Original Research Article

Demand Factors Analysis of Catfish Products (A Case Study of Mr. Sumar Catfish Salad Stall in Ujungberung Subdistrict, Bandung City, Indonesia)

ABSTRACT

This study aims to analyze the demand and the factors that influence the demand for processed catfish products at Mr. Sumar Catfish Salad Stall in Ujungberung Subdistrict, Bandung City. This research was conducted in September 2021. The method used is a quantitative descriptive method using primary and secondary data. The sampling technique used in this study is accidental sampling, a sampling technique of respondents by chance who met directly with researchers at the research location and were used as data sources. The number of respondents in this study amounted to 100 people. Based on the results of the correlation test, there are results that the correlation coefficient value is 0.97 (close to 1), meaning that there is a relationship between the price of catfish salad, consumer tastes, and business location on demand for catfish salad in Mr. Sumar Catfish Salad Stall in Ujungberung Subdistrict, Bandung City. The results of the T-Test and F-Test also illustrate that all independent variables have a partial and simultaneous effect on the dependent variable. The results of multiple linear regression analysis stated that if there were a decrease in the price of catfish pecel by 1 unit, then the demand for catfish salad would increase by 0.094 units. Because of the minus value of the regression coefficient, the relationship between the price of catfish salad and catfish salad demand is not in the same direction. On the other hand, the relationship between consumer tastes and business location on demand for catfish salad is unidirectional because the regression coefficient value is positive. So if consumer tastes increase by 1 unit, then the demand for catfish pecel will increase by 0.072 units, and also if the business location increases by 1 unit, then the demand for catfish salad will increase by 0.092 units..

Keywords: Demand Factor, Catfish Salad, Price, Consumer Taste, Business Location

1. INTRODUCTION

Fishes are one of the consumption animals with high protein value. Therefore we are often encouraged to consume fish. Fish are divided into three groups based on their habitat: freshwater fish, brackish water fish, and saltwater fish. Catfish is a freshwater fish with a distinctive taste and good nutritional content [1]. Its high protein content and relatively low-fat content are the advantages of catfish. The public much favors catfish because it is easy to get, the price of catfish is low so that all people can reach it, and the level of consumption is high [2]. Local catfish (*Clarias batrachus*) is a consumption fish often found in Indonesia. Catfish cultivation began in 1975 in Blitar, East Java [3]. People generally consume local catfish, which is processed into catfish salad.

Catfish salad is an Indonesian fried catfish dish from Lamongan, East Java, Indonesia. The origin of catfish salad in the Lamongan area comes from the word pecek, the origin of the word side dish. Pecek means squeezed and covered with chili sauce. Catfish salad is a simple and delicious food dish. Catfish salad stall is a form of business in the food sector by using tents or business buildings [4]. They are generally scattered on the roadside or in culinary locations. Catfish salad stalls are included in the Micro, Small, and Medium Enterprises (MSME) sector. According to Law No. 20 of 2008, MSMEs is a productive economic business that stands alone and is carried out by individuals or business entities that are not subsidiaries. Micro, Small, and Medium Enterprises aim to grow and develop their businesses in building the national economy based on just economic democracy [5].

According to Hidayat, The demand for catfish salad is increasing daily. The number of requests is due to the affordable price of catfish salad and its good taste [6]. So it is not strange that catfish salad stalls are widespread throughout Indonesia. This is in line with the law of demand, which states that the lower the price of goods, the higher the demand and vice versa [7]. Demand is the number of goods consumers are willing and able to buy. Several factors influence the demand for an item. Factors influencing the demand for goods are price, consumer tastes, business location, and income [8].

2. METHODS

This research was conducted in September 2021 at Mr. Sumar Catfish Salad Stall in Ujungberung District, Bandung City. The method used in this research was descriptive quantitative. The type of research used is a case study. The data used in this study are primary and secondary. Primary data were obtained from the results of the questionnaire directly. Meanwhile, secondary data were obtained from literature, articles, and related agencies related to this research. The data processing methods used are correlation, T-test, and F-test using the SPSS application. While the data analysis method used is multiple linear regression.

2.1 Data Collection Technique

The data collection technique used in this research is the accidental sampling technique. Accidental sampling is a technique in taking samples where in the process data is collected based on respondents who meet the researcher by chance. Respondents may be anyone who is suitable to be used as a resource and indeed coincidentally met at the time of data collection. The respondents were random consumers who met directly with researchers at Mr. Sumar Catfish Salad Stall in Ujungberung District, Bandung City.

2.2 Research Respondents

The number of respondents in this study was determined based on population data from the sub-districts of Ujungberung, Cinambo, Panyileukan and Cibiru. Based on data from the Bandung City Central Statistics Agency in 2020, the population of the four sub-districts is 259.617 people.

$$n = \frac{N}{1 + N(e^2)}$$

$$n = \frac{259.617}{1 + 259.617\ (0{,}1^2)}$$

$$n = 99{,}8$$

Note:
N = Amount of populations
n = Amount of respondents
e = Tolerable rate of sampling error (10%)

The number of respondents in this research ronded up to 100 people. It was calculated using the Slovin formula as above.

2.3 Correlations

Correlation is a statistical term that expresses the degree of linear relationship (unidirectional not reciprocal) between two or more variables. During data processing, correlation test is used to determine the degree of relationship and contribution between variables. The number that shows the direction and magnitude of the relationship between one independent variable and one dependent variable is called the correlation coefficient. This research uses the Rank Spearman correlation test with the formula below.

$$\rho = \frac{6\sum d^2}{n(n^2-1)}$$

Note:
ρ = Correlation coefficient
6 = Constant number
d^2 = Ranking difference
n = Amount of data

2.4 T-Test

T-test shows how far the influence of an independent variable individually in explaining the variation of the dependent variable. The calculated T formula is as follows:

$$T\ count = \frac{bj - (\beta j)}{se_{(bj)}}$$

Note:
bj = j-coefficient
βj = j-parameter
se(bj) = bj standard error

If the T-count value is greater than the T-table value, it means that the independent variable is an explanation of the dependent variable. On the other hand, if the T-count value is smaller than the T-table value, it means that the independent variable is not an explanation of the dependent variable.

2.5 F-Test

F-test basically shows whether all independent or independent variables included in the model have a joint effect on the dependent variable with a significance level of 10%. The calculated F formula is as follows:

$$F\ count = \frac{R^2/(k-1)}{(1-R^2)/(N-k)}$$

Note:
R^2 = Coefficient of determination
N = Amount of observation
k = Amount of variable

If the F-count value is greater than the F-table value, it means that all independent variables have a simultaneous effect on the dependent variable. On the other hand, if the F-count value is smaller than the F-table value, it means that the independent variable not have a simultaneous effect on the dependent variable.

2.6 Multiple Linear Regression

Multiple linear regression analysis was used to measure the effect of more than one predictor variable (independent variable) on the dependent variable. This number of variables is expected to be able to explain the characteristics of the relationship between the dependent variable and the independent variable in more detail. The general form of the multiple linear regression equation is as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \ldots + b_nX_n + e$$

Note:
Y : Dependent variable
$b_1, b_2, b_3, \ldots, b_n$: Coefficient of regression
$X_1, X_2, X_3, \ldots, X_n$: Independent variable
e : Disturbance term

3. RESULTS AND DISCUSSION

3.1 Consumer Characteristics

Based on the research that has been carried out, there are results that the number of frequency purchases by consumers on a portion scale at Mr. Sumar Catfish Salad Stall in Ujungberung Bandung City is 93 servings per day. The number of servings is divided into 61 portions of the catfish salad menu, 24 pieces of the chicken salad menu, and eight parts of the chicken soup menu. The portion sold is calculated based on the number of consumers who eat on the spot.

The characteristics of consumers based on gender who buy salad catfish products at Mr. Sumar Catfish Salad Stall can be seen in Table 1 below.

Table 1. Characteristics of Gender Consumers

Gender	Frequency	Percent (%)
Male	60	60
Female	40	40
Total	**100**	**100**

Table 1 shows that out of 100 consumer respondents at Mr. Sumar Catfish Salad Stall, 60 people (60%) are male, and 40 (40%) are female. This is in line with Swari's research that men have more energy and protein intake than women because men do more physical activity than women [9]. Adult men need energy of 2,625 – 2,725 calories per day, while

adult women need energy of 2,125 – 2,250 calories per day. Therefore, men have a greater need to consume processed fish products.

Consumer characteristics based on age are divided into four groups. The features of consumers by age can be seen in Table 2 below.

Table 2. Characteristics of Age Consumers

Age (years old)	Frequency	Percent (%)
5-11	0	0
12-25	44	44
26-45	36	36
46-65	20	20
Total	**100**	**100**

Based on Table 2, most consumers who consume catfish salad at Mr. Sumar Catfish Salad Stall are in the age group of 12-25 years (teenagers), as many as 44 people (44%). This age belongs to the productive age group, which is the active age of a person in carrying out their activities, especially outside the home. Therefore, productive age requires adequate and suitable nutritional intake to balance expended energy needs [10]. So it can be assumed that respondents at the age of 12-25 years (teenagers) or young people choose to consume processed fish products to meet their nutritional needs and to maintain stamina so that their daily activities can run smoothly.

Consumer characteristics based on the type of jobs consist of seven groups of kinds of jobs and can be seen in Table 3 below.

Table 3. Characteristics of Job-Based Consumer

Jobs	Frequency	Percent (%)
Student	28	28
Government employees	10	10
Private employees	29	29
Entrepreneur	21	21
Health Workers	4	4
Housewife	5	5
Retired	3	3
Total	**100**	**100**

Based on Table 3, consumers who buy catfish salad at Mr. Sumar Catfish Salad Stall are dominated by private employees, as many as 29 respondents (29%) and students, as many as 28 respondents (28%). Type of work can affect a person's consumption patterns. Consumption patterns arise because there is an ability in a person to buy. Purchase decisions are usually made based on a person's economic circumstances such as the amount of income, the amount of savings, and attitudes towards consumption patterns. Therefore, the type of work can affect the amount of one's income and also affect one's perception in terms of purchasing power of an item [11].

Characteristics of consumers based on the level of education divided into seven groups can be seen in Table 4 below.

Table 4. Consumer Characteristics Based on Education

Education	Frequency	Percent (%)
Primary school	0	0
Junior high school	7	7
Senior high school	31	31
Diploma	5	5
Bachelor	49	49
Magister	6	6
Doctor	2	2
Total	**100**	**100**

Based on Table 4, consumers who buy catfish salad at Mr. Sumar Catfish Salad Stall are dominated by consumers with a bachelor's education level, with as many as 49 respondents (49%). It can be assumed that a person's level of final education will affect the type of work that will ultimately affect the pattern of thinking in the demand for processed catfish products at Mr. Sumar Catfish Salad Stall in Ujungberung, Bandung City [12]. The level of education can influence consumers in choosing the desired product because the level of education affects the values they adhere to, ways of thinking, perspectives, even knowledge and perceptions of a product that is consumed.

Characteristics of consumers based on income per month are divided into two groups and can be seen in Table 5 below.

Table 5. Characteristics of Income-Based Consumers

Income	Frequency	Percent (%)
Under Rp. 3.774.860,78	55	55
Over Rp. 3.774.860,78	45	45
Total	**100**	**100**

Based on data from table 5, consumers who buy catfish salad at Mr. Sumar Catfish Salad Stall are dominated by consumers whose monthly income is below Rp. 3,774,860. This figure is the Bandung city minimum wage amount in 2021. The amount of consumer income is based on each type of job. The nominal amount affects the consumer's mindset on purchasing power [13].

3.2 Correlation Test

Table 6. Correlation Result

			TOTAL_x1	y
Spearman's rho	TOTAL_x1	Correlation Coefficient	1.000	.318**
		Sig. (2-tailed)	.	.001
		N	100	100
	y	Correlation Coefficient	.318**	1.000
		Sig. (2-tailed)	.001	.
		N	100	100

			y	x2_total
Spearman's rho	y	Correlation Coefficient	1.000	.335**
		Sig. (2-tailed)	.	.001
		N	100	100
	x2_total	Correlation Coefficient	.335**	1.000
		Sig. (2-tailed)	.001	.
		N	100	100
			y	TOTAL_x3
Spearman's rho	y	Correlation Coefficient	1.000	.317
		Sig. (2-tailed)	.	.001
		N	100	100
	TOTAL_x3	Correlation Coefficient	.317	1.000
		Sig. (2-tailed)	.001	.
		N	100	100

A correlation test determines the degree of relationship and contribution of independent variables to the dependent variable. The results of the correlation test analysis of the value of ρ = 0.97 means that the matter is close to 1, and the correlation between all independent variables (catfish salad price, consumer taste, business location) is said to be positive and very strong. The relationship between all independent variables (catfish salad price, consumer taste, business location) is directly proportional to the dependent variable (Demand for Catfish salad).

3.3 F-test

The F-test is conducted to determine whether all independent variables (price, taste, and location) included in the model had a simultaneous or simultaneous effect on the dependent variable (demand) at Mr. Sumar Catfish Salad Stall, which can be seen in Table 6.

Table 7. F-test Result

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.456	3	7.485	4.171	.008[b]
	Residual	172.294	96	1.795		
	Total	194.750	99			

Based on the calculation results (Table 7), the f-count value is 4.171, more significant than the f-table value = 2.14. So it can be seen that H_0 is rejected and H_1 is accepted. So it can be concluded that the variable price of catfish salad, consumer tastes, and business location have a significant influence simultaneously or together on the varying demand for catfish salad at Mr. Sumar Catfish Salad Stall in Ujungberung Bandung City.

3.4 T-test

T-test was conducted to determine the effect of independent variables (the price of catfish salad, consumer tastes, business location) included in the model have an individual or

partial impact on the dependent variable (demand) at Mr. Sumar Catfish Salad Stall in Ujungberung, Bandung City. The test results can be seen in Table 8.

Table 8. T-test Result

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	t	Sig.
1	(Constant)	-.992	1.009		-.983	.328
	The Price of Catfish salad	-.094	.073	-.152	-2.176	.022
	Consumer Taste	.072	.033	.266	1.398	.032
	Business Location	.092	.044	.137	1.295	.045

The calculation results show that the t-count value of the three independent variables is greater than the t-table value = 1.290, which means that H_0 is rejected and H_1 is accepted. It can be concluded that the variable price of catfish salad, consumer tastes, and business location has a partially significant influence on the demand for catfish salad products at Mr. Sumar Catfish Salad Stall in Ujungberung, Bandung City.

3.5 Multiple Linear Regresion

A multiple linear regression analysis methods was used to see the effect of the price of catfish salad (X_1), consumer tastes (X_2), and business location (X_3) on demand for processed catfish products (Y). The results of multiple linear regression can be seen in Table 9 below.

Table 9. Multiple Linear Regression Result

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	t	Sig.
1	(Constant)	-.992	1.009		-.983	.328
	The price of Catfish salad	-.094	.073	-.152	-2.176	.022
	Consumer Tastes	.072	.033	.266	1.398	.032
	Business Location	.092	.044	.137	1.295	.045

Based on the data in table 9, the equation of the multiple linear regression model obtains as follows.

$$\mathbf{Y = -0{,}922 - 0{,}094X_1 + 0{,}072X_2 + 0{,}092X_3}$$

The sign of the regression coefficient of the independent variable shows the direction of the relationship between the independent variable and the dependent variable. The regression coefficient of the price of the catfish salad variable (X_1) is a negative—negative sign, meaning that the cost of catfish salad's demand is not unidirectional. The value of the regression coefficient of the X_1 variable is -0.094. This value indicates that if there is an increase in the price of catfish salad by one unit, the demand for catfish salad products will decrease by 0.094 units. Likewise, the opposite happened to the variables of consumer tastes (X_2) and business location (X_3), which had positive regression coefficients. It shows that the relationship between consumer taste variables and business location aligns with the demand for catfish salad. The regression coefficient values for the variables X_2 and X_3 are

0.072 and 0.092, respectively. This value means that if there is an increase in consumer tastes and business location by one unit, it will cause an increase in demand for catfish salad by 0.072X2 and 0.092X3 units.

The price of catfish salad significantly influences the demand for catfish salad at Mr. Sumar Catfish Salad Stall in Ujungberung, Bandung City. The indicated by the significance value of 0.022, which is smaller than the value of = 0.1. However, the price of catfish salad partially has a negative relationship with the demand for catfish salad. It can be seen from the negative t-count value, which is -2.167, and the negative regression model coefficient value is -0.094X1. The relationship between the price of catfish salad and the demand for catfish salad is negative, which can be related to the demand theory. If the price increases, the need for the product will decrease; if the price decreases, the need for the product will increase. It means that if the price of the catfish salad decreases by 1 unit, the need for the catfish salad will increase by 0.094X1 team [14].

Consumer tastes significantly influence the demand for catfish salad products at Mr. Sumar Catfish Salad Stall in Ujungberung, Bandung City. This is indicated by the significance value of 0.032, which is smaller than the value of = 0.1. Taste is also related to the different perceptions of each consumer in assessing an item [15]. The study shows that there are various consumer perspectives in terms of the consumption of catfish salad. The first type is consumers who deliberately want to consume catfish salad; the second is consumers who want to finish catfish salad, but the catfish salad menu runs out. Last, the consumer buys a substitute menu, namely, Chicken salad or chicken soup (substitute goods); the third type, consumers who come and want to consume other menus besides catfish salad offered at Mr. Sumar Catfish Salad Stall in Ujungberung, Bandung City.

The results showed that the business location variable positively and significantly affected the demand for catfish salad at Mr. Sumar Catfish Salad Stall in Ujungberung, Bandung City. The location of the business is one of the factors consumers consider when making decisions when they will make a product purchase. Determining the business's location will affect the income and demand level for one's business. Defining a strategic, clean, and comfortable business location will increase the number of requests for a product [16]. Mr. Sumar Catfish Salad Stall business is on the edge of a provincial road in the eastern region of Bandung City, precisely on Jl. A. H. Nasution No. 135 B. The strategic location of the business attracts the community and road users, especially workers who are tired after a long day at work. When they go home, they are usually tired if they have to prepare food at home. They chose to go to the catfish salad stall. In addition, the convenient location also adds a unique attraction for consumers to determine which catfish salad stall they will choose to fulfill their hunger. A clean and strategic business location can increase the demand for a business [17].

3.6 Determination Coefficient

The coefficient of determination measures how far the model can explain the dependent variable (demand for catfish salad). The results of the coefficient of determination can be seen in Table 10 below.

Table 10. Determination Coefficient Result

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate

1	.340[a]	.115	.088	1.3396755

a. Predictors: The price of Catfish salad, Consumer Tastes, Business Location

Based on data from Table 10, the coefficient of determination (R Square) in this study is 0.115. It means that the demand for catfish salad at Mr. Sumar Catfish Salad Stall can be explained by the price of catfish salad, consumer tastes, and business location of 11.5%. Although, the remaining 88.5% is explained by other factors not included in the regression model.

4. CONCLUSION AND RECOMMENDATION

4.1 Conclusion

Based on the demand factors analysis of catfish processed products at Mr. Sumar Catfish Salad Stall in Ujungberung District, Bandung City. The conclusion is that the three independent variables (X_1, X_2, X_3) have a noticeable and significant effect on the demand for catfish salad products at Mr. Sumar Catfish Salad Stall in Ujungberung, Bandung City. It is apparent from the correlation, F-Test, and T-Test data. Although, the most significant factor influencing the demand for catfish salad products in this study is taste, with a correlation coefficient of 0.335.

4.2 Recommendation

Based on the results of research regarding the demand factors analysis for catfish processed products at Mr. Sumar Catfish Salad Stall in Ujungberung District, Bandung City, recommendation that can be given to the seller are that it would be better if they register their business on an online food delivery service platform. This service can help warung nasi catfish salad Pak Sumar to promote their business so that it can grow and be known by more people, increasing their demand.

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