CHAPTER III

RESEARCH METHOD

3.1 Research Description

This study uses descriptive quantitative research methods. Results from this research are expected to provide information about consumers' preference over pie product. As such company can make a new product base on consumer preference through 3 attributes: flavor, size, and piecrust.

3.2 Population and Sample

According to Sugiyono (2013: 80), population is generalization of region consisting of objects or subjects that have certain qualities and characteristics that defined by the researchers to learn and then drawn conclusions. Because of Pietisiere companies is based in west Surabaya (even accepting order from mid until west Surabaya) the population in this study are west Surabaya peoples which are 336.287 peoples (dispendukcapil.surabaya.go.id,2015). Sample is a part of the amount and characteristics of the population (Sugiyono, 2012: 116). The sampling method in this research is convenience sampling. Convenience in here is anyone who meet with researcher can be respondents if the researcher feels they fit to be a respondent.

The study sample taken base on Slovin formula:

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

Details:

n   = Sample

N   = Total Population

E   = Percentage of error can be tolerated (10%)

$$n = \frac{336.287}{1 + (336.287(0.1^2))}$$

n   =   99.97 ≈100 (Round up to one decimal place)

Based on the Slovin calculation formula, the number of samples obtained as much as 99.97 which round it off to 100 respondents.

3.3 Data Collection Method

Primary data that used in this study are obtained from questionnaire that is distributed and filled by the respondents (Rosiah et al, 2013).According to Sugiyono (2013: 142) questionnaire is a technique of data collection which done by giving a set of questions or written questions to respondents to answer. In this research, researcher will share the questionnaires in the form of written questions and respondent will give a rank from 8 to 1 (8 for the most combination that they prefer/like).

3.4 Research Variable

According to Sugiyono (2012: 38), research variable is everything in form that defined by researcher to be studied in order to obtain information about the case, then drawn the conclusions. Variable attributes that will be used by researchers in this study are:

   a. Flavor (X1), where there are two flavors are savory and fruit pie

   b. Size (X2), there are two sizes pie are 10cm and 24cm.

   c. Pie Crust (X3), namely the outskirts of the pie crust which is divided into 2 kinds: original flour and oats crust.

3.5 Conjoint Analysis

Conjoint analysis is a technique to measure consumer preferences towards attributes (specifications or features) of a product or service. Conjoint analysis results in the form of quantitative information that can model the consumer preference for some combination of product features (Puspitasari and Hasya, 2014).

3.6 Concept of Conjoint Analysis

Model of conjointanalysis can be written as follows:

$$Y=X1+X2+X3+\ldots Xn$$

Details:

Y = Utilities and a combination of factors (attributes) that becomes the preference X1 = Utilities flavor attributes

X2 = Utilities attribute size

X3 = Utilities attribute pie crust

Xn = Utilities attribute all n

Ghozali (2013: 378-379) states that the conjoint analysis process steps are as follows:

1. Determine product attributes and the level (part of the attribute) of an object. There are three attributes used in this research: these are flavor, size, and piecrust. Each attribute is divided into several levels: flavor are divided into 2 levels: savory and fruit, the size are divided into 2 levels: 10cm, and 24cm, the piecrust are divided into 2 levels which is original flour piecrust and oats crust.

Table 3.1 Stimulate Coding Level

Attributes	Level	Code
Flavor	Fruit Savory	1 2
Size	10cm 24cm	1 2
Pie Crust	Ori Flour Oats	1 2

Source :Data Processed

2. Stimuli can be concluded from which combining the levels in this research, there are 8 stimulate found and this number calculated by multiplying the level which is 2x2x2 = 8 stimulus.

Table 3.2 Attribute Product Combinations

No	Flavor	Size	Pie Crust
1	Fruit	10cm	Original flour
2	Fruit	10cm	Oats
3	Fruit	24cm	Original flour
4	Fruit	24cm	Oats
5	Savory	10cm	Original flour
6	Savory	10cm	Oats
7	Savory	24cm	Original flour
8	Savory	24cm	Oats

Source: Data Processed

3. By using the SPSS, the program will automatically process the stimulus so as to produce the most important attributes only.

4. In this case, there are 8 attribute combinations sorted in rank by providing a scale of 8-1, where the number 8 represents stimulate most desirable. Answer of respondents is called utility.\

5. Determining the utilities and importance values. Utility estimates are economic theories learned about the satisfaction / pleasure derived by a consumer from consuming the product. Value of utility can be differentiate into two:

    a. Marginal value isreduction of satisfactiondue to addition or subtraction of one unit of certain goods.

    b. The total value for which the overall satisfaction derived from consuming

6. Determine the predictive accuracy of the results of the conjoint analysis to examine these results to the exact number of respondents. Predictive accuracy based on the

significant level of Kendall's Tau and Pearson's R. If sig. level is < 5 % (< 0.05), the rate of prediction level can be concluded accurate.

H0: There is no strong correlation between estimates and actual variable variables.

H1: There is a strong correlation between estimates and actual variable variables.

Thus if the probability (significance) > 0.05 then H0 is accepted, whereas if the probability (significance) < 0.05 then H0 is rejected.