12-2021-0279>
- Sugiyono. (2022). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Cetakan ke-27. Bandung: Alfabeta.
- Tyas, K. Z., & Fitriana, A. (2023). Pengaruh Kesadaran Membayar Pajak, Pengetahuan Perpajakan Dan Pelayanan Fiskus Terhadap Kemauan Membayar Pajak. *Jurnal Ilmiah Akuntansi*, 4, 143–150.
- Ulfa, H. A., Sulhaini, S., & Mulyono, L. E. H. (2022). The Effect of Health Consciousness, Food Safety Concern, and Familiarity with Advertisements on Willingness to Pay to Purchase Healthy Food Products. *Path of Science*, 8(7), 1021–1029. <https://doi.org/10.22178/pos.83-6>
- Uliano, A., Stanco, M., Marotta, G., & Nazzaro, C. (2024). Combining healthiness and sustainability: An analysis of consumers' preferences and willingness to pay for functional and sustainable snack bars. *Future Foods*, 9(February), 100355. <https://doi.org/10.1016/j.fufo.2024.100355>
- Van der Stricht, H., Profeta, A., Hung, Y., & Verbeke, W. (2023). Consumers' willingness-to-buy pasta with microalgae proteins – Which label can promote sales? *Food Quality and Preference*, 110. <https://doi.org/10.1016/j.foodqual.2023.104948>
- Vecchio, R., Van Loo, E. J., & Annunziata, A. (2016). Consumers' willingness to pay for conventional, organic and functional yogurt: Evidence from experimental auctions. *International Journal of Consumer Studies*, 40(3),

368–378. <https://doi.org/10.1111/ijcs.12264>

Wang, E. S. T., & Tsai, M. C. (2019). Effects of the perception of traceable fresh food safety and nutrition on perceived health benefits, affective commitment, and repurchase intention. *Food Quality and Preference*, 78(June). <https://doi.org/10.1016/j.foodqual.2019.103723>