



## The Influence Of Consumer Behavior On Purchasing Decisions For Boneless Milkfish: *Partial Least Squares Structural Equation Modeling (PLS-SEM) Methods*

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<b>Article History</b>	<b>Abstract</b>
Received: 06 June 2023 Revised: 05 Sept 2023 Accepted: 12 Dec 2023	<p><i>Milkfish is one type of fish that has a specific taste and is well known in Indonesia. Thus, milkfish have the potential to be developed as a raw material for more varied processed products. Therefore, companies consider consumer behavior in their business strategy, so it is necessary to know what factors influence consumer behavior in purchasing decisions for boneless milkfish. This study aims to find out the influence of cultivation factors, personal factors, product quality factors, and price factors on consumer Department of Management, Faculty of Economics and Business, Hasanuddin University, Makassar, Indonesia. Behavior in purchasing decisions for boneless milkfish. This study involved 55 respondents who had bought or were buying processed boneless milkfish. The collected data were analyzed using SEM (Structural Equation Model) analysis tools with Smart PLS (Partial Least Square) techniques. The results of this study inform that cultural factors do not have a significant and positive effect on consumers so it can be stated that consumer behavior does not play a role in mediating cultural factors on purchasing decisions for boneless milkfish. Meanwhile, other factors have a significant and positive effect on consumer behavior.</i></p>
<b>CC License</b> CC-BY-NC-SA 4.0	<b>Keywords:</b> Consumer Behavior, Purchasing Decisions

### 1. Introduction

Indonesia is an archipelago with a larger sea area than land. Indonesia has 17,499 islands (previously known as 17,508 islands) and 95,181 km of coastline. About three-quarters ( 5 8 million km<sup>2</sup> ) of Indonesia's territory are marine waters consisting of coastal seas, high seas, bays, and straits [1]. The potential and resources of marine and fisheries in Indonesia are spread in several regions and those in South Sulawesi Province, also known as an area with excellent fisheries potential. South Sulawesi is one of the milkfish-

producing provinces in Indonesia that has penetrated the export market and has abundant natural resources in the fisheries sector as an example of the potential of superior fisheries, namely milkfish. [2]

Milkfish is a fish that is widely cultivated in Southeast Asia, especially in coastal areas of Indonesia [3]. Milkfish cultivation in Indonesia shows good prospects which will increase production by 784,941.13 tons with a value of 15.56 trillion in 2021 [4] milkfish cultivation has long been carried out by farmers in Indonesia and is one of the cultured fish that has high economic value and fairly low capital and easy-to-use technology, both for consumption and live bait in tuna fishing [5].

South Sulawesi is one of the provinces that has experienced quite an increase in terms of fisheries, this can be seen in the results of marine and fisheries development in South Sulawesi. According to the fisheries and marine office of South Sulawesi, milkfish production in 2020 reached 366,541 tons, followed by 2021 reaching 387,177 tons, and in 2022 reaching 396,757 tons [6]. One of the strategies for achieving the vision of the provincial Marine and Fisheries Service is to implement a Neapolitan program. Pangkep Regency is one of the megapolitan development areas. This is confirmed by looking at the fishery potential of Pangkep district which produces fish including aquaculture ponds reaching 8,886.0 tons consisting of 7,819.5 tons of Milkfish. Based on data from the Central Bureau of Statistics 2020, the total area is around 12,362.73 km with a sea area of 11,464.44 km, and a coastline length of 250 km which stretches from west to east [7].

These waters have great potential to develop fisheries where Pangkep district has potential for the development of milkfish farming milkfish is a pond product that is familiar to the people in Pangkep district, therefore Pangkep district is one of the coastal areas of South Sulawesi [8]. Although the public favors milkfish, it has the disadvantage of having many spines scattered throughout the meat. Various types of processed milkfish are made to increase their economic value, and preparations that are quite favored by the public are boneless milkfish in principle boneless milkfish is a fishery product in which the process is carried out by removing the bones [9].

In this regard, studying consumer behavior is a strategy that can be used to attract consumers so that marketers can still meet customer needs and desires to get greater satisfaction, leading to customer loyalty. The role of knowledge about consumer behavior is very necessary in this case because it can provide a clear picture of what and how consumers want so that micro, small, and medium-sized enterprises processed boneless milkfish can take advantage of new opportunities and unmet consumer needs.

Along with the increase in knowledge, consumers are increasingly more knowledgeable about how to spend their money, consumers can buy the products they need according to the desired amount and these circumstances cause competition in the retail business.

The following can be seen as sales data of several micro, small, and medium-sized enterprises of boneless milkfish in Pangkep Regency 2023 in Pangkep Regency, Sulawesi Province.

**TABLE 1.** Sales data of processed boneless milkfish products in 2020-2022.

<b>Micro, Small, And Medium-Sized Enterprises</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Diva	9.700	8.100	9.243
AZ-Zahra milkfish	2.800	1.765	2.600
Sipadeceng	1.216	1.400	1.419
Khadijah	1.320	1.441	2.812
Batari	6.000	4.349	7.134

*Source; BPS Pangkep Regency Sales data of several micro, small, and medium-sized enterprises in Pangkep Regency*

Based on the table above, it can be seen that the realization of sales of processed boneless milkfish products in several micro, small, and medium-sized enterprises in Pangkep Regency from 2020-2022 sales are erratic, it can be seen that in 2020 there increase in sales, unlike in 2021, there was a decrease but in 2022 there was another increase in sales. [10]

All micro, small, and medium-sized enterprises will experience various obstacles in increasing sales, this results in a decrease in performance and results achieved and of course will have an impact on micro, small, and medium-sized enterprises so that these micro, small, and medium-sized enterprises do not get maximum profit, so micro, small, and medium-sized enterprises that process boneless milkfish must be careful in understanding consumer attitudes to buy these products. To find out whether processed milkfish products have met consumer expectations, it is necessary to know what factors influence consumer behavior in purchasing decisions for these products.

This is based on the thought of the importance of a process of knowing what factors influence consumer behavior in purchasing decisions for boneless milkfish in Pangkep Regency to increase the production of their farms including the welfare of pond farmers and this study aims to analyze the effect of cultural, personal, product quality and price factors on consumer behavior in purchasing decisions for boneless milkfish so that this research is so important to do because market power is currently in the hands of consumers, where those who play an important role in making choices and deciding to buy the products needed are consumers.

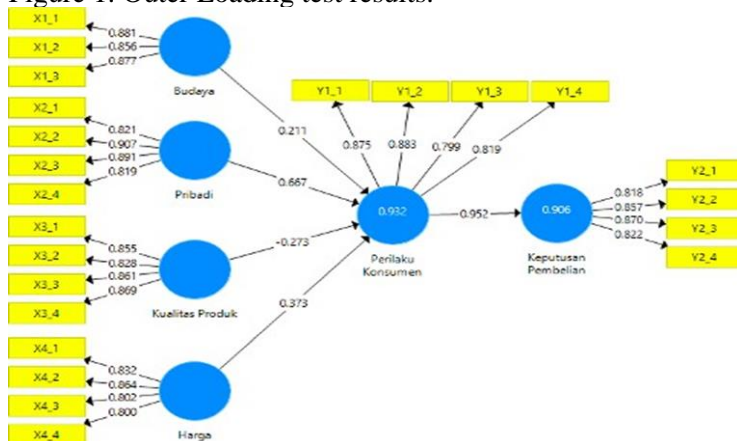
## 2. Materials And Methods

This research was conducted in August-September 2023, in Pangkep. This research was conducted in a deliberate manner (*Purposive*), namely with several micro, small, and medium-sized enterprises in Pangkep Regency as the object of research by considering that several micros, small, and medium-sized enterprises in Pangkep are places that are often visited by consumers to purchase boneless milkfish basis for considering the appointment of Pangkep Regency as the research location is because Pangkep Regency is one of the milkfish centers. This study uses accidental sampling a method where sample observations are made accidentally or without prior planning so that the number of samples cannot be determined [11]. The samples taken in this study were 120 respondents whom the researchers met at the research location who were purchasing boneless milkfish. The entire sample in this study was taken from the existing population. The sampling in this study was calculated using the Slovin formula [12]. Based on the calculation of the Slovin method from a population of 120, it can be determined that  $n = 55$  respondents who use/buy boneless milkfish products. The analysis was carried out descriptively to provide a general explanation according to the available data and information. Structural Equation Modeling (SEM) analysis - Partial Least Square (PLS) or PLS-SEM is used to analyze the influence of Cultural, Personal, Product Quality, and Price variables on Consumer Behavior in purchasing decisions for boneless milkfish.

Data collection is done by visiting the consumer's residence or visiting directly at the micro, small, and medium-sized enterprise location. Partial Least Square analysis findings can be divided into two stages indicator measurement (Outer model) and structural model testing (inner model). The outer model is a model that describes the relationship between latent variables and the variables that measure them (indicators). Meanwhile, the inner model is a model that describes the relationship between latent variables [13]. SmartPLS 3.0 software was used to analyze the data in this investigation. Convergent validity, Construct Reliability, Average Variance Extracted-AVE, Discriminant validity, cross-loading, and model unidimensionality are used to measure indicators (Outer Model). During the inner model, the significance of the relationship between latent variables and the strength of the relationship between variables is determined. This step is completed using a bootstrapping approach. Furthermore, the inner model can be checked by checking the value of  $R^2$  [14]

## 3. Results and Discussion

Figure 1. Outer Loading test results.

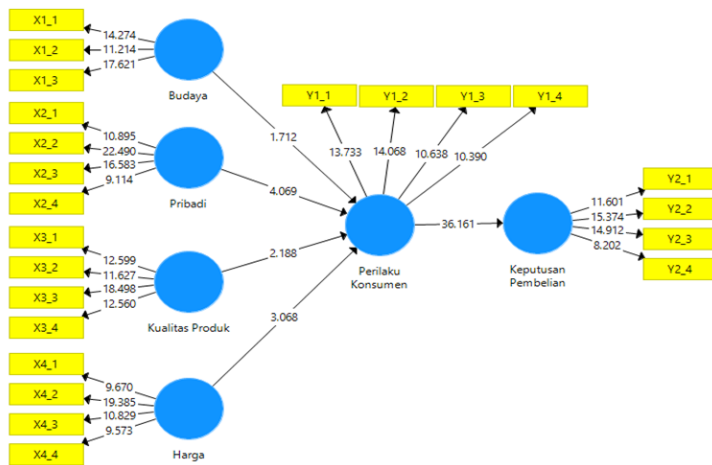


Source: Analysis Result 2023

Based on the picture of the outer loading test results above, it shows that the outer loading of the indicator variables above is above 0.7, which means valid. And values below 0.7 mean invalid. However, the Outer

Loading value above 0.5 is still acceptable as long as the validity and reliability of the construct meet the requirements.

Figure 2. Model significance test results



Source: Analysis Result 2023

Based on the picture of the significant test results of the model above, it shows that the p value of total effects, there are seven total effects with a P-value below 0.05 which means statistically significant while the other 2 are not significant.

Variables	Item	Loading Factor	VIF	Information
Culture	X3_1	0.881	2.145	Valid
	X3_2	0.856	1.911	Valid
	X3_3	0.877	1.970	Valid
Variables	Item	Loading Factor	VIF	Information
Personal	X3_1	0.821	1.946	Valid
	X3_2	0.907	3.296	Valid
	X3_3	0.891	3.022	Valid
	X3_4	0.819	1.921	Valid

Variables	Item	Loading Factor	VIF	Information
Product Quality	X3_1	0.855	2.798	Valid
	X3_2	0.828	2.156	Valid
	X3_3	0.861	2.494	Valid
	X3_4	0.869	2.675	Valid

Variables	Item	Loading Factor	VIF	Information
Price	X3_1	0.832	1.974	Valid
	X3_2	0.864	2.067	Valid
	X3_3	0.802	1.819	Valid
	X3_4	0.800	1.744	Valid

Variables	Item	Loading Factor	VIF	Information
Consumer Behavior	X3_1	0.875	2.948	Valid
	X3_2	0.883	3.114	Valid
	X3_3	0.799	2.066	Valid
	X3_4	0.819	2.057	Valid

Variables	Item	Loading Factor	VIF	Information
	X3_1	0.818	2.077	Valid

Purchase Decision	X3_2	0.857	2.410	Valid
	X3_3	0.870	2.918	Valid
	X3_4	0.822	2.512	Valid

### Construct reliability

The next stage is to analyze the construct reliability, namely testing the construct reliability of latent variables. The value requirement that must be met for reliability is that it must be above 0.07. the reliability analysis results are based on the Cronbach alpha value of the latent variable construct. The value requirement that must be met for reliability is that it must be above 0.07. the reliability analysis results are based on the Cronbach alpha value.

**TABLE 2.** Reliability Analysis Results

Variables	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variance Extracted (AVE)
Culture (X1)	0.841	0.844	0.904	0.759
Price (X4)	0.844	0.855	0.895	0.680
Purchase Decision (Y2)	0.863	0.865	0.907	0.709
Product Quality (X3)	0.875	0.876	0.915	0.728
Consumer Behavior (Y1)	0.866	0.869	0.909	0.714
Personal (X2)	0.882	0.884	0.919	0.740

Based on Table 2. Above, it can be seen that the Cronbach alpha, composite reliability, and rho-A values for each variable have met the requirements to be considered reliable.

### Analysis of discriminant validity according to the Fornell-larger criterion

**TABLE 3.** Analysis Of Discriminant Validity According To The Fornell-Larger Criterion

Variables	Culture	Price	Purchase Decision	Product Quality	Consumer Behavior	Persona I
Culture (X1)	0.888					
Price (X4)	0.807	0.925				
Purchase Decision (Y2)	0.744	0.824	0.842			
Product Quality (X3)	0.882	0.899	0.922	0.953		
Consumer Behavior (Y1)	0.615	0.729	0.852	0.872	0.945	
Personal (X2)	0.410	0.515	0.649	0.735	0.845	0.960

Discriminant analysis based on the "Fornell-Larcker criterion" as shown in the table above, shows that there is no "Fornell-Larcker criterion" value or root AVE value that is smaller than other latent variables, for example, X3 has a "Fornell-Larcker criterion" value of 0.953 which is greater than 0.922 and 0.899 Based on the "Fornell-Larcker criterion" table, it is known that all root AVE "Fornell-Larcker criterion" is 0.953.

### Cross Loading

The cross-loading value of each construct is tested to ensure that the construct correlation with the measured indicator variable is higher than other constructs. The expected cross-loading value is greater than 0.7 [15] Cross-loading is another method for determining discriminant validity, namely by looking at the cross-loading value. If the loading value of each indicator variable on its construct is higher than the cross-loading value. The following is presented as a cross-loading table:

**TABLE 4.** Cross-Loading Value Results

Indicator Variable	Culture	Price	Purchase Decision	Product Quality	Consumer Behavior	Personal
X1_1	0.881	0.787	0.797	0.744	0.782	0.751
X1_2	0.856	0.762	0.823	0.757	0.761	0.804
X1_3	0.877	0.820	0.846	0.802	0.845	0.822
X2_1	0.716	0.777	0.796	0.838	0.800	0.821
X2_2	0.773	0.805	0.844	0.841	0.848	0.907

X2_3	0.816	0.804	0.816	0.807	0.823	0.891
X2_4	0.829	0.764	0.811	0.730	0.779	0.819
X3_1	0.775	0.743	0.757	0.855	0.695	0.791
X3_2	0.706	0.772	0.792	0.828	0.761	0.770
X3_3	0.744	0.787	0.779	0.861	0.770	0.819
X3_4	0.788	0.762	0.815	0.869	0.743	0.809
X4_1	0.835	0.832	0.766	0.817	0.731	0.761
X4_2	0.779	0.864	0.838	0.762	0.898	0.839
X4_3	0.618	0.802	0.686	0.690	0.676	0.646
X4_4	0.752	0.800	0.743	0.697	0.733	0.755
Y1_1	0.838	0.843	0.856	0.761	0.875	0.832
Y1_2	0.742	0.831	0.806	0.726	0.883	0.794
Y1_3	0.715	0.735	0.757	0.747	0.799	0.774
Y1_4	0.793	0.726	0.795	0.714	0.819	0.792
Y2_1	0.816	0.800	0.818	0.799	0.822	0.786
Y2_2	0.719	0.798	0.857	0.777	0.817	0.799
Y2_3	0.801	0.777	0.870	0.795	0.826	0.833
Y2_4	0.849	0.735	0.822	0.730	0.735	0.778

Based on Table 4 above, it can be seen that the cross-loading value of each indicator on the Latin variable itself has the highest value than other latent variables. As an illustration, the value of X1\_1 on the cultivation variable has a value of 0.881, where this value is the highest value of other latent variables. (price = 0.787; purchase decision = 0.797; Product Quality = 0,744; Consumer Behavior = 0,782; Personal = 0,751). The results of the discriminant validity analysis meet the criteria and it can be concluded that the variable indicators are valid.

### Interpretation of results

The total effect is the result of a combination or combination of direct and indirect effects, all of which are shown below. The following when expressed in tabular form

**TABLE 5.** Results Of Total Effect Analysis

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
Culture -> Purchase Decision	0.201	0.193	0.120	1.670	0.096
Culture -> Consumer Behavior	0.211	0.204	0.126	1.673	0.095
Price -> Purchase Decision	0.355	0.360	0.113	3.138	0.002
Price -> Consumer Behavior	0.373	0.382	0.124	3.009	0.003
Product Quality -> Purchase Decision	-0.260	-0.237	0.121	2.157	0.031

Source: Bootstrapping Model Analysis Results, 2023

Based on the table above, the number of direct effects and indirect effects is based on the p-value of total effects, there are seven total effects with a p-value below 0.05 which means statistically significant while the other 2 have no significant effect.

### Coefficient of Determination: R-Square and Adjusted R-Square

The results of testing the two models are carried out with the R-Square value which is a test of model fit. The coefficient of determination ( $R^2$ ) is a way to estimate how much exogenous variables can explain exogenous variables. The coefficient of determination ( $R^2$ ) is expected to be between 0 and 1.  $R^2$  of 0.75, 0.50, and 0.25 indicate that the model is strong, moderate, and weak [17]. Chin gave values of  $R^2$  of 0.67, 0.33, and 0.19 as strong, moderate, and weak [13].

**TABLE 6.** R Square Analysis Results

	R Square
Purchase Decision	0.906
Consumer Behavior	0.932

Source: PLS Model Analysis Results, 2023

Based on the table above, it shows that the R-Squares value is 0.906, this value indicates that the consumer behavior variable affects purchasing decisions by 90.6% and the rest is influenced by other variables outside the variables in this study. Based on the table above, it shows that the R-Square value is 0.932, this value indicates that cultural, personal, product quality, and price variables affect consumer behavior by 93.2% and the rest is influenced by other variables outside the variables in this study.

### F Square

In addition to testing the significance of the relationship between variables, a researcher must also assess the effect between variables by looking at the f-square value (Wong, 2023) the value of f-squared is 0.02 for a small effect, 0.15 for medium, and 0.35 for a large effect. Values below 0.02 can be ignored or there is no effect [16]

When explained in the table as follows:

**TABLE 7.** F-Square of Research Variables

	Culture	Price	Product Quality	Kualitas Produk	Consumer Behavior	Personal
Culture					0.089	
Price					<b>0.250</b>	
Purchase Decision						
Product Quality					0.124	
Consumer Behavior			<b>9.684</b>			
Personal					<b>0.560</b>	

Source: Analysis result 2023

Based on Table 20 above, what has a small or negligible effect is the product quality variable and the culture variable, because the F square value is 0.089 which is smaller than 0.02 besides, it has a large size.

### 4. Conclusion

Personal factors have a significant and considerable influence on consumer behavior when personal variables increase by 1%, consumer behavior will also increase by 66.7%. Based on the findings of this study, in consumer behavior, there is a *thinking process* carried out by everyone who wants to buy something for their needs. Different people, different decisions. In studying consumer behavior, there are several ways a person makes decisions, some emphasize the economy of their purchases, some emphasize behavioral observations, to emphasize quality.

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