CHAPTER III

RESEARCH METHODOLOGY

3.1. Type of Research

The purpose of this research is to test the hypotheses, or it is usually called a causal study, which aims to explain the nature of certain relationships. This research attempts to find the correlation and/or relationship between the attributes of the coffee shop; atmosphere, employee attitude, information technology (IT) service and coffee quality as core variables that affect customer satisfaction. The results of this research are expected to examine those variables, verify their relationships and provide a better understanding of effective attributes of the coffee shop toward customer satisfaction. The approach used in this research is the quantitative approach, conducted by spreading the questionnaire as the research instrument and used a Likert scale as the itemized rating scale to assess data from 235 respondents.

3.2. Population and Sample

According to Zikmund, Babin, Carr, & Griffin, (2009), population is a group of people who has at least one similarity in terms of the character that has been determined. Sample is the number of certain characteristics of the population that is used to estimate an unknown characteristic of the population. The population in this research were people who ever visit the Starbucks Empire XXI Yogyakarta. Moreover, the research samples were 235 people.

3.3. Data Collection Method

This data used in this research were primary data and secondary data. Primary data are data obtained directly from research purposes by using data retrieval tools on the subject as the source of the information sought. In this research, data were obtained using a questionnaire distributed to 235 respondents. All questions in the questionnaire were translated into *Bahasa Indonesia* to help the respondents understand the questions better. The questionnaires were distributed online (Google forms) to the respondent. Meanwhile, the secondary data used in this research were obtained from previous literature reviews and relevant journals. The questionnaire was measured using the Likert scale. This research was using 6-point Likert scale items, where (1) indicates Strongly Disagree and (6) indicates strongly Agree. The underlying reason why the researcher chooses a 6-point Likert scale is to avoid a neutral answer. The options consist of:

a. Strongly Disagree (SD)

b. Disagree (D)

c. Rather Disagree (RD)

d. Rather Agree (RA)

e. Agree (A)

f. Strongly Agree (SA)

3.4. Instrumentation

Primary data was collected by distributing the questionnaire. The questionnaire used 6 variables and 61 questions items and was designed to measure the correlation among attributes of the coffee shop, atmosphere, employee attitude, information technology (IT) service, coffee quality, satisfaction, and loyalty. All items were measured within a Six-Likert scale ranging from strongly disagree (1) to strongly agree (6). Besides, demographic variables such as gender and age were included in the model as control variables.

3.5. Definition of Operational and Measurement of Research Variable

The variables analyzed in this research were atmosphere, employee attitude, IT service, and coffee quality, as the independent variables, one mediating variable which was customer satisfaction that was influenced by four independent variables, and one dependent variable which was customer loyalty, this variable influenced by 5 variables, namely atmosphere, employee attitude, IT service, coffee quality, and customer satisfaction. To measure these variables, this research used 6 Points Likert Scale, where 1 indicates Strongly Disagree and 6 shows Strongly Agree.

3.5.1. Indepedent Variable

3.5.1.1 Atmosphere

According to Bitner (1992), the atmosphere in three dimensions: 'environmental conditions', 'spatial order and functionality' and 'symbols, signs, and artifacts'. Environmental conditions are such elements as illumination, color, and scent. Spatial order and functionality denote the appropriate arrangement of furnishings and materials; signs, symbols, and artifacts are the elements through which people interact with a given environment. In an exploratory study, atmosphere-related elements into four groups – distinctiveness, hospitability, relaxation, and refinement – based on guests' perceptions. This variable is measured by the following indicators:

a. Starbucks Café has a comfortable atmosphere.

b. The atmosphere of Starbucks Café is familiar to me.

c. It is comfortable to spend my time at Starbucks Café.

d. Starbucks Café makes me relaxed.

e. Starbucks Café has a distinctive interior design.

f. Starbucks Café has a comfortable room layout.

3.5.1.2 Employee Attitude

According to Lee (2018), Attitude is the way a person thinks about a situation and then determines one's behavior. In the work environment, employees can have a positive or negative attitude about a particular job, product or service, coworkers or management, or the company as a whole. Attitude is a psychological condition of mind. This variable is measured by the following indicators:

a. Starbucks Café employees are friendly.

b. Starbucks Café employees are kind.

c. Starbucks Café employees make customers feel happy.

d. Starbucks Café employees respond to customers request quickly.

e. Starbucks Café employees have a positive interaction with customers.

f. Starbucks Café employees provide professional services.

g. Starbucks Café employees show a good service attitude.

h. Starbucks Café employees gave customers personal attention.

i. Starbucks Café employees were passionate.

j. Starbucks Café employees gracefully dressed.

3.5.1.3 IT Service

According to Lee (2018), IT Services are a technology function that is offered with support and management. This allows the customer to uses information technology without managing complexities such as maintenance, security, scalability, and resilience. This variable is measured by the following indicators:

a. The wireless Internet service at Starbucks Café is satisfactory.

b. Starbucks Café has good Internet service.

c. Starbucks Café provides high-quality wireless service.

3.5.1.4 Coffee quality

According to Lee (2018), Quality is the most critical factor in the success of the coffee shop business. High-quality coffee should balance bitterness, sweetness, and acidity in one sip, with a smooth flavor. That is all is a complex way to say that good quality coffee should taste good. This variable is measured by the following indicators:

a. The taste of Starbucks coffee is great.

b. Starbucks coffee has a good smell.

c. The smell of Starbucks coffee is pleasant.

d. I like the smell and taste of Starbucks coffee.

3.5.2. Mediating Variable

3.5.2.1 Satisfaction

According to Lee (2018), Satisfaction is the level of customer's approval when comparing a product's perceived performance with their expectations.

This variable is measured by the following indicators:

a. I am satisfied with Starbucks Café.

b. Starbucks Café is fulfilling the customer's needs.

c. I am content with Starbucks Café.

d. My choice to visit Starbucks Café was a wise one

e. I think I did the right thing in visiting Starbucks Café

f. This facility of Starbucks Café is exactly what is needed for spending time.

g. I am pleased with the overall service at Starbucks Café.

h. Spending time at Starbucks Café is a delightful experience.

i. I am completely satisfied with Starbucks Café.

3.5.3. Dependent Variable

3.5.3.1. Loyalty

According to Lee (2018), Loyalty is an attitudinal and behavioral tendency to favor one brand rather than other brands, whether due to satisfaction with the service or product, its performance or convenience, or simply comfort and familiarity with the brand. Customer loyalty engages consumers to shop more consistently. This variable is measured by the following indicators:

a. I am willing to pay more to enjoy coffee at Starbucks Café.

b. I will buy coffee again at Starbucks Café in the next time.

c. I am a loyal customer of Starbucks Café.

d. I do not mind if I recommend Starbucks Café to my friends or others.

3.6. Validity and Reliability Test of the Instrument

The validity test is used to measure the accuracy of the variables used in this research. The data can be categorized as valid when a value corrected item of a total correlation is greater than 0.3 (≥ 0.30). Meanwhile, the reliability test is used to discover the consistency of the measurement tools used in this research. The reliability of the instrument was ensured through acceptable values of Cronbach's Alpha. The data can be categorized as reliable when the value of Cronbach Alpha is greater than 0.6 (≥ 0.6).

Therefore, the researcher tested the validity and reliability of the variables and indicators used in this research first by conducting a pilot test before distributing the questionnaire to obtain the data. For the pilot test, the questionnaire was distributed to 40 respondents. The data that had been obtained from the respondents were analyzed for validity and reliability concerning the limitation described above.

The number of statements in the questionnaire was evaluated as follows:

a. Atmosphere has six indicators.

b. Employee Attitude has ten indicators.

c. IT Services has three indicators.

d. Coffee Quality has four indicators.

e. Satisfaction has nine indicators.

f. Loyalty has four indicators.

Table 3.1 Validity and Reliability Test for Pilot Test

Constructs/Indicator	Corrected Item-Total Correlation	Cronbach Alpha	Minimal Score	Status
Atmosphere		**0.665**	**0.6**	**Reliable**
Starbucks Café has a comfortable atmosphere.	0.405		0.3	Valid
The atmosphere of Starbucks Café is familiar to me.	0.514		0.3	Valid
It is comfortable to spend my time at Starbucks Café.	0.622		0.3	Valid
Starbucks Café makes me relaxed.	0.385		0.3	Valid
Starbucks Café has a distinctive interior design.	0.306		0.3	Valid
Starbucks Café has a comfortable room layout.	0.382		0.3	Valid
Employee Attitude		**0.926**	**0.6**	**Reliable**
Starbucks Café employees are friendly.	0.715		0.3	Valid
Starbucks Café employees are kind.	0.682		0.3	Valid
Starbucks Café employees make customers feel happy.	0.738		0.3	Valid
Starbucks Café employees respond to customers request quickly.	0.817		0.3	Valid
Starbucks Café employees have a positive interaction with customers.	0.675		0.3	Valid
Starbucks Café employees provide professional services.	0.803		0.3	Valid
Starbucks Café employees shows a good service attitude.	0.639		0.3	Valid

Constructs/Indicator	Corrected Item-Total Correlation	Cronbach Alpha	Minimal Score	Status
Starbucks Café employees gave customers personal attention	0.743		0.3	Valid
Starbucks Café employees were passionate.	0.661		0.3	Valid
Starbucks Café employees gracefully dressed	0.728		0.3	Valid
IT Services		**0.888**	**0.6**	**Reliable**
The wireless Internet service at Starbucks Café is satisfactory.	0.876		0.3	Valid
Starbucks Café has good Internet service.	0.844		0.3	Valid
Starbucks Café provides high-quality wireless service.	0.648		0.3	Valid
Coffee Quality		**0.774**	**0.6**	**Reliable**
The taste of Starbucks coffee is great.	0.532		0.3	Valid
Starbucks coffee has a good smell.	0.753		0.3	Valid
The smell of Starbucks coffee is pleasant.	0.529		0.3	Valid
I like the smell and taste of Starbucks coffee.	0.503		0.3	Valid
Satisfaction		**0.912**	**0.6**	**Reliable**
I am satisfied with Starbucks Café.	0.638		0.3	Valid
Starbucks Café is fulfilling the customer's needs.	0.495		0.3	Valid
I am content with Starbucks Café.	0.679		0.3	Valid
My choice to visit Starbucks Café was a wise one.	0.865		0.3	Valid
I think I did the right thing in visiting Starbucks Café.	0.782		0.3	Valid

Constructs/Indicator	Corrected Item-Total Correlation	Cronbach Alpha	Minimal Score	Status
This facility of Starbucks Café is exactly what is needed for spending time.	0.596		0.3	Valid
I am pleased with the overall service at Starbucks Café.	0.668		0.3	Valid
Spending time at Starbucks Café is a delightful experience.	0.781		0.3	Valid
I am completely satisfied with Starbucks Café.	0.800		0.3	Valid
Loyalty		**765**	**0.6**	**Reliable**
I am willing to pay more to enjoy coffee at Starbucks Café.	0.536		0.3	Valid
I will buy coffee again at Starbucks Café in the next time.	0.668		0.3	Valid
I am a loyal customer of Starbucks Café.	0.562		0.3	Valid
I do not mind if I recommend Starbucks Café to my friends or others.	0.572		0.3	Valid

Source: Primary Data (Computed), 2019

Table 3.1 showed that the values of corrected items in total correlation of all data are greater than 0.30 and the values of Cronbach Alpha are also greater than 0.6. It can be implied that the data is valid and reliable.

3.7. Analysis Technique

This research used Structural Equation Modelling (SEM) as the technical analysis with a consideration that the conceptual model of this research consists of one independent variable, two intervening variables, and one dependent variable. According to Ghozali & Fuad (2008), SEM analysis is a technique that allows the researcher to examine the influence of several variables against other variables simultaneously. Thus, this technique was used to analyze the relationship among the attributes of the coffee shop; atmosphere, employee attitude, information technology (IT) service and coffee quality, satisfaction and loyalty. Furthermore, there were two steps in conducting the analysis. The first step is to conduct the pilot test. As previously mentioned, the pilot test is conducted to test for its validity and reliability of the variables and measurements used in the questionnaire. Forty data have been obtained from the pilot test and the results were analyzed by using SPSS (Statistical Package for the Social Sciences). The second step is to test hypotheses, to test normality and outliers as well as to analyze model fitness. In this case, the researcher used SEM analysis in AMOS software version 23.0.

3.7.1 Respondents' Characteristic

In this part, this research describes the demographic characteristic of the respondents. The demographic characteristics explains gender, age, educational backgorund, and monthly expenses.

3.7.2 Descriptive Analysis

Descriptive analysis is a brief explanation that summarizes a set of data that can represent the entire population or a sample. This is done to find out and describe the average responses of each item and indicators in the questionnaire.

3.7.3 Model Development on Theory

3.7.3.1 Normality Test

The normality of data must be fulfilled so that the data can be further processed for SEM modeling. Testing the univariate normality is done to observe the value of skewness and kurtosis of the data used. If the CR value ins the data is in the range of -2.58 to 2.58, the research data can be said to be normal.

3.7.3.2 Outlier Test

The outlier test is important in the use of parametric statistics. The outlier is data that deviates too far from other data in a data set. Outliers are observations or data that have unique characteristics that look different from other observations and appear in the form of extreme values, both for a variable and for variable combinations. The outliers can be evaluated using the analysis of multivariate outliers seen from the Mahalanobis Distance value.

3.7.3.3 Confirmatory Analysis or Goodness of Fit Criteria

The confirmatory analysis was used to measure the proposed concept by using several measured indicators. The goodness of fit test is important to examine the suitability of a model used in this research. There are some suitability indices and cut-off values to test whether a model could be accepted or not. The goodness of fit criteria consists of several types. They are as follows:

a) Chi-Square (χ2)

Chi-square statistics is the most important measurement tool in testing the overall model. In other words, the chi-square statistic is appropriate to test the hypotheses to evaluate the significance of structural equation modeling. Chi-square value identifies deviations between the sample covariance matrix and the fitted model covariance matrix. However, the chi-square value will only be valid if the data met the assumptions of normality and have a large sample size. Moreover, chi-square is used to analyze whether the model is fit or poor. The model is considered good if the chi-square value is low. In other words, the smaller the value of χ2, the better the model is because of χ2 = 0.

b) CMIN/DF

CMIN/DF is the minimum sample discrepancy function which is divided by its degree of freedom. This index is a parsimonious conformity index that measures the relationship of the goodness of fit model and the number of estimated coefficients that are expected to reach a level of conformity. CMIN/DF can be considered as a good fit if the value of it is ≤ 2.00 which indicates the acceptance fit of model and data.

c) Goodness of Fit Index (GFI)

GFI is a tool to measure the accuracy of the model in generating the observed covariance matrix. This index ranges from 0 to 1 with larger samples increasing its value. Traditionally, a cut-off value of 0.90 has been recommended for the GFI. However, Miles and Shevlin (cited in Hooper, Coughlan, & Mullen, 2008) stated that simulation studies have shown that when factor loadings and sample sizes are low, a higher cut-off of 0.95 is more appropriate.

d) Root Mean Square Error of Approximation (RMSEA)

The RMSEA is one of the most informative fit indices. According to Byrne (cited in Hooper et al., 2008), the RMSEA tells about how well the model is with unknown but optimally chosen parameter estimates that would fit the populations' covariance matrix. The standard value of RMSEA can be classified into several categories as follows:

a. If RMSEA $\leq$ 0.5, it is considered as close fit.

b. If RMSEA = $0.05 \leq$ RMSEA ≤ 0.08, it is considered as good fit.

c. If RMSEA = $0.8 \leq$ RMSEA ≤ 0.10, it is considered as mediocre fit.

d. If RMSEA ≥ 0.10, it is considered as a poor fit.

e) Adjusted Goodness of Fit Index (AGFI)

According to Schermelleh-Engel, Moosbrugger, & Müller (2003), AGFI is a tool to adjust the bias of the complexity of the model-based upon degrees of freedom, with more saturated models reducing fit. The value of AGFI ranges between 0 and 1. The model is stated good fit if the index is 0.90 which indicates well-

fitting models. Meanwhile, the value that is greater than 0.85 may be considered as an acceptable fit.

f) Tucker Lewis Index (TLI)

TLI is an incremental fit index that is used to evaluate the factor analysis that has been developed in SEM. This index ranges from 0-1. TLI can be stated as a good fit if the index is equal or greater than 0.90. The bigger TLI value indicated a better fit for the model.

g) Comparative Fit Index (CFI)

CFI brings compatibility of one model to the data and compares it with other models with the same data. Therefore, this kind of statistic index captures the relative goodness-of-fit. The CFI ranges from 0.0 to 1.0 and larger numbers are better. Unlike the other indices, the CFI attempts to adjust model complexity by including the degrees of freedom used in the model directly into the calculation. The standard value of CFI can be classified into some categories as follows:

Table 3.2 Goodness of Fit Index

Goodness of Fit Indices	Cut off Value
X² (Chi-Square)	Small Value
Significance Probability	≥ 0.05
RMSEA (Root Mean Square Error of Approximation)	≤ 0.08
GFI (Goodness of Fit Index)	≥ 0.90
AGFI (Adjusted Goodness of Fit Index)	≥ 0.90
CMN/DF	≤ 2.00
TLI (Tucker Lewis Index)	≥ 0.90
CFI (Comparative Fit Index)	≥ 0.90

Source: Ferdinand, 2002