



CONSUMER PREFERENCE ANALYSIS OF FISH PROCESSED PRODUCTS IN BANDUNG, INDONESIA (STUDY CASE PARIT 9 SEAFOOD RESTAURANT)

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ABSTRACT

This research aimed to analyze consumer preferences and product attributes most considered in the purchase of processed fish products and identify the characteristics of consumers toward the purchase of processed fish products at Parit 9 Restaurant. The research was conducted in August to September 2019. The primary data collection technique used purposive sampling technique while secondary data was obtained from the Central Statistics Agency of Bandung City. To analyze consumer preferences used attitude measurement analysis as measured by Likert Scale. Multiple linear regression analysis was used to find out which attributes were most considered in product selection. The results showed that the product attributes considered in the purchase of processed fish products were taste and nutritional content, while the attributes considered in the purchase of processed shrimp products were price, type of shrimp, and nutritional content. As for processed crab products, taste, type of crab, and nutritional content were the attributes considered in product purchasing. As the attributes considered in the purchase of processed scallop products were taste, price and type of processed products. Based on the results of the F test, the significance value of taste, price, type of fish, nutrient content and type of processed were lower than 0.05 which indicates that it has a simultaneous influence on consumer preferences.

Keywords: Bandung, consumer, fisheries product, preference, seafood

1. INTRODUCTION

Fish is one of the animal protein sources that is consumed by many people because it is relatively accessible and affordable. Types of fish cultivated in Indonesia include freshwater, saltwater (sea), and brackish water fisheries [1]. Fish consumption in Indonesia is increasing every year. The level of national fish consumption in 2014 was 38.14 kg/capita. Then it increased to 41.11 kg/capita in 2015. In 2016 the total national fish consumption was 43.94 kg/capita. In 2017 the total national fish consumption was 46,49 kg/capita [2].

Along with the increase of fish consumption among societies, as Bandung is known as a culinary tourism destination, the demand for fish has also increased. With the increasing demand for fish, the number of processing businesses has also increased. There are variations of processed fish products available according to consumers' demands. One of restaurants in Bandung that provides processed fish products is Parit 9 Restaurant which is located at Jl. Anggrek no. 61 Bandung, West Java. The restaurant is located in Central Bandung, which mainly consists of trade and culinary centers. Therefore Parit 9 Seafood Restaurant is one of the frequently visited place by Bandung citizens who want to consume processed fish products.

Consumer choices for processed fish products are certainly diverse. Consumer preferences need to be known by fishery entrepreneurs including restaurants that sell processed fish products to be able to implement appropriate marketing strategies and acknowledge consumer demand. According to [3] Marketing is an arrangement communication process that aims to offer services information to fulfill customers' demands. Consumer preference is the consumers' choice to like or dislike consumed products. Consumer preferences can show consumer favorite from variety of products [4]. Consumers preference of can be determined by looking at the attributes of the product. According to [5] product attributes are factors that are considered by the customer when purchasing a product, such as price, quality, completeness of functions (features), design, after-sales service, etc. Therefore, consumer preferences for processed fish products need to be assessed.

2. RESEARCH METHOD

This research conducted case study method. Types and sources of data are primary data and secondary data. Primary data was collected by using purposive sampling techniques. Purposive sampling is a technique for determining research samples with certain considerations aimed to making the data obtained more representative [6]. Secondary data was obtained from the Central Statistics Agency Bandung City Office. To analyze consumer preferences, this research used attitude measurement analysis which is measured by Likert Scale. Multiple linear regression analysis is used to analyze which attributes are most considered in product selection. The number of respondents in this research was 50 respondents.

2.1 Research Location

This research took place in Parit 9 Seafood Restaurant, which is located at Jl. Anggrek No 61, Bandung, West Java Province, Indonesia.

2.2 Data Analysis Method

The analysis used in this research is quantitative descriptive analysis. Descriptive analysis is a statistical analysis used to describe or analyze the results of research. Consumer behavior is analyzed using descriptive methods, while to find out the most considered attributes on product was used multiple regression analysis. IBM SPSS Statistics 22 and Microsoft Office Excel 2016 were used to analyze the data.

2.3 Analysis of Product Attributes that Impact

Multiple linear regression analysis is used to analyze the relation between independent variable with dependent variable whether each independent variable is positively or negatively related and to predict the value of the dependent variable if the value of the independent variable has increased or decreased. The simple regression model in this research is: [7].

$$Y = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_{\dots} X_{\dots}$$

Information:

Y = Dependent Variable

b_0 = intersep (the intersection of the regression line with the Y axis)

b_1 = slope

X_{\dots} = independent variable

a. F Test

F test was used to determine whether the independent variables affect the dependent variable simultaneously. The values of f tables was compared with the f count and the level of significance used was 5%. The criteria used in this test is P value > 0.05 then H_0 is accepted and if P value < 0.05, then H_0 is rejected [8].

b. T test

T test was conducted to determine the level of influence of each independent variable toward the dependent variable individually. The t count value is compared with the t table value or p value with level of significance, if P value < 0.05, then H_0 is rejected [9].

2.4 Variables and Measurements

There are five independent variables and one dependent variable which is measured with the Likert scale. The variables in this research are:

a. Independent Variables

X_1 : Taste

X_2 : Price

X_3 : Types of Fish

X_4 : Nutrition Content

X_5 : Processed Type

b. Dependent Variable

Y: Consumer Preferences

The hypotheses are:

$H_0 = 0$ There is no significant effect of taste (X_1), Price (X_2), Fish Type (X_3), Nutrition Content (X_4) and Processed Type (X_5) on Consumer Preferences (Y).

$H_1 \neq 0$ There is a significant influence of taste (X_1), Price (X_2), Fish Type (X_3), Nutrition Content (X_4) and Processed Type (X_5) on Consumer Preferences (Y).

3. Result and Discussion

3.1 Consumer Characteristics

The number of respondents interviewed was 50 people with a purposive sampling method.

a. Based on Gender

Characteristics of consumers by gender are divided into two groups, men and women. Characteristics of consumers by gender can be seen in Figure 1. The results of the study showed that majority of the respondents were women with a percentage of 62% and 19 men customers with a percentage of 38%. This happens because women tend to be more aware with the benefits of fish consumption. In addition, women who are already married should regulate their household food consumption to stay healthy.

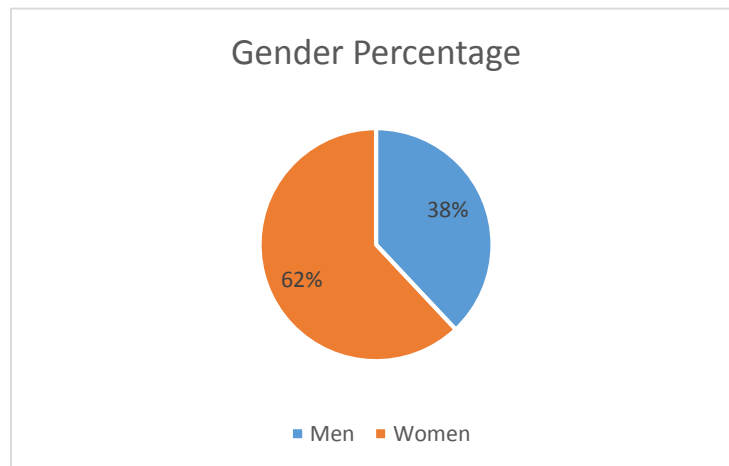


Figure 1. Respondents' Gender Percentage

b. Based on Respondents' Age

The age of consumers are diverse between 10 to 54 years old. According to [10] the age interval 15 until 64 years old are productive working age. Based on the results, youngest consumers' age range from 10-18 years old, which is approximately 8%. The age group of 28-36 years old is the age interval that consists of biggest amount of respondents which is 34%, while the oldest consumers is at interval of 46-54 years old. According to [11] demographic factors such as age, education, income level, and gender has a significant positive relation with consumer responses to products purchase.

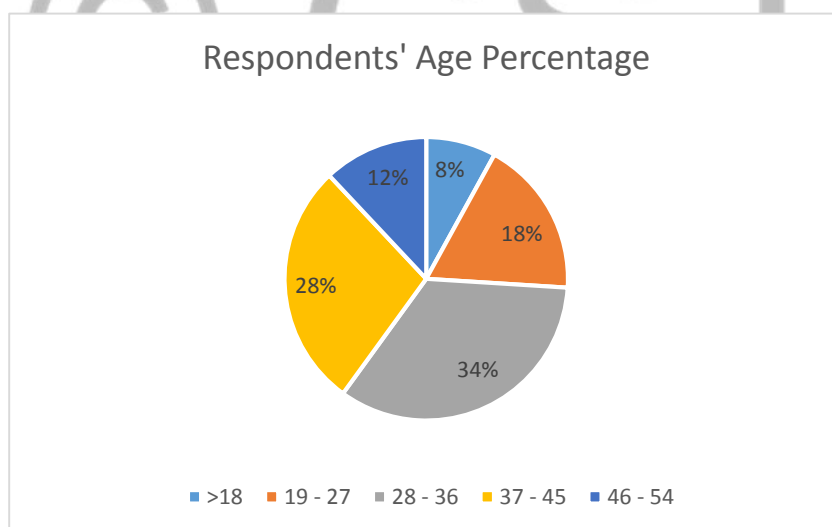


Figure 2. Respondents' Age Percentage

c. Based on Consumer Education

The level of education is very influential on a person's mindset in receiving knowledge and information. According to [12], the higher education will affect people's thinking and facing problems also decision making. The level of education in this research is divided into four, namely junior high, high school, bachelors' degree, and masters' degree. According to [13] there is positive relation between nutrition acknowledge, health level and formal education. The characteristics of consumers based on their level of education can be seen in the Figure 3.

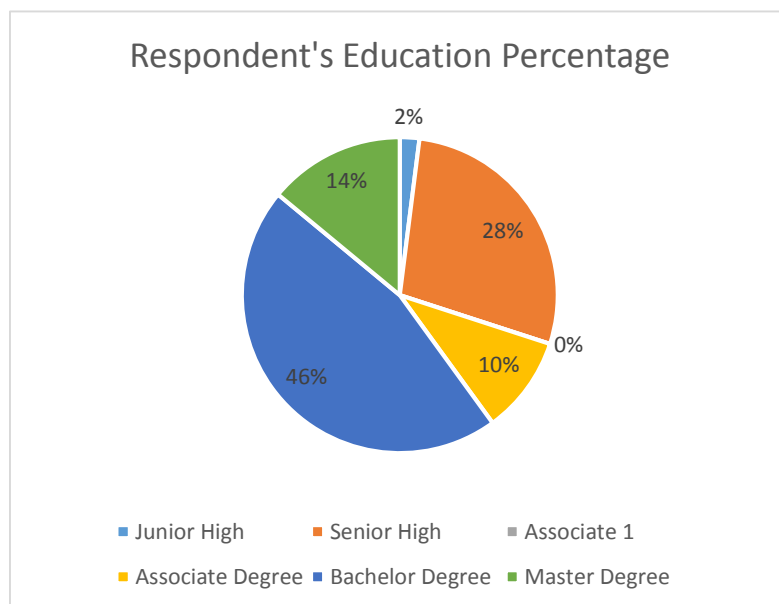


Figure 3. Respondent's Education Percentage

Based on Figure 3, the level of consumer education in purchase of processed fish products at Parit 9 Seafood Restaurant is very diverse. Majority of consumers is a Bachelor degree which is approximately 46%. The lowest education level is Junior High in a percentage of 2% and the highest level of education is Master Degree with 14%. Overall, consumers have received a fairly high education because most of the respondents have finished the 9-year compulsory education.

d. Based on Respondents' Occupation

In this research, it found out that consumers of processed fishery products at the Parit 9 Restaurant in Bandung came with various backgrounds which can be seen in Figure 4.

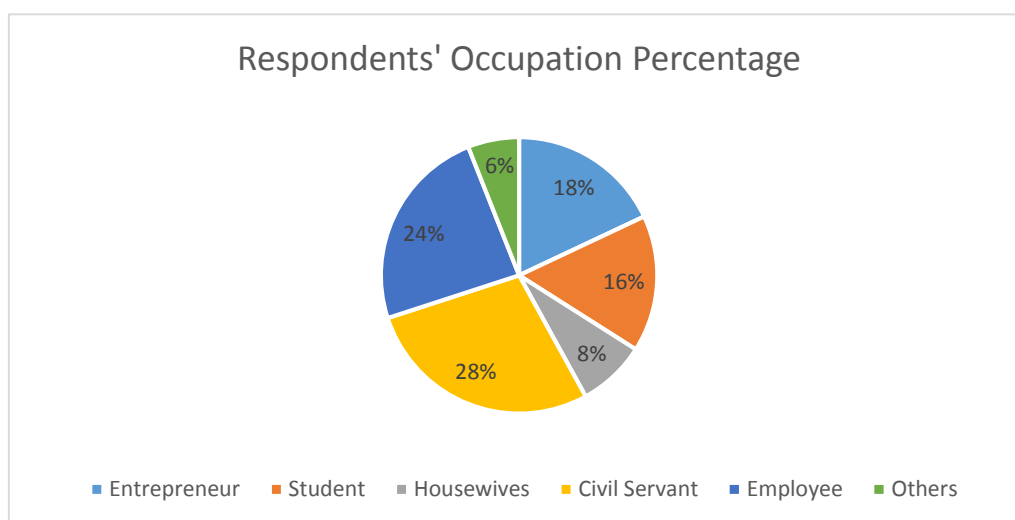


Figure 4. Respondents' Occupation Percentage

Based on Figure 4. the majority of consumers have jobs as civil servants with a percentage of 28%. The number of respondents with occupation as entrepreneurs is 24% and those who work as private employees have a percentage of 18%. Many students also came as the consumer to Parit 9 Restaurant to consume processed fish products. Consumers who are students have a percentage of 16%.

e. Based on Respondent's Income

The level of consumer income has an important role in the decision to purchase fish products because the amount of income will affect the purchasing power of the product. The characteristics of consumers based on income at the Parit 9 Restaurant can be seen in Figure 5.

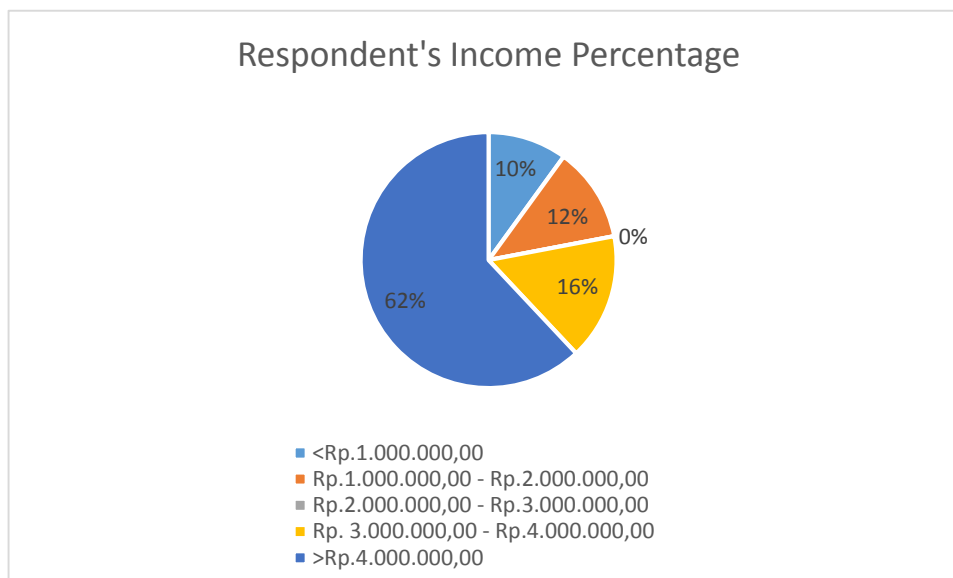


Figure 5. Respondent's Income Percentage

Based on the results, 10% of consumers Parit 9 Restaurant have monthly income <Rp. 1,000,000.00, 12% of consumers Parit 9 Restaurant have total income Rp. 1000,000.00 - Rp. 2,000,000.00. Consumers with the income of Rp. 3,000,000.00 - Rp. 4,000,000.00 have a percentage of 16%. The majority of consumers in Parit 9 Restaurant have an income of more than Rp.4,000,000.00 with a percentage of 62%. The amount of income leaven on consumer purchasing power. According to [14] income, taste and price are can affect peoples' decision-making on products purchase.

3.2 Preferred Level of Processed Products

3.2.1 Processed Fish Products

Based on the results, 58% of consumers like processed fish products. Processed fish product was preferred because relatively accesible . Many consumers like processed fish products because the flavour was suitable with their taste. This can be proven with the results that taste was the most considered attribute in the decision making to purchase processed fish products. According to [15] food quality can be define as food characteristics quality such as size, shape, color, consistensy, texture, and taste that can be accepted by consumers. Preferences of processed fish products can be seen in figure 7.

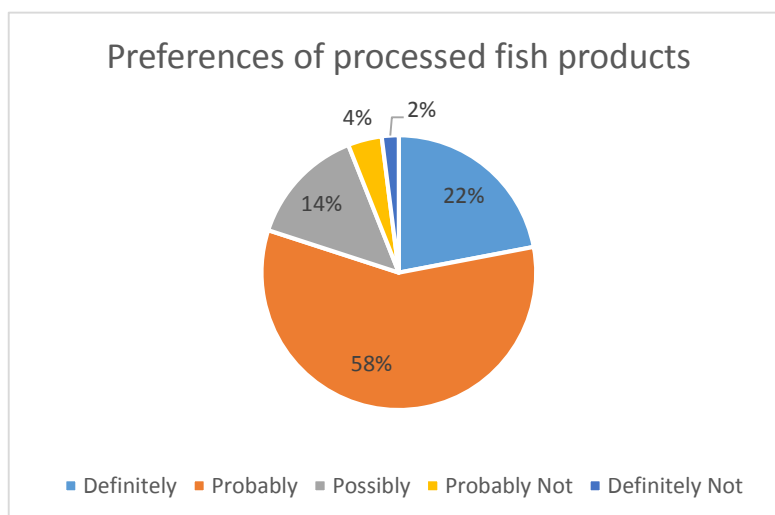


Figure 7. Preferences of processed fish products

3.2.2 Processed Shrimp Products

Based on the results majority consumers who like shrimp processed products have percentage 48%. Consumers who have normal response to shrimp processed products are 30%. While 4% of consumers who do not like processed shrimp products claimed they have an allergy to shrimp. The increase in cases of allergy to marine fish and shrimp is linear with the increased consumption of marine products[16].

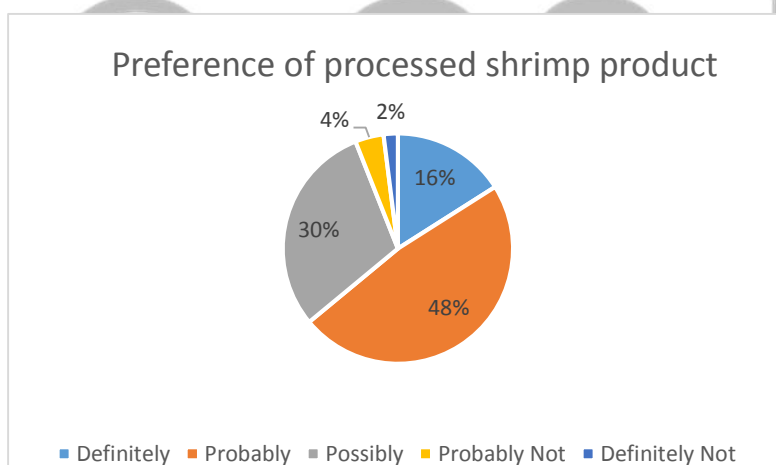


Figure 8. Preferences of processed shrimp product

3.2.3 Processed Crab Products

Based on the results majority consumers like crab processed products have a percentage 70%. That is because Parit 9 Restaurant is famous for its processed crab products. The specialty of crab products at Parit 9 Restaurant is one of the best selling product in this restaurant. With the majority of consumers like processed crab product, it can be assumed that consumers already have sense of trust on processed crab product in Parit 9 Restaurant. According to [17], trust is human descriptive thinking towards something. Based on the results, consumers choose taste as the most considered attribute on processed crab purchase.

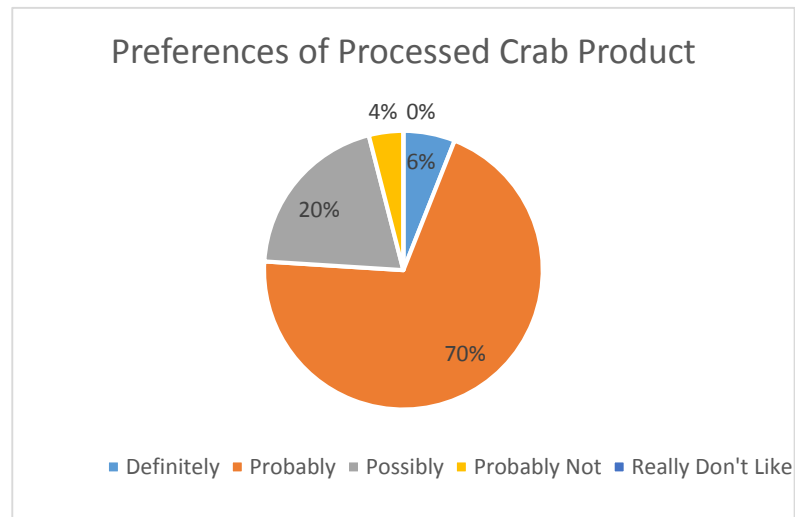


Figure 9. Preferences of Processed Crab Product

3.2.4 Processed Scallop Products

Based on the results, 48% consumers probably like processed scallop products. 36% of consumers choose possibly response toward processed scallop products and 8% of consumers definitely like processed scallop products. As many as 8% of consumers do not like processed scallop products. The most considered attribute on the purchasing was taste, then followed by price. This is because taste has an important role as a determinant of products' quality. Good quality product is product that able to provide results more than expected. Consumers certainly like good quality product. According to [18] product quality (measured from customer perceptions of the level of product damage) affects customer satisfaction level. Different flavors of processed scallop products can influence the level of consumer preference toward processed scallop products.

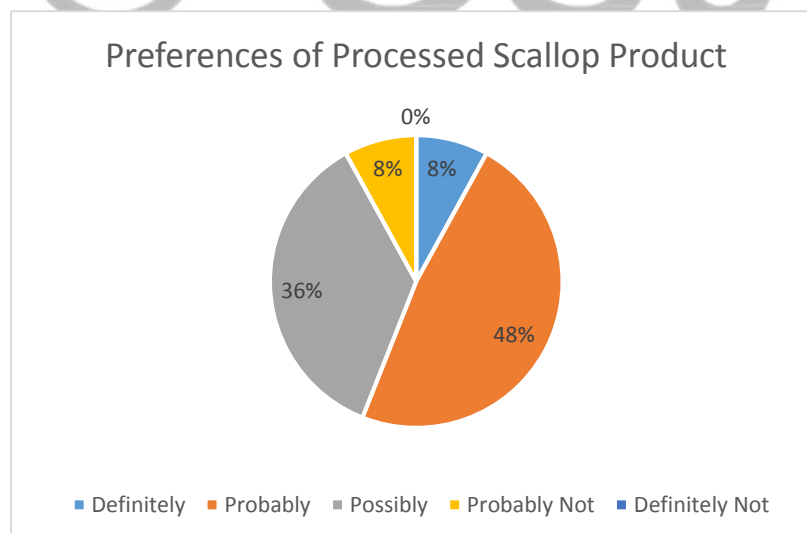


Figure 10. Preferences of Processed Scallop Product

3.3 Most Considered Attribute on Processed Fish Products Purchasing in Parit 9 Restaurant

To analyze the most considered product attributes in the purchase of processed fish products was analyzed using multiple linear regression analysis. These are the following multiple linear regression equation model :

a. Processed Fish Products

$$Y = 2.131 + 0.270X_1 - 0.11X_2 + 0.98X_3 + 0.40X_4 + 0.123X_5$$

b. Processed Shrimp Products

$$Y = 4.482 + 0.129X_1 - 0.262X_2 + 0.352X_3 + 0.255X_4 + 0.071X_5$$

c. Processed Crab Products

$$Y = 3.551 + 0.383X_1 - 0.052X_2 + 0.694X_3 + 0.374X_4 + 0.049X_5$$

d. Processed Scallop Products

$$Y = 2.700 + 0.129X_1 - 0.423X_2 + 0.042X_3 + 0.130X_4 + 0.511X_5$$

Based on the equation, the positive regression coefficients showed the higher the taste, type of fish, nutritional content and type of processed were linear with consumer preference increase. Price (X_2) coefficients' was negative, it showed if there was an Rp. 1 increase in price, consumer preferences decrease by the value of the price coefficient. According to [19], consumers often decide to purchase a product based on the price of the product. Price is one of the product attribute that is often used as a material consideration for consumers in making payments that cannot be put aside by entrepreneurs. Price is the amount of value exchanged by consumers for the benefit of owning, using a product or service that determined by the buyer or seller (through bargaining) or set by the seller for an equal price to all buyers [20].

3.3.1 F Test Result

The F test was used to determine whether the independent variables affect the dependent variable simultaneously. The test carried out by comparing the values of f table with f count. The level of significance used was 5%.

Table 1. F Test Result

Number	Processed Products	F count	Sig
1	Fish	3.026	0.020
2	Shrimp	3.062	0.019
3	Crab	4.523	0.020
4	Scallop	4.218	0.003

Based on the table, the F test will reject H_0 if the p-value (sig) < significant level ($\alpha = 5\%$). F count value of each processed product can be seen in table 1. The F count value of processed fish product was 3.026 with a p-value (sig) of 0.20. Compared by significant level ($\alpha = 5\%$) the significant value was smaller than the significant level, then H_0 was rejected. It can be interpreted that there is an influence of one or more independent variables toward dependent variable. Also other processed products such as shrimp, crabs, and scallop have p-value (sig) < significant level ($\alpha = 5\%$). The independent variables (taste (X_1), Price (X_2), Fish Type (X_3), Nutrition Content (X_4) and Processed Type (X_5)) have an affect on the dependent variable (Consumer Preference (Y)) simultaneously .

3.3.2 T Test Result

Table. 2 T Test Result

Number	Processed Product	Sig				
		Taste	Price	Type	Nutrition Content	Type od Processed
1	Fish	✓	-	-	✓	-
2	Shrimp	-	✓	✓	✓	-
3	Crab	✓	-	✓	✓	-
4	Scallop	✓	✓	-	-	✓

Based on the table, taste and nutritional content variables are the attributes that most influence consumer preferences in purchase of processed fish products in Parit 9 Restaurant. In processed fish products, taste (X_1) and nutrient content (X_4) variables have a significant value ($p > 0.005$) indicates that H_0 was rejected so the taste and nutritional content has partial influence on consumer preferences. In processed shrimp products, the variable price (X_2) type of shrimp (X_3), and nutritional content (X_4) have partial effect on consumer preferences. For the processed variable crab, the taste variable (X_1), the type of crab (X_3) and the nutritional content (X_4) have a significant value ($p > 0.005$) indicating that H_0 is rejected. While the processed variable scallop product taste (X_1), price (X_2) and type of processed (X_5) have a significant effect on consumer preferences (Y) in purchasing processed scallop products in Parit 9 Restaurant.

4. Conclusion

Characteristics of consumers preferences of Parit 9 Restaurant by category: based on gender mostly were women. Based on the age mostly consumers were in the age group of 28 - 36 years old. Based on education the majority of consumers were bachelor degree. Based on occupation, mostly consumers of Parit 9 Restaurant work as civil servants. Based on consumers' income, majority consumers have income more than Rp. 4000,000.00. The majority of consumers of Parit 9 Restaurant have a value of 4 in the level of preference for processed fish, shrimp, crab and scallop products, it showed that consumers like their processed products. The most considered product attributes in the purchase of processed seafood products in Parit 9 Restaurant was taste.

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