Analysis of the consumer decision making process in purchasing rice

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Abstract. Rice is a food commodity that is consumed by many Indonesian people. With the presence of branded and unbranded rice in the sale of rice on the market, a study of consumer behavior needs to be done so that the consumer's needs for rice products are in line with expectations. Every time consumers experience changes in consuming. Changes that will directly affect consumer behavior patterns include market segmentation. This study aims to: analyze the decision-making process by consumers in the purchase of rice. This study was conducted at Makassar Terong Market. The analytical method used is descriptive analysis and chi-square test. The results of this study conclude that: all rice consumers undertake all stages of purchasing decision making namely problem recognition, information search, alternative evaluation, purchasing decisions, and post-purchase behavior. In demographics in terms of gender, age, marital status, employment, number of family members there is no relationship with purchasing decisions while in terms of education level and family income shows a positive relationship with purchasing decisions. In behavior segmentation, the benefits sought by consumers are not related to purchasing decisions, while the loyalty status indicates a relationship with purchasing decisions.

1. Introduction

Rice is one of the important food commodities for Indonesia. This is because almost all Indonesian people consume rice as their staple food. The dominance of rice in the staple food pattern cannot be replaced by other types of staple food. The pattern of consumption of rice in Indonesian a society cannot be changed drastically because it is related to the culture of society that has been so inherent. Rice has a long history in the life of the Indonesian people [1]. The dependence of the Indonesian population on rice is very high, this is indicated by the average consumption of rice in the period 2010-2014 of 98.57 kg/capita/year [2]. Most of the rice is consumed after being processed into rice. Eating rice is closely linked to the culture of eating and a social status in the community. Another factor that influences rice consumption is community income because the higher the income of the community, the higher the quality required according to Margareta's statement [3]. An increase in community income results in...
increased demands on quality and quality. Consumers put more emphasis on balance quality, nutrition, and aesthetics. However, consumers' actions in consuming rice are not solely based on economic considerations and nutritional needs but are also driven by interests, personal satisfaction and even to pursue social status [4]. Sales of rice on the market today consist of unbranded rice and branded rice. Unbranded rice is sold without being packaged and sold in liters. This is different from branded rice whose products are packaged and have brands and labels. Branded rice is one form of exploiting opportunities for the development of rice, especially in the field of market or trade development that aims to make rice products have better-added value in terms of good packaging and branding compared to rice products on the market seen from in terms of quality [5].

To meet the needs of rice products in by consumer expectations, the first step that producers and traders must pay attention to is consumer behavior. For business actors, consumer behavior will become an important foundation in marketing so that they can target buyers in a more directed direction because businesses can describe in detail the consumers who are targeted [6]. Research on the process of making rice purchasing decisions aims to make rice traders know how consumers behave in meeting the need for rice. Purchasing decisions on a product are strongly influenced by consumer behavior. Purchasing decisions are the actions of consumers in fulfilling wants and needs which is the process of determining attitudes or purchases of goods and services, to understand consumer behavior in purchasing requires a process because every time a human changes. Changes that will directly affect consumer behavior patterns include geographic, demographic, psychographic, and behavioral factors [7].

2. Method

The research was conducted in Makassar precisely in Market Terong with the consideration that city of Makassar is a city that has several potential sizable population with income distribution (income) is good. The sampling technique used in this study is Non-Probability Sampling, namely the accidental sampling method. Determination of the number of samples or respondents is determined based on the results of calculations using the Slovin formula in Umar [8] namely:

\[ n = \frac{N}{1 + Ne^2} \]  

Information :

- \( n \) : number of samples
- \( N \) : the population of Makassar City
- \( e \) : critical value (accuracy limit) used (percent of research allowance due mistake taking the sample population)

Based on Makassar City Bureau of Statistics data [9], an unknown number of households in the city of Makassar in 2016 amounted to 358,054 households. By using a critical value of 10%, a total sample size is obtained:

\[ n = \frac{358,054}{1 + 358,054 (10\%)^2} = 99.97 = 100 \]

Based on the above calculation, the number of samples taken in this study was 100 people. This study uses qualitative and quantitative analysis. Qualitative data processing uses your right analytical method and analysis this data using test Chi-Square. Processing data using software computer Excel 2013, and the software SPSS.
3. Results and Discussion

3.1. Relationship of geographical segmentation variables with rice purchasing decisions

The relationship between geographical segmentation variables with rice purchasing decisions consists of the relationship between the distance of the house from the location of purchase with the decision to purchase rice. Classification of the distance of the house from the location of purchase in this study consisted of near and far. To find out the relationship between the distance of the house from the purchase location with the decision to purchase rice, an analysis is described as shown in Table 1.

**Table 1. Relationship between respondents' home from purchase location and rice purchase decision**

| Gender | Rice Purchasing Decision | P   | A  |
|--------|--------------------------|-----|----|
|        | Branded rice             |     |    |
|        | Non-Branded Rice         |     |    |
| Close  | 66                       | 24  |    |
| Far    | 9                        | 1   |    |
| Amount | 75                       | 25  |    |

In the table above can be seen the results of test calculations chi-square download show that result p = 0.444 with the degree of trust used is 95% (α = 5%), then the value of p> 0.05 which means that H₁ is accepted or not there is a relationship between the distance from the location of the home purchase decision in purchasing rice. There is no relationship between the two variables because the distance of the house from the location of the purchase does not determine the consumer's decision to buy rice whether branded or not. The table above also shows that respondents with a distance of a house from a nearby location of purchase are the most who buy branded rice, as well as respondents with a distance of a house that purchases the most distance buy branded rice compared to unbranded rice.

3.2. The Relationship Between Demographic Segmentation Variables With Consumer Rice Purchasing Decisions

Men sort Kotler and Armstrong [10], the decision of a buyer is influenced by characteristic consumer demographic. The relationship between demographic segmentation variables with rice purchasing decisions consists of gender relationship with rice purchasing decisions, age with free purchasing decisions, marital status with rice purchasing decisions, number of family members with rice purchase decisions, education level with rice purchasing decisions, work with rice purchase decisions and family income per month with rice purchase decisions. The explanation of the relationship between the two variables can be explained as follows.

1. Gender relationship with rice purchasing decisions

The gender classification in this study consisted of men and women. Whereas rice purchasing decisions consist of purchasing branded and unbranded rice. To find out the relationship between sex and the rice purchasing decision, an analysis is presented as shown in Table 2.

**Table 2. Relationship between gender and rice purchasing decision**

| Gender | Rice Purchasing Decision | P   | A  |
|--------|--------------------------|-----|----|
|        | Branded rice             |     |    |
|        | Non-Branded Rice         |     |    |
| Male   | 20                       | 7   |    |
| Girl   | 55                       | 18  |    |
| Amount | 75                       | 25  |    |
In the table above can be seen the results of test calculations chi-square download show that result p = 1.000 with the degree of trust used is 95% (α = 5%), then the value of p > 0.05 which means that H₀ is accepted or not there is a relationship between the sexes in the purchase decisions of consumers with rice. There is no relationship between sex, with rice purchasing decisions because gender does not determine the purchase of rice. This means that male or female consumers alike can purchase rice at Makassar Terong Market. The table above also shows that respondents with the female sex make the most purchases of branded rice, as well as respondents with the male sex buy the most branded rice compared to non-branded rice. This shows that there is no difference in rice purchasing decisions between consumers and female and male sex groups.

2. Age relationship with rice purchasing decisions
In this study, researchers used adult and old age categorization. Whereas rice purchasing decisions consist of purchasing branded and unbranded rice. The relationship of age with consumer purchasing decisions can be seen in table 3.

| Age  | Rice Purchasing Decision | P   | A  |
|------|--------------------------|-----|----|
|      | Branded rice             |     |    |
| Adult| 39                       | 13  |    |
| Old  | 36                       | 12  |    |
| Amount| 75                      | 25  |    |

In the table above can be seen the results of test calculations chi-square download show that result p = 1.000 with the degree of trust used is 95% (α = 5%), then the value of p > 0.05 which means that H₀ is accepted or not there is a relationship between the age of the consumer with the decision in the purchase of rice, or in other words the rice purchase decision, respondents did not specify the age of the rice purchasing decisions of branded and non-branded rice. The table above also shows that respondents in the adult and old age categories are the most who buy branded rice. There is no relationship between the demographic segmentation variables with the decision to buy rice in terms of age because many people are aged but they still make rice purchases because rice is their basic need. Therefore the decision of consumers in purchasing rice does not recognize age. The availability of branded and unbranded rice for the basic needs of consumers benefits rice traders in the Terong Market because all groups buy rice, whether branded or unbranded.

3. Relationship between marital status and rice purchasing decisions
Marital status in this study was categorized as married and unmarried. Whereas rice purchasing decisions consist of purchasing branded and unbranded rice. As for marital status relationship with purchasing decisions can be seen in table 4.

Table 4. Relationship between Marital Status and Rice Purchasing Decision

| Marital status | Rice Purchasing Decision | P   | α  |
|----------------|--------------------------|-----|----|
|                | Branded rice             |     |    |
| Married        | 69                       | 23  |    |
| Single         | 6                        | 2   |    |
| Amount         | 75                       | 25  |    |
In the table above it can be seen that respondents who are married or unmarried are the most who buy branded rice. The results of test calculations of chi-square download show that result \( p = 1.000 \) with the degree of trust used is 95% \((\alpha = 5\%)\), then the value of \( p > 0.05 \) which means that \( H_0 \) is accepted or not there is a relationship between marital status in the purchase decision of consumers with rice.

4. Relationship between the number of family members and the decision to buy rice
In this study, the division of categories of the number of family members is divided into small and large numbers. Whereas rice purchasing decisions consist of purchasing branded and unbranded rice. The relationship between the number of family members and free purchasing decisions can be seen in table 5.

Table 5. Relationship of number of family members with rice purchasing decisions

| Number of family members | Rice Purchasing Decision | P   | A  |
|--------------------------|--------------------------|-----|----|
|                          | Branded Rice             | Non-Branded Rice |     |    |
| a little                 | 62                       | 22  |    |    |
| Lots                     | 13                       | 3   |    |    |
| Amount                   | 75                       | 25  |    |    |

In the table above it can be seen that respondents who have the lowest number of family members are the most who buy oak brand rice as well as respondents who have many family members. The results of test calculations of chi-square download show that result \( p = 0.754 \) with the degree of trust used is 95% \((\alpha = 5\%)\), then the value of \( p > 0.05 \) which means that \( H_0 \) is accepted or not there is a relationship between the number of family members to the decision in the purchase of rice.

5. Relationship between education level and rice purchasing decision.
The level of education is categorized as low and high. Whereas rice purchasing decisions consist of purchasing branded and unbranded rice. The relationship between education level and purchasing decisions can be seen in table 6.

Table 6. Relationship between education level and rice purchasing decision

| Level of education | Rice Purchase Decision | P   | A  |
|--------------------|-------------------------|-----|----|
|                    | Branded Rice            | Non-Branded Rice |     |    |
| Low                | 43                      | 22  |    |    |
| High               | 32                      | 3   |    |    |
| Amount             | 75                      | 25  |    |    |

In table 6 it can be seen the results of test calculations chi-square download show that result \( p = 0.011 \) with the degree of trust used will be 95% \((\alpha = 5\%)\), then the value of \( p < 0.05 \) which means that \( H_0 \) is rejected or there is a relationship between the level of education of consumers with its decision in the purchase of rice. In this case, the respondent's education level determines the decision to purchase branded and unbranded rice.

The level of education of a person will affect the pattern of consumption. The better education from consumers will cause consumers to be more careful in consuming a commodity. Educated consumers will pay more attention to food quality, nutritional value, and cleanliness of the products to be consumed. The better level of education will also make it easier for consumers to conclude various information obtained
in the process of making the perception of the brand of a product more thoroughly. This is in line with the
opinion of Fazrina, et al [11] which states that education can influence consumers in making choices of a
desired product because a person's level of education will affect the values they adopt, namely the way of
thinking, ways of thinking and perceptions of a product consumed.

6. Work relationship with rice purchasing decisions
Respondents' work in this study was categorized into two groups namely working groups and non-
working groups. Whereas rice purchasing decisions consist of purchasing branded and unbranded
rice. The relationship between work and free purchasing decisions can be seen in Table 7.

| Table 7. Work relationship with rice purchasing decisions |
|--------------------------------------------------------|
| Profession | Rice Purchasing Decision | P | A |
|            | Branded rice | Non-Branded Rice | |
| Work       | 40           | 11               | 0.564 | 5% |
| Does not work | 35          | 14               |        |     |
| Amount     | 75           | 25               |        |     |

In the table above, it can be seen that respondents who work and those who don't work are those who
buy the most branded rice. The results of test calculations of chi-square download show that result p =
0.564 with the degree of trust used is 95% (α = 5%), then the value of p > 0.05 this shows H0 accepted
meaning there is no relationship between the work of consumers with its decision in the purchase of rice,
or in other words the rice purchase decision, respondents did not determine work early rice purchase
decision branded and non-branded rice.

7. Relationship of monthly family income with rice purchasing decisions
In this study, income is grouped into two categories, low and high. Whereas rice purchasing decisions
consist of purchasing branded and unbranded rice. The relationship between monthly family income and
purchasing decisions can be seen in Table 8.

| Table 8. Relationship of family income with rice purchasing decisions |
|---------------------------------------------------------------|
| Family Income | Rice Purchasing Decision | P | A |
|               | Branded rice | Non-Branded Rice | |
| Low          | 38           | 21               | 0.007 | 5% |
| High         | 37           | 4                |        |     |
| Amount       | 75           | 25               |        |     |

In the table above can be seen the results of test calculations chi-square download show that result p =
0.007 with the degree of trust used is 95% (α = 5%), then the value of p < 0.05 which means that H0 is
rejected or there is a relationship between income consumers with its decision in the purchase of rice. The
level of income from consumers will affect consumer behavior. The better the level of the consumer
economy, the more consumers will choose and demand better quality commodities. This is in line with
Soekartawi's opinion [12]. Which explains that income will affect the amount of goods consumed, even
with an increase in income, the goods consumed will not only increase, but also the quality of goods
consumed will also be a concern.
3.3. Relationship of Psychographic Segmentation Variables with Consumer Rice Purchasing Decisions

Psychographic segmentation variables in this study consisted of lifestyle and consumer personality variables. According to Kotler and Armstrong [10], a buyer's decision is influenced by the characteristics of consumer psychography. The relationship of psychographic segmentation variables with consumer rice purchasing decisions can be explained as follows.

1. Relationship between lifestyle and consumer rice purchasing decisions

In this study, lifestyles are divided into luxurious and simple lifestyles. Whereas the decision to purchase rice consists of buying branded rice and unbranded rice. The relationship between respondents' lifestyles with free purchasing decisions can be seen in Table 9.

| Lifestyle | Rice Purchasing Decision |  |  |
|-----------|--------------------------|---|---|
|           | Branded Rice             | Non-Branded Rice | P  | A  |
| Luxury    | 15                       | 1  | 0.066 | 5% |
| Simple    | 60                       | 24 |       |    |
| Amount    | 75                       | 25 |       |    |

In the table above it can be seen that respondents who have a luxury lifestyle or a simple lifestyle are the respondents who make the most purchases of branded rice. The results of test calculations of chi-square download show that result $p = 0.066$ with the degree of trust used is 95% ($\alpha = 5\%$), then the value of $p > 0.05$ which means that $H_0$ is accepted or not there is a relationship between the lifestyle of consumers in its decision in the purchase of rice. This is not in line with the results of Purwatingsih's research [13], that lifestyle variables are positively related to decision making.

2. Personality relationship with consumer rice purchasing decisions

Consumer personalities are divided into innovative personalities and dogmatism. Whereas rice purchasing decisions consist of purchasing branded and unbranded rice. The relationship of personality with consumer purchasing decisions can be seen in Table 10.

| Personality | Rice Purchasing Decision |  |  |
|-------------|--------------------------|---|---|
|             | Branded rice             | Non-Branded Rice | P  | A  |
| Innovative  | 28                       | 4  | 0.83 | 5% |
| Dogmatism   | 47                       | 21 |       |    |
| Amount      | 75                       | 25 |       |    |

In the table above it can be seen that respondents who have innovative personalities and who have personality dogmatism are those who buy the most branded rice compared to non-branded rice. The results of test calculations of chi-square show that results $p = 0.83$ with a degree of confidence that is used is 95% ($\alpha = 5\%$) then the value of $p > 0.05$ which means that $H_0$ is accepted or not there is a relationship between the personality of the consumer in his decision in the purchase of rice.
3.4. Relationship between Behavioral Segmentation Variables and Consumer Rice Purchasing Decisions

Variation bell behavior segmentation in this study consisted of the variable sought benefits and the status of consumer loyalty. Men sort Kotler and Armstrong [10], a decision influenced by variables segmentation buyer behavior. The relationship between behavior segmentation variables and consumer rice purchasing decisions can be explained as follows.

1. Relationship of benefits sought with consumer rice purchasing decisions

The benefits sought by consumers are divided into as meeting basic needs and as fulfilling nutrition. Whereas rice purchasing decisions consist of purchasing branded and unbranded rice. The relationship of the benefits sought with the decision to buy consumer rice can be seen in table 11.

| Benefits Wanted            | Rice Purchasing Decision | P.  | A  |
|----------------------------|--------------------------|-----|----|
|                            | Branded Rice             | Non-Branded Rice        |
| fulfillment of basic needs | 59                       | 21             | 0.773 | 5% |
| nutritional fulfillment    | 16                       | 4              |
| Amount                     | 75                       | 25             |

In the table above it can be seen that respondents who seek benefits as meeting basic needs as well as fulfilling nutrition are the most buying branded rice compared to non-branded rice. The results of test calculations of chi-square download show that result p = 0.773 with the degree of trust used is 95% (α = 5%), then the value of p > 0.05 which means that H_0 is accepted or not there is a relationship between the benefits that consumers look for in a decision in the purchase of rice.

2. Relationship of loyalty status with consumer rice purchasing decisions

Consumer loyalty status is divided into loyal and non-loyal. Whereas rice purchasing decisions consist of purchasing branded and unbranded rice. The relationship of loyalty status with consumer rice purchasing decisions can be seen in table 12.

| Loyalty Status | Rice Purchasing Decision | P.  | A  |
|----------------|--------------------------|-----|----|
|                | Branded Rice             | Non-Branded Rice        |
| Loyal          | 44                       | 7              | 0.015 | 5% |
| Not loyal      | 31                       | 18             |
| Amount         | 75                       | 25             |

In the table above it can be seen that respondents who have loyal and non-loyal loyalty status are the most who buy branded rice compared to non-branded rice. The results of test calculations of chi-square download show that result p = 0.015 with the degree of trust used is 95% (α = 5%), then the value of p <0.05 which means that H_0 is rejected or there is a relationship between loyalty status customer in its decision in the purchase of rice. There is a relationship between the status of consumer loyalty with the decision to buy rice because the status of consumer loyalty determines the purchase of rice whether branded or unbranded rice.
4. Conclusion
Based on the results and discussion, it can be deduced that the reviewed of geographical segments, most respondents within his home close to the location of purchase. At the stage of the decision-making process, all rice consumers undertake all stages consisting of 5 stages namely problem recognition, information search, alternative evaluation, purchasing decisions, and post-purchase behavior. But each respondent has a different process in each of these stages. There is no relationship between geographic and psychographic segmentation variables with purchasing decisions. In the demographic segmentation variable in terms of gender, age, marital status, employment, the number of family members there is no relationship with rice purchasing decisions while in terms of education level and family income shows a positive relationship with rice purchasing decisions. In the behavior segmentation variable, the benefits sought by consumers are not related to rice purchasing decisions while loyalty status indicates a relationship with rice purchasing decisions.

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