

CHAPTER IV

RESEARCH METHOD

A. Determination of Problem Solving for the Object

The object of the research is the pharmaceutical distributors of Citra Jananuraga Hutama Incorporation in Jurnatan B-32 Semarang. The working days start from Monday to Saturday and from 8.30 a.m to 4.30 p.m.

The customers of Citra Incorporation are the other 53 pharmaceutical distributors, 319 pharmacies, 15 hospitals and 85 dispensing doctors. 60% of them is from the out towns of Semarang. The number of pharmacies is 319 in Central Java, 137 of which are in Semarang. In Central part of Semarang itself, there are 51 pharmacies.

As the pharmacies play a big role as customers, the populations for the research are 51 pharmacies in Central part of Semarang. Those pharmacies approximately have re-ordered every week with various frequencies. Thus as sample of this research, the researcher will take 33 pharmacies which have re-ordered not less than 3 times per week in a month.

The factors analyzed in this research are connected with customer loyalty in which their influence will be measured against the customer loyalty of Citra Jananuraga Incorporation, Semarang.

B. Data Collecting

B.1 Type and Source of the Data

Type of the data used is primary data collected directly from the analyzed source and ultimately recorded (Sugiyono, 1998 : 123). In this research, the primary data are factors influencing customer loyalty collected from the samples of Citra's customers in Central part of Semarang through customer.

B.2. Instrument of Data Collecting

The instrument of data collecting in this research is questionnaires which will be distributed to all respondents. A questionnaire is a method of data collecting in which the researcher can compile written statements or questions for the respondents to answer and to get primary data (Nazir, 1990 : 233 & Santoso, 2002: 269). This questionnaire consists of 20 questions regarding products, price, promotion, and place.

The scale of Likert is used to measure of those variables in order to evaluate responds from the respondents. The positive answer will be named highly as SS (Strongly Agree = 5) until STS (Strongly Disagree = 1). Alternativ answer is determined by:

| | |
|--|------------------|
| If the answer is <i>Strongly Disagree</i> (SD) | : The score is 1 |
| If the answer is <i>Disagree</i> (D) | : The score is 2 |
| If the answer is <i>Unidentified</i> (U) | : The score is 3 |
| If the answer is <i>Agree</i> (A) | : The score is 4 |
| If the answer is <i>Strongly Agree</i> (SA) | : The score is 5 |

The scores of responds form the respondents will be completely categorized using the range of scale. Based on Husein Umar (1996: 170), the score formulation per item of question is:

$$RS = \frac{n(m-1)}{m}$$

Note:

RS : *scale of Range*

n : *data of sample*

m : *number of respond per item of statements*

The process:

$$RS = \frac{33(5-1)}{3}$$

$$RS = 44$$

The lowest score = 33 (the lowest score 1, number of respondents = 33)

The highest score = 165.4 (the highest score 5, number of respondents = 165.4)

Notes of category:

- a. 33 -77 is disagree (D)/ the low score/ bad.
- b. 77-121 is unidentified (U)/the medium score.
- c. 112.5 -138.9 is agree (A)/the high score/good.

B.3. Technique of Data Collecting

I will directly distribute questionnaires consisting of 20 questions to customers of Citra Incorporation; pharmacies in central part of Semarang. First, I will make an acquaintance to the owner of pharmacies and to make an appointment through telephone. I then come to them as scheduled and wait for the questionnaire to be filled in.

The technique of collecting the sample in this research is *Purposive Quota Sampling*. That is a method of getting sample through convenient elements in which elements of population are chosen based on the writer evaluation of determined characteristics (Malhotra, 1996 : 366).

The pharmacies in other countries as the customers of Citra Incorporation is about 182 in numbers, and approximately they order more than once in a week since the sale forces visits them only once in a week. Since pharmacies in Semarang are visited more than once in a week, they will be used as samples. From those 182 pharmacies, 137 of those repeated buyers are in Semarang. 51 numbers of them are in central part of Semarang.

The selection is based on their characteristics of ordering more than 3 times a week in the last month. It results on 33 pharmacies. The reason of this determination is that the research will be focused in one central area with the special characteristics.

C. Technique of Data Analysis

C.1. Research Instruments

The 20 questions given will be tested for the validity and reliability.

1. Test of Validity Instrument

The validity test is done to get the accuracy of testing tool in measuring the responds from the respondents. This test is done by SPSS program of 10 versions. The questionnaire is regarded to be valid when its questions are able to define something measured by the very questionnaire.

The criteria to test the validity of question for every variable are that 'if the positive r - counting is more than r -table, that will be valid' (Santoso, 2004:270). The following is the result of validity and reliability of the data:

Validity Statistics

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|-----|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| p1 | 69.9697 | 66.593 | .520 | .893 |
| p2 | 70.2424 | 65.377 | .563 | .891 |
| p3 | 70.4545 | 64.693 | .482 | .893 |
| p4 | 70.6970 | 61.780 | .547 | .892 |
| p5 | 70.4545 | 63.256 | .573 | .890 |
| p6 | 70.4242 | 64.064 | .594 | .890 |
| p7 | 70.4848 | 63.695 | .470 | .894 |
| p8 | 70.4242 | 61.502 | .663 | .887 |
| p9 | 70.5758 | 66.939 | .365 | .896 |
| p10 | 70.4545 | 64.818 | .548 | .891 |
| p11 | 70.6364 | 64.364 | .392 | .897 |
| p12 | 70.2727 | 64.455 | .533 | .892 |
| p14 | 70.3939 | 65.184 | .551 | .892 |
| p15 | 70.5758 | 65.127 | .385 | .897 |
| p16 | 70.3939 | 62.496 | .540 | .892 |
| p17 | 70.1818 | 65.403 | .519 | .892 |
| p18 | 70.4848 | 62.070 | .701 | .887 |
| p19 | 70.5152 | 61.320 | .675 | .887 |
| p20 | 70.3636 | 64.176 | .627 | .890 |

Table 3:
Source of the data: The primary data processed 2010

The value of corrected item total correlations on the Validity Statistics Table showed that none of the value of items was under the *cut off value* 0,361. It means that all items were valid and can be used for this research.

2. Test of Reliability Instrument

The reliability test is done to know the stability of that very measuring tool. A questionnaire is said to be reliable if the answer of the question is consistent or stable. The test is done by using *Alpha Cronbach*. Criteria to test reliability:

1. If the value of α is close to 0 (for example 0.1), the questionnaire is not reliable enough.
2. If the value of α is close to 1 or -1 (for example 0.94 or -0.89), the questionnaire is very reliable (Santoso, 2004:270).

The result of the reliability test is that:

Table 4:
Reliability Statistics

| Cronbach's Alpha | No of Items |
|------------------|-------------|
| .897 | 19 |

Source of the data: The primary data processed 2010

The reliability of the items in this research can be seen from the value of cronbach alpha 0,897 which was higher than the value of *cut off value* 0.6.

C.2. Analysis Instrument

1. Descriptive Analysis

The method of this research will be using a descriptive analysis which defines descriptive statistic measurement as simple and complete as possible. This statistics is used to describe, organize, and conclude the main and important characteristics of data from the table in the questionnaire from the respondents (Richards et. al, 1992 : 103 & Trihendrardi, 2004 : 68)

2. Inferential Analysis

The inferential Analysis is a process of taking inference or decision of a research based on samples of data. Then the technique of data analysis used is using *Factor Analysis*. *Factor Analysis* is a tool to analyze a structure of relationships among independent variables so that there will be a fewer numbers of variables than before, called Factors (Hair et al., 2006: 104 & Santoso, 2002: 93). This data analysis will be processed by SPSS 10 versions.

The aim of this analysis is to identify a relationship of variable using a correlation test among variables called *factor R*. Then these data will be reduced. The stages of *factor analysis* process are evaluating the appropriate variable, factoring rotating with extraction and grouping variables according to factors, naming factors, validating factors, and making factor scores:

1. The first stage is evaluating the appropriate variable by testing which variables are accepted to be included in the next analysis. If a variable tends to gather into a group, that variable has a high-enough correlation with other variables. After the answers of questions in the questionnaire are done and measured by Likert Scale, the variables will be input using Correlation Matrix in order to get the index of KMO MSA and Bartlett's test. This is to get the appropriate evaluation of data sampling. The test by Barlett Test Sphericity is also for evaluating between the validity of correlation index and the significance index. If the index is above 0.50 with the determined significance index, those variables have a high correlation one another so that they will be able to be grouped as a condense variable for the next analysis. Hypothesis for the significance index is:

Ho = Sample (variable) is not accepted for the next analysis.

H1 = Sample (variable) is accepted for the next analysis.

Criteria of probability (significance):

Sig. figure . >0.05 Ho is accepted

Sig. figure . >0.05 Ho is rejected

2. The next stage is doing the main process of factor analysis, factoring and rotating or extraction process and grouping variables into factors. The extraction process is done to a group of variables

using PCA method (Principal Component Analysis) so that there will be one or more than one factors. This is tabulating process of data from the questionnaires by writing the data from each column as a research variable and data research respondents. This research includes 21 answers from 32 respondents. The numbers of factors are determined by Eigenvalues of figure 1. If the variable is said to be below 1, that variable will be excluded and cannot be extracted as a factor.

The next process is grouping variables into factors based on the value of **loading Factor** which defines the reason of correlation figure among variables with the formed factor. The value of factor is the value of correlation among factors with variables in which the followers are determined by the highest value. The limit of loading factor figure is above 0.05. If a factor is less than 0.05, it means that the determination of this factor is not suitable. As a solution, the method of rotation factor is done to make the determination of factor valid. This rotation factor is to clarify a position of a variable in a factor using **Varimax**.

Varimax rotation is done by rotating the factors to get a figure from figure of square factor from the highest value without altering variant figure cumulatively extracted even though the value of each variant for each factor changes. If the loading figure is high, the

correlation between variables and factors is high. By Varimax rotation and eigenvalue figure, variant value and cumulative variant, the figure of loading factor will be higher and good than before so that the factor grouping will be reasonably clear for the next interpretation.

3. The third stage is naming formed factors by giving identification based of the characteristics of reasonably formed-groups.

4. The fourth stage is validating factor. This process is to make the result of analysis to be able to be generalized in other populations using test of formed factor stability. The new variables will be grouped into 2 parts which are later tested using **factor analysis** as before. Then each result will be compared. If the factor is stable, the numbers of factor and the figures will be more or less the same. It could be concluded that the formed factors are stable and can be generalized in other populations for the last stage; **factor scores**.

5. The last stage is making factor scores to make one or more variable which are fewer than before in order to replace the existed variable. In the end, it could be used for analyzing company strategy

in maintaining customer loyalty and finding a new strategy for developing customer loyalty toward Citra Jananuraga Inc. for the next

future. The following is the method of problem solving and data analysis:

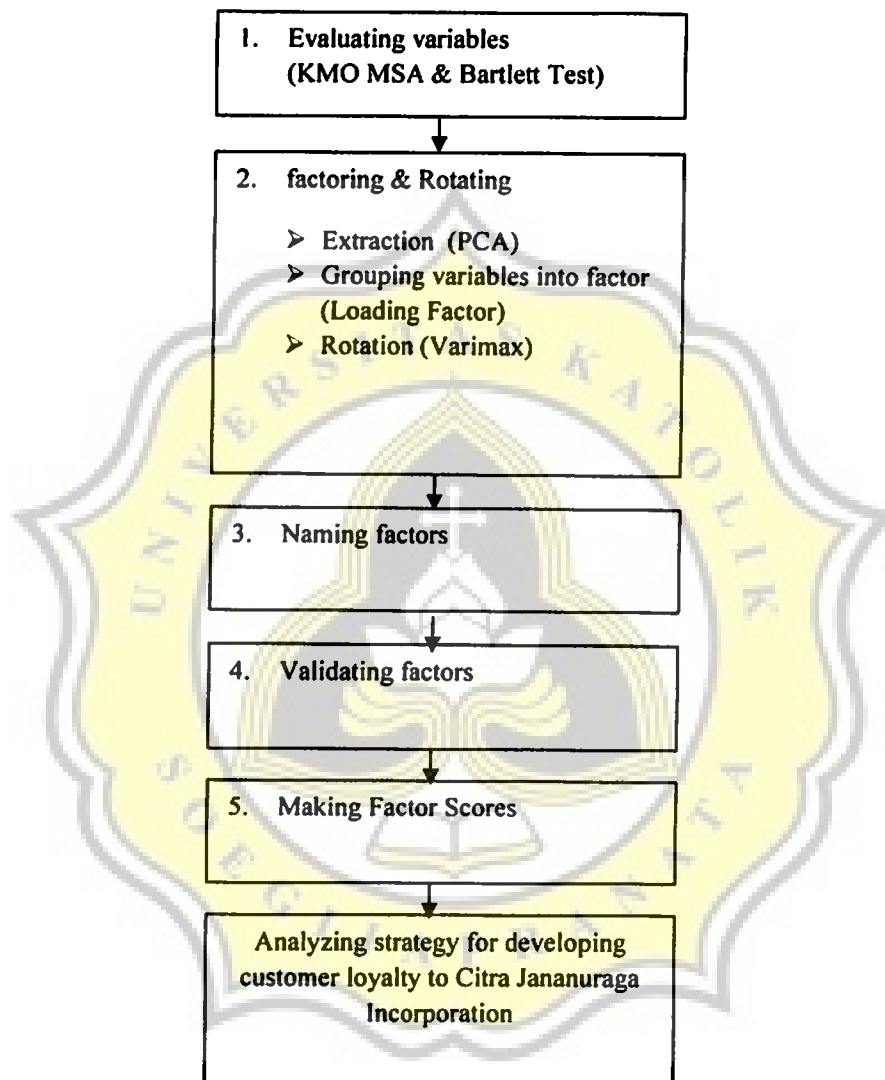


Figure 8 : Methods of Problem Solving

3. Strategy for Building Customer Loyalty

After the factor analysis is completed, the final step is analyzing the result of the data descriptively regarding which factors influencing customer loyalty. Then it can be determined what factors are necessary for formulating the next strategy of building customer loyalty toward Citra Jananuraga Incorporation through marketing mix.

