Level of Preference Surabaya Students in Choosing Instant Noodle Using Linier Regression Method

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Abstract—The current rapid development of the times demands very high levels of activity, and of course to be able to carry out these various activities requires energy whose main source of energy is food. Currently, many students want to be more practical in consuming food, one of which is instant noodles. This research aims to determine the relationship between taste, ease of purchase, and price on the level of preference of Surabaya students for consuming instant noodles. The type of research is linear regression. The population in this study were students from the city of Surabaya and the sample was 38 people. The data collection technique is carried out by filling out a questionnaire. Next, the data was analyzed via linear regression. The results of the research concluded that taste, ease of purchase, and price both influence the level of student preference for consuming instant noodles. The factor that has the lowest influence on students' preference for consuming instant noodles is ease of purchase. Students' knowledge of taste and price is relatively good and the availability of instant noodles among students is quite good.

Keyword: Consuming; instant noodles; College Student

I. INTRODUCTION

An age of such rapid development today demands a very high level of activity, and of course, to be able to carry out such activities requires energy which is the primary source of energy from food. As a human being, it can`t be denied that food is something interesting. But nowadays, with increasing daily activity, eating factors are often overlooked, it can lead to a shortage of energy in the body that can hinder the performance of various activities. These adults are making it harder for people to enjoy a relaxed meal at lunchtime, because many feel too lazy to go out to eat, this is because of traffic jams.

Along with the changes in the business world, consumers also tend to be more selective about the product they are going to buy. Consumers are attracted to buy the product when they feel that the product has advantages and can satisfy their desires. One of them is my instant product.

Instant noodles are generally produced by the food processing industry with technology and provide a variety of additives to preserve and taste the product. The product is known as one of the fast food products that are increasingly popular because of the ease of food serving. Similarly, for college students, this product is a fast food that is commonly consumed because of its affordable price, ease of obtaining, practicality in processing, and durable properties.

Indonesia is a country with a high rate of instantaneous rice consumption. Mi instant seems inseparable from the Indonesians anymore. Proved, Indonesian instantaneous consumption by 2022 rose to 990 million packs. Indonesia is the second most instantaneously consumed country in the world. Defeated China/Hong Kong, followed by Vietnam in third place. According to the official website of the World Instant Noodles Association (WINA), Indonesian instantaneous milk consumption in 2022 reached 14.26 billion packs. Up from the recorded year 2021 of 13.27 billion packets. Meanwhile, China/Hong Kong's recorded instantaneous milk Consumption climbed to 45.07 billion packages from the year 2021 which was 43.99 billion Packs. (cnbcindonesia.com, 2023). The fierce competition in Indonesia has attracted the intention of foreign producers to join and reconcile the Indonesian instantaneous meat industry.

The current competitive conditions that occur in the instant product, that the variety of

instant products that exists at the momentencourages consumers to make identification in decision making when determining a taste, price, and ease of purchase that they believe meets the criteria of an instant product.

As far as the food processing industry one of the largest food and beverage producers in Indonesia is concerned, it has launched instantaneous mie products that have several advantages, namely, Mie made of high-quality ingredients, a variety of tasty flavors, and easy-to-serve.

Success as an instantaneous mie producer is indeed not apart from the good quality of the product and also the price factor that is affordable to the general public. In addition to the efforts that have been made to influence the consumer's purchasing interest, then in this case must understand the characteristics and needs of its consumer segment and stimulate how the product will try to attract consumer interest to buy especially in the city of Surabaya.

Consumers who make purchases on instantaneous mie products are currently experiencing rapid development. Consumer behavior wants to get a practical product. Among the practical products is instantaneous mie. Therefore, this study aims to analyze the influence of taste, ease of purchase, and price on the rate of preference in choosing bread in the area of Surabaya City.

II. METHOD

The method used in this research is the associative method. An associative method is a type of method used in research that aims to find out the relationship between two or more variables. Thus, this study serves to determine the influence of taste (X1), ease of purchase (X2), and price (X3) on the level of preference (Y) of college students in Surabaya in choosing instant noodles.

Variable
The variables used in this study are as follows:
- Independent Variable

  An independent variable is the type of variable that explains or affects other variables. In this study, three independent variables are used: X1 (Taste), X2 (ease of Purchasing), and X3 (Price).

- Dependent Variable

  The dependent variable depends on the type of variable described or influenced by the independent variable. In this study, the role of the dependent variable is Y (level of preference).

Collecting Data

The technique used in collecting data by filling out a questionnaire. The questionnaire is made by entering questions that cover taste, convenience, purchase, and level of liking. The aim is to obtain information as to how much influence the rate of liking of the respondents, college students of Surabaya, has in choosing instant noodles. In the questionnaire on the level of liking, respondents are given some ratings that represent the degree of liking, such as 1 representing "very disliked," 2 representing "not liked," 3 representing "normal," 4 representing "liked," and 5 representing "very liked.".

Data Processing Method using Multiple Linear Regression

Data processing is done using the SPSS application with the multiple linear regression method. Multiple linear regression is a statistical analysis technique that uses two or more independent variables (taste, ease of purchase, and price) as the outcome of a dependent variable (level of preference). The dual linear regression model to be used is:

$$Y = \alpha + \beta_1 X1 + \beta_2 X2 + \beta_3 X3 + e$$

Description:

Y = Level of Preference
α = Constanta
$\beta_1, \beta_2, \beta_3$ = Coefficient variable X1, X2, X3
X1 = Taste
X2 = Ease of Purchasing
X3 = Price
e = Error

F Test

The double linear regression F test is used to determine whether independent variables simultaneously or jointly have a significant influence on dependent variables. The result of the F test shows whether the overall regression model is significant or not. In this study, the hypothesis formulated is as follows:

H0: taste, ease of purchase, and price do not simultaneously influence the level of preference.

Ha: flavor, convenience of purchase, and price influence simultaneously influence the level of preference.

To be able to say whether or not it has a significant influence on the F test is based on:
Based on counting values and tables when:

- The value of $F_{count}>F_{table}$, then H0 is rejected and Ha is accepted, which means that the independent variables (taste, ease of buying, and price) simultaneously influence the dependent variable (level of preference).

- The value of $F_{count}<F_{table}$, then Ha is rejected and H0 is accepted, which means that the independent variables (taste, ease of buying, and price) simultaneously do not affect the dependent variable (level of preference).

Based on significant value, if :

- The significant value < 0.05, then H0 is rejected and Ha is accepted, which means that all independent variables (taste, ease of buying, and price) have a significant effect on the dependent variable.

- The significant value > 0.05 then Ha is rejected and H0 is accepted, which means that all independent variables (taste, ease of buying, and price) have no significant effect on the dependent variable.

T Test

The double linear regression The T-test is used to determine whether the regression coefficient is partially significant or not. This test is performed by testing each independent variable separately against the dependent variable. The results of the T-test show whether the independent variables have a significant influence on the dependent variable or not. To be said to have a significant influence or not on the T-test is based on:
Based on the count and table values if :

- The value of count> table, then the independent variable affects the dependent variable.
- The value of count < table, then the independent variable does not affect the dependent variable.

Based on significant value, if:

- The significant value < 0.05, means the independent variable has a significant effect on the dependent variable.

- The significant value > 0.05 means the independent variable has no significant effect on the dependent variable.

III. RESULT AND DISCUSSION

Result

- **Result of the Determination Coefficient Test**

Based on the results of the determination coefficient test in Table 1, it is known that the R-Square value is 0.545, or 54.5%. The value of this determination factor shows that the influence of taste variables (X1), ease of purchase (X2), and price (X3) on the level of preference variable (Y) is 54.5%, while the remaining 45.5% is influenced by other variables.

Table 1. Result of the Determination Coefficient Test

Model Summary^{b}

Mode	R	R Square	Adjusted R Square	Std. Error of the Estimate
.	,738^a	,545	,505	26425

a. Predictors: (Constant), Harga, Kemudahan Membeli, Rasa

b. Dependent Variable: TingkatKesukaan_Y2

- **Result of the F Test**

The F test is performed to determine whether independent variables simultaneously or jointly have a significant influence on dependent variables. In this study, the independent variables are taste (X1), ease of purchase (X2), and price (X3), and the dependent variable is level of preference (Y). If the sig value is less than (0,05), then the hypothesis submitted by Ha is accepted, and if the sig value is greater than al (0,05), then the hypothesis submitted by Ha is rejected. The hypothesis put forward in this study is as follows:

H0: taste, ease of purchase, and price do not simultaneously influence the level of preference.

Ha: flavor, convenience of purchase, and price influence simultaneously influence the level of preference.

Based on the results of the F test in Table 2. it shows that the Sig value is 0,000 < 0.05, and

the known F_{count} is 13,583 >F_{table} is 2,883. So it can be concluded that H0 is rejected and Ha is accepted, which means that taste variables, ease of purchase, and price simultaneously have a significant influence on the level of preference.

Table 2. Result of the F Test

Result of the T-Test

The T-test is used to determine whether the regression coefficient is partially significant or not. In this study, the independent variables are taste (X1), ease of purchase (X2), and price (X3), and the dependent variable is level of preference (Y). If the Sig. value is less than   (0,05), then the hypothesis submitted by Ha is accepted. The hypothesis put forward in this study is as follows:

- $H0_1$: The taste variable is not influenced by the variable of the level of preference.
  Ha_1: The taste variable influences the variables of the level of preference.
- $H0_2$: The ease of purchasing variable is not influenced by the level of preference.
  Ha_2: The ease of purchasing variable influences the variables of the level of preference.
- $H0_3$: The price variable is not influenced by the variable of the level of preference.
  Ha_3: The price variable influences the variables of the level of preference.

Based on the processing of the T-test in Table 3. it is obtained that:

- The T-test result on the taste variable (X1) obtains a count is -3,404 and a tableis -1,688 with a significant value is 0.02, so that the count>t_{table} (-3,404 < 2,028), and a significant value is smaller than 0.05 (0,002 < 0.05), then $H0_1$ rejects and Ha_1 accepts, which means that the sense variable has a significant influence on the preference level variable.
- The T-test result on the purchasing ease variable (X2) obtained a count value is 1,898 and a table is -1,688 with a significant value is 0,066 so that the count>t_{table} (1,898 < 2,028) and a significant value greater than

0.05 (0,066 > 0.05), then Ha_2 rejects and $H0_2$ can be concluded that the purchase ease variable has no significant influence on the preference rate variable.

- The T-test result on the price variable (X3) obtained a count value is -4,170 and a stable value is -1,688 with a significant value is 0,000, so that the count> table (-4,170 < 2,028) and the significant value is smaller than 0.05 (0,000 < 0.05), then $H0_3$ rejects and Ha_3 can be concluded that price variables have a significant influence on the preference level variable.

Table 3. Result of the T-Test

Discussion

- Impact of Taste on the Level of Preference in Choosing Instant Noodles.

  Based on the test carried out based on the questionnaire filled out by the students in Surabaya who stated the effect of taste in choosing instant noodles, the count value is -3,404 and the significant value is 0,002 showing that the taste has a significant influence on the level of preference in choosing instant noodles.

- Impact of Ease of Purchasing on the Level of Preference in Choosing Instant Noodles.

  Based on the test carried out based on the questionnaire filled out by the students in Surabaya who stated the influence of taste in choosing instant noodles, the count value is 1,898 and the significant value is 0.066. The ease of purchasing had no significant influence on the level of preference in choosing instant noodles.

- Impact of Price on the Level of Preference in Choosing Instant Noodles.

  Based on the test carried out based on the questionnaire filled out by the students in Surabaya who stated the influence on taste in choosing instant

noodles, the count value is -4,170 and the significant value is 0.000 showing that the price has a significant influence on the level of preference in choosing ainstant noodles.

- Impact of Taste, Ease of Purchasing, and Price on the Level of Preference in Choosing Instant Noodles.
  Based on the hypothesis testing of the test F all variables of taste, ease of

purchase, and price jointly affect the degree of satisfaction of students in Surabaya in choosing instant noodles. This can be known by the test result F, which has a counted value is 13,583 and a significant value is 0.000. This means the taste variables, ease of purchasing, and price simultaneously have a significant influence on the level of preference.

IV. CONCLUSION

Based on the results of research and discussions about the level of favor of students or students of Surabaya in choosing instant noodles, the conclusion is as follows:

1) Based on the results of the F test, it is known that taste variables, ease of purchase, and price have a significant effect simultaneously

or jointly on preference level variables.

2) Based on the results of the T-test, it is known that taste variables and price variables have a significant influence on the level of pleasure.

So it can be concluded that the level of preference of Surabaya College students in choosing instant noodles is significantly influenced by taste variables and price variables

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