CHAPTER III

RESEARCH METHODOLOGY

A. Research Subject and Object

The subject in this study is Sharia Rural Bank's debtors in Special Region of Yogyakarta Province. The case study used in this study is Bangun Drajat Warga (BDW) Sharia Rural Bank Bantul, Special Region of Yogyakarta. The case study is taken based on bank's financing performance since 2016. BDW Sharia Rural Bank had the highest financing among Sharia Rural Banks in Special Region of Yogyakarta Province. By having highest financing, it also reflected that BDW Sharia Rural Bank has high number of debtors among Sharia Rural Banks in Special Region of Yogyakarta Province. BDW Sharia Rural Bank's debtors become representative to measure changes in debtor preferences.

B. Type of Research Data

Data is a number of information that could provide overview of a condition or problem in the form of numbers, categories or information (Basuki & Yuliadi, 2015). This study used quantitative and primary data. Quantitative data is data in the form of numbers or qualitative data described in the form of numbers (Basuki & Yuliadi, 2015). Primary data is data gained or collected by the researcher or person involved in the research. Primary data used in this study was collected directly by the researcher using questionnaire.

C. Sampling Technique

According to Sugiyono (1999) in Amijaya (2010), sample is part of the number and characteristics of population. According to Suharsimi (2002) in Amijaya (2010), population is the whole object of the research. Population in this study is debtors of Sharia Rural Bank in Special Region of Yogyakarta Province. Sampling technique used in this study is purposive sampling technique to obtain truly representative sample from population. According to Sugiyono (2010), purposive sampling technique is a technique to determine research sample with certain consideration to aim more representative data obtained.[1]

The context of this study is that bank has not yet adopted advanced technology for its financing service, but likely to offer technology-based financing service in the future. Thus, the criterias for the sample in this study are: 1) Debtors of BDW Sharia Rural Bank, 2) Debtors are currently using *Mudharabah* and *Musyarakah* financing services from BDW Sharia Rural Bank, 3) Debtors are working as SMEs actors, 4) Debtors are technology and internet users. Based on the data on BDW Sharia Rural Bank, there are 178 customers of *Mudharabah* financing and 17 customers of *Musyarakah* financing. Total customers of *Mudharabah* and *Musyarakah* financing in BDW Sharia Rural Bank are 195 customers. Using Slovin Formula, the sample size for this study calculated as below (Imran, 2017):

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[1] Anwar Hidayat, "Penjelasan Teknik Purposive Sampling Lengkap Detail", https://www.statistikian.com/2017/06/penjelasan-teknik-purposive-sampling.html, 2017, (accessed August 23, 2018)

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

Where:

n   = sample size

N   = population size

d   = the leniency not to be fastidiously fault of sample that can be tolerated

So, the sample size for this study is:

$$n = \frac{195}{195((0,1)^2) + 1}$$

$$n = \frac{195}{2,97}$$

$n = 66,33$, unanimous decision is 66 sample

D. Data Collection Method

This study used questionnaire as the method to collect primary data. Questionnaire is a primary data collection tool with survey method to obtain opinions from respondents (Pujihastuti, 2010). Questionnaires can be distributed directly by researcher to respondents, through post office, via computer, internet, or e-mail. Questionnaire can be used to obtain personal information such as attitudes, opinions, expectations, and wishes from respondents (Pujihastuti, 2010). The purpose of questionnaire in this study is expected to obtain Sharia Rural Bank's

debtors' understanding, opinions, expectations, and demands towards technological innovation in financing product.

The data collection method using questionnaire conducted through process as follows (Kasnodihardjo, 1993; Pujihastuti, 2010):

1. Determining what kind of data needed and the source to get the data
2. Compiling the order of topics, the questions, and format of the questionnaire
3. Requesting advice and consultation to the supervisors
4. Testing the questionnaire to several respondents to find out whether the questionnaire is easy to use or not
5. Testing the reliability and validity of the questionnaire, and removing invalid questions, if any
6. Distributing the questionnaire to research respondents
7. Processing and interpreting data collected according to research objective

E. Operational Definition of Research Variables

1. Perceived Financial Technology (PFT)

   Perceived Financial Technology is the debtor perception of technology-based financing service and measured through indicators:

   a. Technology-based financing service transaction will be more effective than traditional method (by going to the office)

b. Technology-based financing service will support debtor's business activities better in the future

c. Using technology-based financing service will help accelerating debtor's business productivity in the future

d. Technology-based financing service can become a better financing service that helps debtors to meet capital requirement

2. Service Feature (SF)

Service Feature is the debtor perception of the service feature of technology-based financing service in the future and measured through indicators:

a. Service feature for *submitting financing via online* will greatly help debtors to get financing service

b. Service feature for *fulfilling financing requirements via online* will make it easier for debtors to meet the predetermined financing requirement

c. *Fast financing process* through technology-based financing service will help debtors to meet the funding needs

d. Technology-based financing service will ease the debtors regarding with *financing costs* that must be paid by debtors

3. Perceived Ease of Use (PEU)

Perceived Ease of Use is debtor perception of debtor's ability to use technology-based financing service in the future and measured through indicators:

    a. Using technology-based financing service will be *very efficient and save debtor time*

    b. Using technology-based financing service is *very flexible and can be done everywhere*

    c. Flexible and applicable technology-based financing service will make it *easier* for debtors *to access* the service

4. Perceived Risk (PR)

Perceived Risk is debtor perception of risks arising from using technology-based financing service in the future and measured through indicators:

    a. Financing contracts through technology-based financing service can be carried out while paying attention to *legality factor* needed

    b. Transactions through technology-based financing service can be done while paying attention to *confidentiality of debtor data*

    c. Transaction through technology-based financing service will pay attention to *consumer protection factor*

5. Debtor's Preference (DP)

Debtor's Preference is debtor priority in choosing to use a financial service and measured through indicators:

    a. I want to use technology-based financing service in the future

    b. I want to use more efficient and flexible financing service in the future

    c. I want to make technology-based financing service a better financing option in the future

    d. Technology-based financing service will be very suitable for my needs in the future

Indicators measurement for independent variables and dependent variable use Likert Scale with 5 scales: 1) Strongly Disagree, 2) Disagree, 3) Quite Agree, 4) Agree, 5) Strongly Agree. The interval for Likert Scale is measured using formula (Raharja, et al., 2018):

I = 100 / Total Likert Score

I = 100 / 5

I = 20 (Interval for the range 0% until 100%)

Here the score interpretation criteria based on interval:

a. Range 0% - <20%   = Strongly Disagree

b. Range 20% - <40%   = Disagree

c. Range 40% - <60%   = Quite Agree

d. Range 60% - <80%   = Agree

e. Range 80% - 100%   = Strongly Agree

F. Instrument and Data Quality Test

Primary data quality collected from survey or questionnaire is determined by the quality of instrument represented by the statements or questions contained in research questionnaire (Pujihastuti, 2010). The test need to be done to ensure that the instruments used are valid and reliable to generate valid and reliable research result. Instrument quality test conducted in the form of validity test and reliability test using SPSS.

1. Validity Test

    Validity test is used to show that the tool measurement to get the data can be used to measure what should be measured. A valid instrument is a right instrument to measure what should be measured (Basuki & Yuliadi, 2015). Validity test in this study used Pearson Correlation, where the instrument can be stated as valid if $r_{value} > r_{table.}$

2. Reliability Test

    Reliability test is used to determine whether the instrument can be used more than once, at least by the same respondent will produce consistent data. Instrument reliability shows the level of consistency (Basuki & Yuliadi, 2015). Reliability Test in this study used Cronbach's Alpha, where the instrument can be stated as reliable if the value of Cronbach's Alpha $\geq 0,70$.

G. Data Analysis and Hypothesis Test

1. Descriptive Analysis

Descriptive analysis in this study contains the demography characteristics of respondents to explain the general description of the respondents. The analysis shows the distribution of respondents based on gender, age, education, and residence of respondents. The variables gender, residence, and Fintech knowledge are measured using nominal scale, variable education is measured using ordinal scale, and variable age is measured using ratio scale.

TABLE 3.1.
Variables for Descriptive Analysis and Measurement Scale

Variable		Scale
Gender	Male	1
	Female	2
Residence	Yogyakarta City	1
	Sleman	2
	Bantul	3
	Kulon Progo	4
	Gunung Kidul	5
	Outside DIY	6
Educational Background	Elementary School (SD/Sederajat)	1
	Junior High School (SMP/Sederajat)	2
	Senior High School (SMA/Sederajat)	3
	Diploma	4
	Bachelor (Sarjana)	5
	Postgraduate (Pascasarjana)	6
Age	20 – 29 years old	1

	30 – 39 years old	2
	40 – 49 years old	3
	≥ 49 years old	4
Fintech	Yes	1
Knowledge	No	2

2. Classical Assumptions

   a. Normality Test

   Normality test is used to determine collected data is normally distributed or taken from normal population. Based on empirical experience of some statistics expert, if the data is more than 30 (n > 30), it can be assumed to be normally distributed (Basuki & Yuliadi, 2015). But the data should be tested using normality test to provide certainty whether the data is normally distributed or not. This study uses Kolmogorov Smirnov for normality test where the residual can be stated as normally distributed if the significance value is higher than α 5% (sig. > 5%).

   b. Multicollinearity Test

   Multicollinearity shows linear relationship between independent variables in Multiple Linear Regression Model (Basuki & Yuliadi, 2015). Multicollinearity test aims to test whether there is high correlation between independent variables in a regression model or not. There should be no

correlation between independent variables in a good regression model. Multicollinearity could be detected using Variance Inflation Factors (VIF) value where if VIF value < 10, then there is no multicollinearity between independent variables.

c. Heteroscedasticity Test

Heteroscedasticity shows inequality variance from residual to all observation in regression model. Heteroscedasticity test should be done to detect deviation from classical assumption requirements in regression model, where there should be no heteroscedasticity in a regression model (Basuki & Yuliadi, 2015). Good regression model should contain homoscedasticity where variable variance in regression model has the same or constant value. Heteroscedasticity test in this study use Glejser Test, where it can be stated that there is no heteroscedasticity if sig. value > 0,05.

3. Multiple Linear Regression

Linear Regression Analysis aims to make model and analyse the influence of one or more independent variables on one dependent variable. Regression equation is used to measure value of dependent variable and find out the direction and magnitude of independent variables on dependent variable. The regression equation is formulated as below:

$$Y = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots + \beta_n X_n + e$$

Where:

Y   = dependent variable

X_1 = independent variable 1, X_2 = independent variable 2, and so on

β_1 = coefficient of X_1, β_2 = coefficient of X_2, and so on

e   = residual / error

Thus, multiple linear regression equation in this study is formulated as below:

$$DP = \beta_1 PFT_t + \beta_2 SF_t + \beta_3 PEU_t + \beta_4 PR_t + e$$

Where:

DP   = Debtor's Preference

PFT   = Perceived Financial Technology

SF   = Service Feature

PEU   = Perceived Ease of Use

PR   = Perceived Risk

β_1 = coefficient of Perceived Financial Technology

β_2 = coefficient of Service Feature

β_3 = coefficient of Perceived Ease of Use

β_4 = coefficient of Perceived Risk

e   = residual / error

4. Coefficient of Determination (R^2)

Coefficient of determination is used to measure the goodness of fit from the regression model. Particularly for regression analysis, it shows the proportion of dependent variable explained by independent variables in the model. R^2 in regression equation is susceptible to independent variable addition, where the more independent variable involved, the higher R^2 value. Adjusted R^2 is used as indicator to measure goodness of fit of the regression model for multiple linear regression analysis. A regression model is stated as good model is the indicator or adjusted R^2 has high value (Basuki & Yuliadi, 2015).

5. Hypothesis Test

a. T - Test

T - Test aims to analyse the influence of each independent variable on dependent variable partially. Positive value of Unstandardized Coefficients B for independent variables shows positive relation between independent variable and dependent variable, and vice versa.

- H_0 = Variable X1 do not have significant influence on dependent variable

- H_1 = Variable X1 has significant influence on dependent variable

If the significance value > 0,05, then Do Not Reject H_0, means Variable X1 do not have significant influence on dependent variable.

If the significance value < 0,05, then Reject H_0, means Variable X1 has significant influence on dependent variable.

b. F - Test

F - Test in multiple linear regression aims to analyse the influence of independent variables on dependent variable simultaneously.

- H_0 = Independent variables simultaneously do not have significant influence on dependent variable

- H_1 = Independent variables simultaneously have significant influence on dependent variable

If the significance value > 0,05, then Do Not Reject H_0, means independent variables simultaneously do not have significant influence on dependent variable.

If the significance value < 0,05, then Reject H_0, means independent variables simultaneously have significant influence on dependent variable.