CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

The writer employed both casual and descriptive research approaches in this research. Descriptive research presents findings accurately from completed studies but cannot make definitive conclusions; it is also known for producing only broad conclusions (Furidha, 2023).

Causal research, according to (Polonsky et al., 2020), investigates the cause-and-effect relationship between certain variables that influence a problem. It finds a relationship between two variables.

Quantitative research is defined by (Nunan et al., 2020) as research methods that aim to quantify data and usually involve statistical analysis. In order to test their assumptions, the research data is presented as numerical values that may be computed using statistical analysis. All of this will make it possible to gather information that will be utilized to address the study questions on menu variation, restaurant atmosphere, and restaurant image, and purchase decision at Ayam Goreng Kalasan Iskandar Muda Medan.

3.2 Population and Sample

3.2.1 Research Object

The research object in this study is the customers of Ayam Goreng Kalasan Medan located at Jl. Iskandar Muda No.292-294, Central Petisah, Medan Petisah

District, Medan City, North Sumatra. This research has been conducted from January 2025 until April 2025.

3.2.2 Population

Population is a collection of subjects/objects that have characteristics/traits that researchers want to study and research in relation to existing events (Dawis et al., 2023). The population in this research is consumers make purchases at Ayam Goreng Kalasan Iskandar Muda Medan in 2024 for an unknown amount.

3.2.3 Sample

(Dawis et al., 2023) define a sample as a subset of the population with particular traits or qualities in order to calculate the size of the sample to be utilized in research. It is anticipated that the sample will fairly represent the population. Because the population in this study is unknown, the Hair method was used to determine the number of samples.

According to (Hair et al., 2020), The Hair formula is used when the population size is unknown. It recommends a minimum sample size of 5-10 times the indicator variable. This study uses 17 indicators, resulting in 170 (17 x 10). The study includes 170 consumers of Ayam Goreng Kalasan Iskandar Muda Medan, chosen using Incidental Sampling. This method selects samples by chance, based on people who meet the study's specific characteristics and encounter the researcher (Purba et al., 2021). Incidental sampling was used in this study because the researcher only needed to take samples from individuals who were available and easily accessible,

without the need for a complicated selection process when the population was difficult to reach or not known with certainty.

3.3 Data Collection Method

(Purba et al., 2021) said the study uses both primary and secondary data, with varying scales based on the analysis method applied.

a. Primary data

This type of data comes straight from the research item and requires processing by the researchers. The following are the approaches used to acquire primary data:

1) Observation

Observation is a series of data collection activities carried out by looking, paying close and careful attention to a phenomenon that can be used as data to provide an explanation of the phenomenon to be studied.

2) Questionnaire

The data collection technique is carried out by providing a set of written questions to respondents to be answered either in writing or the researcher helps write down the respondents' answers. In assessing the questionnaire, it is given a score for each level. The scale in this research is the Likert scale. This scale measures the level of approval or disapproval of respondents against a series of statements measuring objects. From the answer values are then processed and processed to be used as a measuring tool for the variables studied in this study.

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

3) Documentation

Data collection by means of documentation can be done by recording past events. Documentation as data collection can be in the form of writing, pictures or works from someone to immortalize an event that occurs in society.

b. Secondary data

Secondary data collection is done by collecting data through books, articles, journals, theses, theses, internet sites and other relevant and supporting data.

3.4 Operational Variable Definition and Variable Measurement

3.4.1 Operational Variable Definition

(Purba et al., 2021) explain that each research variable must be defined conceptually and operationally. Conceptually means conceptualizing the variable where there is a process of making a conceptual definition of the research variable. Based on this description, the operationalization of this research concept is as follows:

Table 3.1 Menu Variation (X_1)

Variable	Variable Definition	Variable Indicators	Questions
Menu Variation (X_1)	Menu variation as a variant of food provided by business owners to make it easier for customers to meet their needs at the same time	Variants	The taste variants of food and drinks served at Ayam Goreng Kalasan Medan can satisfy consumer tastes
		b Menu innovation	Consumers can easily choose a menu according to their taste because of the variety of types of food and beverages
		Taste	The taste of the food and beverages at Ayam Goreng Kalasan Medan makes consumers interested in trying it again
		Portion	The portions of food and drinks offered by Ayam Goreng Kalasan Medan can make consumers fuller

Source : Prepared by the writer (2025)

Table 3.2 Restaurant Atmosphere (X_2)

Variable	Variable Definition	Variable Indicators	Questions
Restaurant Atmosphere (X_2)	Restaurant atmosphere as something that greatly influences shopping centers that can create consumer desire to come and visit and feel comfortable shopping	a. Cleanliness	Tables and chairs at Ayam Goreng Kalasan Medan look clean after consumers finish eating and drinking
		b. Music	The music played at Ayam Goreng Kalasan Medan gives a relaxed impression and is not disturbing
		c. Scent	The scent of food and beverages at Ayam Goreng Kalasan Medan makes consumers feel at home and comfortable to make repeat purchases
		d. Temperature	The fresh/clean air temperature in the room can provide a more comfortable food experience when consumers are at Ayam Goreng Kalasan Medan
		e. Lighting	The lighting at Ayam Goreng Kalasan Medan is quite bright
		f. Color	The color arrangement at Ayam Goreng Kalasan Medan is in accordance with the room design

Source : Prepared by the writer (2025)

Table 3.3 Restaurant Image (X_3)

Variable	Variable Definition	Variable Indicators	Questions
Restaurant Image (X_3)	Restaurant image as a reflection of the general view of the brand, as well as the type of knowledge and prior experiences that the brand has.	a. Recognition	Consumers know that the Kalasan fried chicken offered by Ayam Goreng Kalasan Medan is famous for its savory and slightly sweet taste
		b. Reputation	Consumers know that Ayam Goreng Kalasan Medan is a typical dish from Kalasan, Yogyakarta which has been known for a long time in the city of Medan
		c. Affinity	Consumers come to Ayam Goreng Kalasan Medan because this restaurant provides various Indonesian food and beverage menus from the city of Yogyakarta

Source : Prepared by the writer (2025)

Table 3.4 Purchase Decision (Y)

Variable	Variable Definition	Variable Indicators	Questions
Purchase Decision (Y)	Purchasing decisions are a stage of the entire psychological process and other physical activities that occur at a certain time and moment in the purchasing process, and to meet certain needs, in other words, it is a series of stages that must be passed by consumers	a. Product stability	Consumers are confident to come to Ayam Goreng Kalasan Medan because the price of food and beverage is very affordable
		b. Product buying habits	Before coming to Ayam Goreng Kalasan Medan, consumers are accustomed to looking for information first about the food and beverage menus available at this restaurant
		c. Giving recommendations to others	After eating for the first time at Ayam Goreng Kalasan Medan, consumers invite family or friends to come back to this restaurant
		d. Making repeat purchases	Consumers continue to buy food and beverage at Ayam Goreng Kalasan Medan even though there are foods that are no longer available at this restaurant

Source : Prepared by the writer (2025)

3.4.2 Variable Measurement

The measurement scale is a reference for determining the length of the interval in a measuring device, ensuring it produces quantitative data (Purba et al.,

2021). In this study, the author uses the Likert scale to assess attitudes and opinions about social issues, with options ranging from strongly disagree to strongly agree.

3.5 Data Analysis Method

3.5.1 Descriptive Statistic

Descriptive statistics are used in analyzing data by explaining the data obtained, without making conclusions to apply generally. Research conducted using the entire population uses descriptive statistics for its analysis, while research by determining samples in its research uses descriptive and inferential statistics (Purba et al., 2021). The following are the descriptive statistics used in this research:

a. Mean

The mean is the average of data where it can be calculated with add all the data and then divide by number of data observed. The formula of mean is as follows:

$$\bar{X} = \frac{\sum X}{n}$$

Where:

$\bar{X}$ = Mean

x = particular values

n = total number of observations.

b. Median

The middle value in the set of numbers is called the median. The data are arranged in increasing order to determine the median.

$$Me = \frac{(n+1)}{2} \text{ for odd data}$$

$$Me = \frac{\frac{n}{2} + \left(\frac{n}{2} + 1\right)}{2} \text{ for even data}$$

Where:

x = particular values

Me = Median

n = total number of observations

c. Mode

In a set of data, the value that occurs most frequently is called the mode.

3.5.2 Data Quality Test

1. Validity

The author conducted a pretest on 30 respondents at the company to measure the validity of an instrument using a questionnaire. The main reason for using 30 respondents is to ensure similarity with the target population by using another population, namely Ayam Goreng Kalasan Medan Cabang Cemara Asri so that later it will obtain sufficient representation of the target population and to test the validity and reliability of the instrument. In addition, 30 respondents are also considered sufficient to detect potential problems in the research instrument, such as ambiguity or difficulty in understanding. The SPSS program was used to test the construct validity of each question item. The validity value (r) in the corrected item-total correlation column was compared to the threshold value. If it was greater than the

threshold, it was considered valid; otherwise, it was considered invalid. The formula for the validity test is as follows (Ghozali, 2021).

$$r_{xy} = \frac{\sum xy}{\sqrt{(\sum x^2)(\sum y^2)}}$$

Note:

r_{xy} = Instrument Validity

x = independent variable

y = dependent variable

Validity test is performed by comparing the calculated r value with the r table for degrees of freedom (df) = n - 2, where n is the number of samples. In this study, 30 samples were taken from outside the population, giving df = 30 - 2 = 28, with alpha = 0. 05 resulting in an r table value of 0. 361.

2. Reliability test

Reliability is assessed to measure the consistency of responses from respondents. In SPSS testing, reliability is indicated by the Cronbach Alpha coefficient, with a value above 0.70 considered reliable. The formula for reliability is: (Ghozali, 2021)

Cronbach Alpha $\alpha = \left(\frac{k}{(k-1)}\right)\left(1 - \frac{\sum \sigma_b^2}{\sigma_t^2}\right)$

$$V_d = \frac{\sum d^2 - \frac{(\sum d)^2}{n}}{n}$$

Note:

α = Instrument Reliability

k = number of questions

$\sum d^2$ = total square root score

$\sum d$ = total score

$\sum \sigma_b^2$ = total of variance question

n = Total of respondents

σ_t^2 = Total Variance

Vd = Variance Difference.

3.5.3 Classical Assumption Testing

1. Normality Test

Normality test determines if variables are normally distributed. Use Kolmogorov-Smirnov test to check significance value. If $p < 0.05$, data distribution is not normal. If $p > 0.05$, data distribution is normal (Ghozali, 2021).

2. Multicollinearity Test

Multicollinearity tests assess the correlation between independent variables in a regression model. A good model should avoid multicollinearity. The test checks tolerance and VIF values. Multicollinearity is not present in a regression model if VIF is between 1-10 and tolerance is above 0.1 (Ghozali, 2021).

3. Heteroscedasticity Test

Heteroscedasticity test checks for unequal residual variance in a regression model. The Glejser test is used to test for heteroscedasticity. The criteria for the test are:

a) Sig. < 0. 05 indicates heteroscedasticity, and

b) Sig. > 0. 05 indicates no heteroscedasticity (Ghozali, 2021).

3.5.4 Linear Regression

Linear regression is a model that predicts the value of one dependent variable using one independent variable. It shows their functional relationship. (Ghozali, 2021). SPSS and multiple regression are well suited for this study because they allow for the analysis of the relationship between multiple independent variables on a single dependent variable, as well as testing the significance of the influence of each independent variable. The formula for multiple regression analysis is:

$Y = a + b_1X_1 + b_2X_2 + b_3X_3$

Where:

Y = Purchase Decision

X_1 = Menu Variation

X_2 = Restaurant Atmosphere

X_3 = Restaurant Image

b_1 = regression coefficient X_1

b_2 = regression coefficient X_2

b_3 = regression coefficient X_3

a = constant

e = error rate 5%

3.5.5 Hypothesis Test

1. Hypothesis Test (t test)

The formulated hypothesis must be tested using a t test at a 95% confidence level. Compare t count with t table. If t count > t table, reject H0 and accept Ha. If t count < t table, accept H0 and reject Ha. (Sahir, 2021). Formula of T test is as follows:

$$tcount = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

2. F testing.

The F-statistic test assesses the overall effect of independent variables on the dependent variable. The hypothesis states H0: $\beta = 0$ (no impact) and Ha: $\beta \neq 0$ (significant impact). For the F-test, accept H0 if Fcount ≤ Ftable, and accept Ha if Fcount > Ftable (Sahir, 2021). The formula F test is

$$Fcount = \frac{\left(1-\sum\left(Y-\overline{Y}\right)^2\right)/k}{\sum\left(Y-Y'\right)^2/(n-k-1)}$$

Where:

Fcount = test of hypothesis

Y = Purchase Decision

Y' = Purchase Decision Prediction

$\overline{Y}$ = Average Of Purchase Decision

k = number of independent variables

n = number of data observation

3. Coefficient of determination.

(Sahir, 2021) said that The coefficient of determination R2 shows how much the independent variable affects the dependent variable. A small R2 value means less influence, while an R2 value close to 100% shows more influence. The formula for R2 is as follows:

$$D = r^2 . 100\%$$

Where:

D = coefficient of determination

r^2 = coefficient of correlation square