CHAPTER III

RESEARCH METHOD

This chapter will presents how this research will be conducted and it will describe the method that will be used. This chapter covers series of steps that will explain more about population and sample, research variables definition and measurement, and analysis techniques.

3.1 Population and Sample

According to Sugiyono (2013), cited in Ardian & Pratomo (2013), population is generalization region consisting of the object or subject that has certain qualities and characteristics defined by the researchers to learn and then draw conclusions.

Currently, there are many businesses in the culinary field that use online cashier application, but some are reluctant to use information technology in the sales system. It means that the use of information technology in the field of culinary is still weak. So, the population in this study was in DIY Province (SMEs Culinary Field), and the analysis of this research unit is group.

Sample is a part of the number and characteristics of the population. Sampling aims to save time and effort in analyzing the data, however, the sampling should be representative (Sugiyono, 2010 cited in Ardian & Pratomo, 2013). According to Roscoe (1975), cited in Sekaran (2003), there are rules of thumb for determining sample size in multivariate research (including multiple regression analysis),. The sample size should be several times (preferably 10 times or more) as large as the number of variables in the research. Thus, the sample used in this study is about 60 SMEs on Culinary Field located

in Yogyakarta. The respondents will be people who work as a financial manager or financial director.

The sampling method in this study is using purposive sampling method. Purposive sample is non-probability sample that is selected based on characteristics of a population and the objective of the study. The requirement is the SMEs Culinary Field in the form of Café & Coffee Shop, and SMEs Culinary Field who already used technology utilization to record the transaction,

3.2 Research Variable

In this research, there are one dependent and three independent variables which are observed. The dependent variable is implementation of accounting information system, whereas the independent variables are technology utilization, user training and user expertise.

This research is conducted by distributing 60 questionnaires. Researcher has a minimum target of questionnaires that are returned is 42 questionnaires. The questionnaire in this study is measured using an interval scale with four possible answers, namely Strongly Disagree (SD) is given a value of 1, Disagree (D) is given value of 2, Agree (A) given a value of 3, and Strongly Agree (SA) is give a value of 4. List of questionnaire is attached on Appendix 1.

3.2.1 Accounting Information System Implementation

The dependent variables used in this research mainly are pertained to the implementation of accounting information system, defined a system, processor set of

rules that govern the relationships of the various stakeholders in achieving organizational goals (Bieber , 2014 cited in Jaya, 2016)

Accounting information system is a system to collect, record, store, and process the data to generate information for decision makers Fitrios (2016).

The questionnaire for this variable is measured using an interval scale, and consist of three questions.

3.2.2 Technology Utilization

According to Jurnali and Supomo (2002) cited in Rahmi (2013) , the utilization of technology is the level of integration of information technology on the implementation of accounting tasks, the use of IT integration level on the implementation of accounting tasks.

The questionnaire for this variable is measured using an interval scale, and consists of four questions.

3.2.3 User Training

Training means giving employees new skills or ongoing required for the performance of their work. The user training is key to get the most out of the accounting information system. According to Fitrios (2016) , training is not only related to activities such as data entry, but also involves all aspects of the use of new information. systems, so that the users should be educated how new technologies affect the company's operations and business management.

The questionnaire for this variable is measured using an interval scale, and consists of four questions.

3.2.4 User Expertise

According to Vathanophas, Vichita; Thai-ngam (2007), user skills are actions and actions performed through a predetermined target or capability. User expertise is associated with the knowledge and skills possessed by the user in operating the computer by using the accounting information system. The measure of user expertise can be seen from the average education, training and level of experience (Hackbarth et al., 2010).

The questionnaire for this variable is measured using an interval scale, and consists of four questions.

1.2 Analytical Techniques

3.3.1 Validity Test and Reliability Test

Validity test is used to measure whether the questionnaire is valid or not. A questionnaire is considered valid if the questions are able to reveal something that will be measured by the questionnaire. So the validity test aims to measure whether the questions in the questionnaire which have been created can really measure what the researcher wants to measure (Ghozali, 2013).

Validity test is done by comparing the value of r count and r table for degree of freedom (df) = n - 2, in this case, n is the number of samples. If r count ≥ r table and has positive value, so the indicator is valid. Conversely, if r count < r table, it means the indicator is invalid (Ghozali, 2013).

Reliability test is a tool to measure a questionnaire that used as an indicator of the variable. A questionnaire is said to be reliable if someone answering the

statement is consistent or stable over time, and the answer should not be random because each question is going to measure the same thing (Ghozali, 2013).

The reliability test in this study is a one-shot method. The measurement is only done once. Then the results are compared with other questions, in other words, there is a measurement of the correlation among the answers. This test will be tested using Cronbach Alpha statistical test. A variable is said to be reliable if the value of Cronbach Alpha > 0.60. If the value of Cronbach Alpha ≤ 0.60, so the variable is said to be not reliable (Ghozali, 2013).

3.3.2 Descriptive Statistical Analysis

Descriptive statistics analysis is an analysis to describe the various characteristics of the data derived from the sample. Descriptive statistics analysis is used to determine the value of the maximum, minimum, average, and standard deviation of each variable.

3.3.3 Classical Assumption

Classical assumption test consists of normality test, multi-collinearity test, and heteroscedasticity test. Classical assumptions test is used to determine whether the data to be used in this study is free from classical assumption or not.

3.3.3.1 Normality Test

Normality test aims to test whether there is a confounding variable or residual variable that has normal distribution in the regression model (Ghozali, 2013).

Statistical tests that can be done to test the normality is by seeing the value of kurtosis of the residual. Z-statistic value for the kurtosis can be calculated by the formula as follow:

$$Z\ kurtosis = \frac{Kurtosis}{\frac{\sqrt{24}}{N}}$$

N is the number of samples. So, if the value of Z count > Z table, then the distribution is not normal. Meanwhile, if the Z count < Z table, then the distribution is normal (Ghozali, 2013).

3.3.3.2 Multi-collinearity Test

Multi-collinearity test aims to test whether there is a correlation among the independent variables in the regression model. Good regression models should not have collinearity among the independent variables. If the independent variables are correlated, then these variables are not orthogonal. Orthogonal variable is the independent variable that has correlation values between the independent variables equal to zero (Ghozali, 2013).

How to detect the presence or absence of multi-collinearity in the regression model can be seen from the value of tolerance and variance inflation factor (VIF). Tolerance is used to measure the variability of independent variables chosen that are not explained by other independent variable. So, the low value of tolerance is equal to the high value of VIF (VIF = 1 / Tolerance). Cutoff value that is commonly used to indicate the

presence of multi-collinearity is the tolerance value ≤ 0.10 or equal to VIF ≥ 10. So, if the tolerance value > 0.10 or equal to VIF < 10, it indicates the absence of multi-collinearity (Ghozali, 2013).

3.3.3.3 Heteroscedasticity Test

Heteroscedasticity test aims to test whether there is inequality variance from residual of one observation to another observation in the regression model. If the variance of the residual of the observations is the same as the other observations, it is called homoscedasticity. If the variance of the residual of the observations is the different with the other observations, it is called heteroscedasticity. A good regression model is that homoscedasticity (Ghozali, 2013).

To detect the presence or absence of heteroscedasticity in this research can be done by conducting a test using Glejser test. Glejser proposes to regress the residual absolute value of the independent variable.

Detecting the presence or absence of heteroscedasticity can be obtained with a significant level of 5%. According to Ghozali (2013), the criteria whether there is hetereoscedasticity or not is as follow:

a. If P-value ≤ 5%, the hypothesis is accepted, it means that the independent variables have significant effect toward the dependent variable, then there is indication of heteroscedasticity.

b. If P-value > 5%, the hypothesis is rejected, it means that the independent variables have no significant effect on the dependent variable, then there is no indication of heteroscedasticity or it means that it is homoscedasticity.

3.3.4 Multiple Regression

Multiple regression analysis was used to know the influence of independent variables on the dependent variable. The equation of multiple regression can be formulated as follows:

$AISI = \alpha - \beta TU + \beta TUT - \beta UE + \varepsilon$

AISI = Accounting Information System Implementation

α = Constant

β = Coefficient Regression

TU = Technology Utilization

UT = User Training

UE = User Expertise

ε = Residual Error

3.3.5 Hypothesis Testing

To test the hypothesis, the researcher will test the coefficient of determination (R2), simultaneous regression test (F Test), and partial regression test (T Test).

3.3.5.1 Coefficient of Determination (R2)

The coefficient of determination (R2) essentially measures how far the ability of the model to explain variations in dependent variable. The coefficient

of determination is between zero and one. R2 value which is small means that the ability of independent variables in explaining the variation of the dependent variable is very limited. A value which closes to the mean of independent variables provide almost all the information needed to predict the variation of the dependent variable.

The fundamental weakness of the use of the coefficient of determination is biased against the number of independent variables which were entered into the model. Therefore, many researchers recommend for the use of adjusted R2 value when evaluating which one is the best regression model. Adjusted R2 value can go up or down if the independent variable is added to the model (Ghozali, 2013).

In fact, the value of adjusted R2 can be worth negative or positive. If the empirical test of adjusted R2 value is negative, then the adjusted R2 value is considered to be zero. Mathematically, if the value of R2 = 1, then adjusted R2 = R2 = 1, while if the value of R2 = 0, then the adjusted R2 = (1 - k) / (n - k). If k > 1, then adjusted R2 will be negative value (Ghozali, 2013).

Coefficient of determination (R2) has a value of zero to the interval ($0 \leq R2 \leq 1$). The greater R2 (closes to 1), the better result for the regression model. The closer value to 0, it means the independent variables as a whole cannot explain the dependent variable.

3.3.5.2 Simultaneous Regression Test (F Test)

Simultaneous regression test (F test) is a test used to determine whether there is influence shared between the independent variables toward the dependent variables. In this research, researcher wants to test whether the independent variables, namely technology utilization, user training, and user expertise simultaneously influence the dependent variable, which is accounting information system implementation.

F-test can be obtained with a significant level of 5%. According to Ghozali (2013), the criteria of F-test is as follow:

a. If P-value ≤ 5%, the hypothesis is accepted, it means that there is a simultaneous effect of independent variables on the dependent variable.

b. If P-value > 5%, the hypothesis is rejected, it means that there is no fect of independent variables on the dependent variable.

3.3.5.3 Partial Regression Test (T Test)

Partial regression test (t test) is a test used to determine whether there is effect of partially between each independent variables on the dependent variable. In this research, the researcher wants to test whether the independent variables, namely the variable technology utilization, user training, and user expertise partially influence on the dependent variable, which is accounting information system implementation.

T-test in this research uses a significance level of 5%. According to Ghozali (2013), the criteria of T-test is as follow:

a. If P-value ≤ 5%, the hypothesis is accepted, it means that the independent variable is said to have a significant effect on the dependent variable.

b. If P-value > 5%, the hypothesis is rejected, it means that the independent variable is said to have no significant effect on the dependent variable.