

Factors Influencing Consumers' Preferences and Purchasing Behavior of Bulk and Packaged Rice

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Abstract: *In recent years, packaged and certified rice has become increasingly common. Not only in modern retail, packaged rice is also sold by retail rice traders in the market or rice shops on the roadside. Demand for packaged rice continues to increase as people's incomes are better. The purpose of this research is to know factors influencing consumers' preferences and purchasing behavior of bulk and packaged rice. The method used is logistic and multiple linear regression with 200 samples. The results shows that intrinsic factors and income influenced positively to preference, and education, income and consumer preferences influenced positively and significantly to purchasing behavior.*

Keywords: logistic regression, multiple linear regression, preferences, purchasing behavior, rice

1. Introduction

In Indonesia, rice is a major food commodity for the community and has a very strategic value. This is caused by almost all Indonesian people consume rice every day, so that it can be said that rice controls the livelihood of many people, especially in Indonesia. The dominance of rice in basic food patterns is not replaced by other staple foods. Changes in the type of staple food only occur in non-rice commodities, such as corn, sago, tubers and so on. This shows that Indonesian people's preference for rice is very large and difficult to change. For commodities other than rice, people's preferences can change according to existing conditions such as tastes, purchasing power, availability and prices [2].

In recent years, packaged and certified rice has become increasingly common. Not only in modern retail, packaged rice is also sold by retail rice traders in the market or rice shops on the roadside. Demand for packaged rice continues to increase as people's incomes are better. With price differences not far apart, consumers can get guaranteed healthy rice, the proceeds of large companies that have implemented quality standards. The market transition from bulk rice to packaged rice which is relatively new in Indonesia is a natural thing when people's purchasing power increases.

Increased income in certain community groups, especially in urban areas also causes changes in lifestyle, especially in diet. A traditional diet that was high in carbohydrates, high in fiber, and low in fat changed into a new diet that was low in carbohydrates, low in fiber and high in fat. This change in diet is accelerated by the increasingly strong flow of foreign food culture caused by advances in information technology and economic globalization

Another factor that affects rice consumption is community income. Bannet's law states that the proportion of staple food in household consumers is decreasing with increasing income and switching to more expensive food [4]. However, consumers' actions in consuming rice are not solely based on

economic considerations and nutritional needs but are also driven by factors of interest, personal satisfaction and even pursuing social status.

According to [6], preference is a favorite choice made by a person on the product of goods or services consumed, the attributes possessed by a product will affect consumer preferences.

Research on the preferences and behavior of purchasing bulk and packaged rice is still not widely practiced in Indonesia, therefore it is an interesting matter to study further about the factors that influence consumers' preferences and purchasing behavior for bulk and packaged rice

2. Literature Review

Rice

Rice is a staple food for most of Indonesia's population. Rice is one of the staple foods that have a rather complete array of food substances. Besides containing carbohydrates and protein, rice is also high in amino acid thiaminnya. Rice protein is also quite complete amino acid thiamine arrangement, except tryptophane [3].

Consumer Preferences

Consumer preferences analysis is one result of consumer behavior analysis. This analysis emphasizes consumers' evaluation of competing brands as substitutes. According [11], preference is the level of consumer acceptance of a particular product that is influenced by consumer behavior and perception of a product. Based on this, will be known whether the goods and services are in accordance with what consumers want so far.

Purchase Behavior

If the consumer has decided on a chosen alternative and possibly a replacement if necessary, then he will make a purchase. Purchases include consumer decisions about what to buy, whether to buy or not, when to buy, where to buy, and how to pay for it. Included is the shop where he will buy it

and the payment method he will make, whether he pays cash or installments. Noteworthy here is the unanimous desire to buy a product often has to be canceled for several reasons: the motivation is changing, the consumer may feel that the needs can be met without having to buy the product, or there are other needs that are prioritized [12].

3. Methods

The study was conducted on 200 respondents in Pasir Mulya Village, West Bogor District, Bogor City and Sukaresmi Village, Tamansari District, Bogor Regency. Respondents chosen in this study were housewives who bought and consumed bulk or packaged rice for the past two months.

The sampling technique used in this study is using probability sampling in the form of random sampling, because each member of the population has the same opportunity to be chosen as a sample member. The study was conducted by interviewing housewives, because a mother is considered as the main decision maker in the selection and preparation of daily family food needs. In the Pasir Mulya Village, the example chosen was the family living in RW 2 (RT 3 and RT 5) as representatives of the region with a population of 150 households. The population of Sukaresmi Village is 110 households, the RT chosen as a member of the population are families who live in RW 3 (RT 1 and RT 3).

Data processing in this study was carried out with several analyzes. The analysis used includes Descriptive Analysis, logistic regression, and multiple linear regression.

4. Result

Data processing in this study was carried out with several analyzes. The analysis used includes Descriptive Analysis to explain individual characteristics, logistic regression to analyze what factors influence preferences, and multiple linear regression to analyze what factors influence buying behavior.

4.1 Descriptive Analysis

Personal characteristics that can influence purchasing decisions include age, life cycle, work, economic conditions, lifestyle, personality, and the buyer's self-concept [12]. Based on the results of the study, 37 people aged over 51 years, 46 people aged between 43 to 51 years, 51 people aged between 25 to 33 years, and the majority, which amounted to 66 people aged between 34 to 42 years. From the data obtained, the largest proportion is the respondents who entered the last high school education group by 40 percent followed by the undergraduate level of 29.5 percent. Respondents with the smallest level of education were respondents in the junior high school education group as much as 7 percent. Meanwhile for the respondent's type of work, it was seen that the majority of respondents were housewives by 37.5 percent, the second largest group were private employees by 34 percent, while the smallest respondents were those who worked as laborers at 5.5 percent. Based on income per month shows that the largest respondents as much as 35

percent are income groups Rp 10,000,001 - Rp 12,500,000, and the second largest respondent as much as 29 percent are income groups Rp 500,000 - Rp 2,500,000. Then the lowest with the number of respondents 5 percent in the group with income of more than Rp. 12,500,000. Most respondents are small households, where the data shows that as many as 65 percent have family members more than 4 peoples, and large households in this study have the smallest distribution (2%).

According to [5], the physical attributes and objectives of a product can influence consumer preferences. Consumer preference in this study is the choice of respondents to the rice they like, which is bulk or packaged rice. Based on the results of the study, it can be seen that consumer preferences for bulk rice are higher than packaged rice, which is equal to 68%. The reason consumers choose bulk rather than packaged rice is that the majority of consumers like low prices on bulk rice, besides bulk rice is also easier to obtain than packaged rice. Bulk rice is sold in stalls closest to the respondent's residence and has a large availability so that it can meet the needs of bulk rice consumers.

The buying behavior of rice in this study are matters related to the frequency of purchases, the number of purchases, the place of purchase, the reason for buying, and the average price of rice commonly purchased by respondents. Judging from the way of purchase, respondents prefer to buy bulk rice, as many as 137 respondents. This is related to where respondents often buy rice, as many as 108 respondents bought rice at the nearest shop. The reason respondents chose bulk rice compared to packaged rice, the first is a more affordable price of 48% and the second is easily obtained as much as 24%. Based on the frequency of purchases, 156 respondents or the majority bought rice 1 to 5 times a month with the purchase of 6 to 10 liters each with a distribution value of 48%. The average price of rice purchased by respondents is between Rp. 7,600 and Rp. 9,000.

4.2 Effect of Intrinsic Factors, Extrinsic Factors, and Individual Characteristics on Preferences

Factors that influence consumer preferences in buying rice are analyzed using logistic regression, while the dependent variable used is rice that is preferred by consumers, namely packaged rice (1) or bulk rice (0). Independent variables that are thought to affect the dependent variable (preference) are intrinsic factors bulk rice (X1), intrinsic packaged rice (X2), extrinsic factors (X3), age (X4), education (X5), employment (X6), number family member (X7), and Income (X8). The results of the analysis of the factors that influence the preferences of packaged and bulk rice are Table 1.

Table 1: The Logistic Regression Analysis Results in Preference for Packaged and Bulk Rice

Variable	B	Sig	Exp(B)
Bulk rice intrinsic (score)	-0.198	0.001*	0.821
Packaged rice intrinsic (score)	0.288	0.000*	1.333
Extrinsic (score)	0.051	0.589	1.052
Age (years)	-0.026	0.312	0.974
Education (0 = <SMA; 1 = ≥SMA)	17.458	0.998	38188930.114
Job (0 = not working; 1 = work)	0.473	0.459	1.605

Number of family members (people)	0.051	0.834	1.052
Income (rupiah per month)	0.342	0.000*	1.408
Constant	-23.599	0.997	0.000

The significant value of the model for the intrinsic factor of bulk and packaged rice is 0.001 < 0.05 and 0.000 < 0.05, which means that the intrinsic factor in bulk and packaged rice has a significant influence on the purchase of rice. This is because every respondent makes a purchase, the attributes inherent in rice, such as price, grain shape, smell, texture, color and cleanliness of rice will always be a concern. The results of this study are in line with the research conducted by [4], in her research the factors that influence the purchase of rice are texture, smell, and taste. In addition, according to [1] research, the factors that influence consumers in purchasing packaged rice are taste quality, price, brand and packaging.

The significant value of the model for extrinsic factor variables is 0.589 > 0.05, which means extrinsic factors do not have a significant effect on the purchase of packaged rice. This is because only oneself influences the purchase of packaged rice. According to [6] study showed that most consumers buy instant noodles because of their own desires, because consumers already know the need for instant noodles to buy and information that consumers have about these products can determine consumer purchasing decisions for instant noodles. [1] in his research said that product availability and promotion were influencing factors in purchasing packaged rice. [8] suggested that the main factor that consumers consider in buying granulated sugar is the ease of obtaining it (availability is always available). The significant value of the model for the income variable is 0.000 > 0.05, which means that income has a significant influence on the purchase of packaged rice. Opportunity ratio value as a result of logistic regression from income variable shows number 1.408, this value means that people who have high income have a chance of 1,408 times buying packaged rice compared to people with lower income. According to research by [8], marketing of premium rice in Kendari City is influenced by income variables.

4.3 Effect of Intrinsic Factors, Extrinsic Factors, Individual Characteristics and Preferences on Purchasing Behavior

The regression results show that the education and income variables have a significant effect on the frequency of rice purchases. Based on Table 2, it can be seen that the R-Square value is 0.362, this indicates that 36 percent of the purchase frequency variables are influenced by the variables studied and the remaining 64 percent are influenced by variables outside the variables studied. The significance value of education and income is less than 0.01, which is equal to 0.000, which means that the higher the level of education and income of a person, the less frequent the frequency of buying it.

Table 2: The regression results of the effect values on the frequency of purchases

Independent variable	Frequency of purchase (times/month)
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	Not Standardized (B)	Standardized (B)	Sig.
Constants	22.418		0.001
X1 Bulk rice intrinsic (score)	0.112	0.05	0.451
X2 Packaged rice intrinsic (score)	-0.253	-0.083	0.180
X3 Extrinsic (score)	-0.144	-0.038	0.511
X4 Age (Year)	-0.013	-0.014	0.818
X5 Education (0 = <SMA; 1 = ≥SMA)	-6.74	-0.28	0.000*
X6 Job (0 = Work; 1 = Not Working)	-1.961	-0.11	0.124
X7 Number of Family Members (People)	0.273	0.032	0.591
X8 Income (Rupiah / Month)	-0.632	-0.345	0.000*
X9 Preferences (0 = Bulk; 1 = Packaged)	0.187	0.01	0.895
F	13.554		
Sig.			0.000
Adj R			0.362

Based on Table 3, it can be seen that the R-Square value is 0.588, this indicates that 58 percent of the price variable is influenced by the variables studied and the remaining 42 percent is influenced by variables outside the variables studied. The significance value of preference and income is less than 0.01, which is equal to 0.000, which means that the price purchased is influenced by preference, and the higher the level of one's income, the more expensive the price he buys. These results are in accordance with previous studies conducted by [7] that preferences influence consumer buying behavior.

Table 3 : The regression results of the value of influence on the average price

Independent variable	Price (Rp/kg)		
	Not Standardized (B)	Standardized (B)	Sig.
Constants	7640.603		0.000
X1 Bulk rice intrinsic (score)	3.56	0.007	0.899
X2 Packaged rice intrinsic (score)	30.996	0.043	0.386
X3 Extrinsic (score)	-24.423	-0.027	0.556
X4 Age (Year)	3.294	0.015	0.756
X5 Education (0 = <SMA; 1 = ≥SMA)	226.245	0.040	0.463
X6 Job (0 = Work; 1 = Not Working)	103.2	0.025	0.668
X7 Number of Family Members (People)	-125.006	-0.062	0.194
X8 Income (Rupiah / Month)	122.518	0.284	0.000*
X9 Preferences (0 = Bulk; 1 = Packaged)	2396.615	0.549	0.000*
F	13.509		
Sig.			0.000
Adj R			0.588

The regression results show the value of education significance, preference and income less than 0.01, which is equal to 0.000, which means that the number of purchases

purchased is influenced by preference, and the higher the level of income and education of a person, the more frequently purchased rice packs, buy less. Based on Table 4, it can be seen that the R-Square value is 0.091, this shows that 9 percent of the price variable is influenced by the variables studied and the remaining 91 percent is influenced by variables outside the variables studied.

Table 4: The regression result of value influence the amount of purchases

Independent variable	Amount of Purchase (Kg)		
	Not Standardized (B)	Standardized (B)	Sig.
Constants	-3.482	0.55	0.550
X1 Bulk rice intrinsik (score)	-0.106	0.432	0.432
X2 Packaged rice intrinsik (score)	0.216	0.206	0.206
X3 Extrinsic (score)	0.115	0.563	0.563
X4 Age (Year)	0.039	0.438	0.438
X5 Education (0 = <SMA; 1 = ≥SMA)	3.331	0.024	0.024*
X6 Job (0 = Work; 1 = Not Working)	0.838	0.466	0.466
X7 Number of Family Members (People)	0.193	0.674	0.674
X8 Income (Rupiah / Month)	0.354	0.016	0.016*
X9 Preferences (0 = Bulk; 1 = Packaged)	-4.25	0.001	0.001*
F	3.222		
Sig.	0.000		
Adj R	0.091		

5. Conclusion

The characteristics of the respondents in this study were mostly 25 to 33 years old as many as 51 respondents or 25.5 percent with the highest educational background, namely 75 high school graduates (SMA), and the dominant occupation was 75 housewives. The income of the majority family is between IDR 10,000,001 - up to IDR 12,500,000, - as many as 70 respondents or 35 percent. The highest number of family members in this study was more than 4 people in one family. Based on logistic regression analysis, the intrinsic variables of rice and income have a significant effect on the preference for purchasing packaged rice. The factors that influence the behavior of purchasing bulk and packaged rice in this study are the variables of preference, education, and income.

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