# CHAPTER III

# RESEARCH METHODOLOGY

## 3.1 Design and Types of Research

This study uses a quantitative approach with a causal research design. The causal design was chosen because it aims to analyze the cause-and-effect relationship between variables against dependent variables. This method allows for statistical testing of hypotheses to determine the direct influence of independent variables.

## 3.2 Research Object, Schedule, and Location

The object of this study is Niche Perfume. This research was conducted on users in the Jakarta area

**Table 3.1. Research Schedule**

| It | Activities | Feb 2025 | Mar 2025 | Apr 2025 | May 2025 | June 2025 | July 2025 |
|---|---|---|---|---|---|---|---|
| 1 | Pre Research | | | | | | |
| 2 | Application for Research Permit | | | | | | |
| 3 | Determining the Research Design | | | | | | |
| 4 | Proposal Preparation | | | | | | |
| 5 | Seminar Proposal | | | | | | |
| 6 | Preparation of Research Reports | | | | | | |
| 8 | Results Seminar | | | | | | |

## 3.3 Types and Sources of Research Data

Types and Sources of Research Data refer to the classification of data used in a study based on its nature, characteristics, and origin.

1. Data Type
    a. Quantitative Data: Data that is in the form of numbers and can be measured statistically, such as survey results or sales data.
    b. Qualitative Data: Data that is descriptive and not expressed in numbers, such as interviews or observations
2. Data Source
    a. Primary Data: Data obtained directly from respondents or research objects through surveys, interviews, or experiments.
    b. Secondary Data: Data obtained from existing sources, such as journals, research reports, or institutional databases.

### 3.4 Research Population and Sample

The population in this study is Niche perfume users. The sample in this study was calculated using the Lemeshow Formula; the use of the formula is due to the unknown size of the population.

$$n_0 = \frac{Z^2 . p . (1-p)}{d^2}$$

N = Number of samples sought

Z = Normal table value with alpha 90% (1.64)

P = Case focus

d = Alpha (0.10) or 10%

$$n = 1{,}64^2 \frac{1-0{,}5}{0{,}10^2} = 134.48 \text{ rounded to } 134 \text{ Respondent}$$

### 3.5 Variable Operations

In this study, the variables used consisted of:

**Independent Variable**

1. FOMO is defined as anxiety or concern that consumers feel due to the fear of missing out on an exclusive experience or product enjoyed by others.
2. An influencer is defined as an individual who has a great influence on influencing consumers' purchasing decisions through their content and recommendations.
3. Social influence is defined as the influence that consumers receive from others, such as friends, family, or the community, in purchasing decisions.

**Mediation Variables**

Brand Awareness is defined as the level of consumer recognition and remembrance of a niche perfume brand.

**Dependent Variables**

Intention to buy is defined as the possibility or intention of a consumer to buy a niche perfume.

**Table 3.2. Variable Operational Definition**

| Variable | Operational Definition | Indicators | Measurement Scale |
|---|---|---|---|
| FOMO (X1) | Anxiety for fear of missing out on exclusive products or the latest trends. | Frequency check social media for niche perfume information. | Likert Scale |
| | | Anxiety occurs when one is not able to access the latest information. | |
| | | The desire to buy exclusive or limited edition products. | |
| Influencer (x2) | Individuals who influence purchasing decisions through content and recommendations. | The frequency of following and interacting with influencer content. | Likert Scale |
| | | The level of trust in influencer recommendations. | |

| Variable | Operational Definition | Indicators | Measurement Scale |
|---|---|---|---|
| | | Engagement in influencer content (likes, comments, shares). | |
| Social Influence (X3) | The influence of others (friends, family, community) on purchasing decisions. | How often do you receive recommendations from friends or family? | Likert Scale |
| | | Compliance with norms or trends in the community. | |
| | | Involvement in discussions or forums about niche perfumes. | |
| Brand Awareness (Z) | Consumer recognition and reminder of niche perfume brands. | Ability to recognize niche perfume brands. | Likert Scale |
| | | The ability to remember brands spontaneously. | |
| | | Brand association with the attributes of exclusivity and luxury. | |
| Intention to Buy (Y) | The possibility or intention of consumers to buy niche perfumes. | Willingness to pay a premium price for a niche perfume. | Likert Scale |
| | | Frequency explores niche perfume product options. | |
| | | Tendency to buy soon. | |

### 3.6 Data Collection Methods

The data in this study were collected through questionnaires, namely by distributing questionnaires to employees.

1. Questionnaire

   A questionnaire is a data collection by provides or distributes a list of questions to respondents in the hope of receiving a response on the basis of the questions.

2. Obervation

   It is a data collection technique where researchers make direct observations of the research object to take a closer look at the activities carried out. This technique is used by researchers when they want to find out about respondent behavior, work processes, symptoms that arise from respondent behavior, and so on.

### 3.7 Data Processing and Analysis Methods

Based on the objectives and existing hypotheses, the data that has been collected is processed and analyzed using multivariate statistical analysis. After going through the calculation mechanism of the questionnaire results, the data will be analyzed and will go through a testing process using the multivariate structural equation modeling (SEM) technique. SEM comprehensively consists of 2 measurement models, namely the measurement model and the structural model. Measurement models are used to test validity and reliability, while structural models are used to test causality (hypothesis testing against research models that have been prepared).

#### 3.7.1 Partial Least Squares (SEM-PLS)

Structural Equation Modeling (SEM) is a statistical technique that is very useful in determining structural models and measurement models (Uysal, Tirta, Anggraeni, & ., 2014). SEM is one of the multivariate analysis methods that can be used to define the relationship between latent variables and observed variables. Latent variables are variables that are not observed and cannot be measured directly, where the measurement process must go through the help of several indicators. The consideration for choosing SEM PLS is due to the relatively small number of samples below 200, and the model has great complexity with many variables and indicators (Hair et al., 2010).

Partial least squares (PLS) is one of the statistical analyses whose function is similar to SEM in conducting covariance analysis. Because the statistical analysis is similar to SEM, the skeleton pattern in PLS used is a linear regression-based method. PLS is a multivariate method used to verify the relationship between latent variables. The PLS analysis model is often used in explaining a theory. The model developed in PLS consists of two linear equations identified as a structural model (inner model) or a measurement model (outer model). The inner model provides an overview of the causal relationship between latent variables which is arranged based on the theoretical foundation that is built, where the inner model is a structural model used in predicting causal relationships between latent variables while the outer model describes the relationship between indicators and their latent variables where the outer model as a measurement model is used to test the validity and reliability of the model.

The data processing in this study will use PLS SEM assisted by statistical application software, namely SmartPLS, where the use of SmartPLS takes into account a small number of samples to obtain accurate results (Alazemi & Ahmad, 2020). The use of SmartPLS to model variation-based structural equations requires determining a minimum sample size. The software offers a number of options related to the data itself, such as whether or not a normal distribution can be assumed, what different types of scales have been used, and the number of variables (Alazemi & Ahmad, 2020).

### 3.7.2. Designing the Measurement Model (Outer Model)

According to Hartono, the measurement model or outer model is used to define the relationship between latent variables and indicators (Hartono, 2015). The outer model is used as a measurement model to test the reliability and validity of the research model. A research model cannot be further tested in predicting causality if the model has not passed the purification in the measurement model. The outer model is needed to test the reliability of the instrument and the validity of the construct. This is aimed at identifying the ability of research instruments to measure research constructs and how consistent research instruments are in measuring a concept, or to test the consistency of respondents in answering statement items in the research questionnaire.

According to Hartono, 3 stages are carried out to verify the measurement model, namely convergent validity, discriminant validity & composite reliability (Cronbach's alpha) with the following explanation (Hartono, 2015):

1. Convergent validity

   This validity is related to the rule that the measuring variable of a construct should be highly correlated. There are several rules used to test convergent validity, namely outer loading > 0.7, communality > 0.5, and Average Variance Extracted (AVE) > 0.5.

2. Validity of discrimination

   This validity is related to the rule that different construction gauges should not correlate with each other or do not have a high correlation. The validity test of discrimination is determined based on the cross-loading number of the measurement with its construct. Another method that can be used in determining the validity of discrimination uses an approach by comparing the AVE root for each construct with the correlation between the construct and other constructs in the research model.

3. Composite Reliability (CR)

   In addition to the convergent validity and discrimination validity tests above, PLS also conducts reliability tests to measure how consistent the research instruments are. The rule of thumb composite reliability must be greater than 0.7 (Hartono, 2015)

4. HTMT (The Heterotrait-Monotrait Ratio of Correlations)

   Through simulation analysis, Henseler, Ringle, and Sarstedt (2015) showed that this method is not able to accurately identify the absence of validity of discrimination in ordinary research scenarios. Therefore, these authors suggest a different method for evaluating the validity of discrimination based on a multitrait-multimethod matrix: heterotrait-monotrait correlation ratio (HTMT). In such circumstances, an HTMT value above 0.90 indicates that there is no validity of discrimination (Henseler et al, 2015).

### 3.7.3. Designing the Structural Model (Inner Model)

According to (Hair et al., 2019), the structural model (inner model) is used to define causality relationships between latent variables that are built based on theoretical substance (Hartono, 2015). The purpose of structural model analysis (inner model) is to provide information on the relationship between latent variables. In this research model, there are several variables that will be explained in the relationship, such as explaining the relationship between supply chain resilience, asset management, stakeholder management, environmental dynamism, sustainability practices, technology adoption, and project operational performance.

The value of R-squared in endogenous constructs. According to (Chin, 1998), the value of R Square can be identified as follows:

- R Square is 0.67, then it is declared strong
- R Square value of 0.33, then it is declared moderate
- R Square is worth 0.19, then it is declared weak

### 3.7.4. Fit Model

Standardized Root Mean Square Residual (SRMR) is defined as the difference between the observed correlations. Thus, this allows the assessment of the mean magnitude of the difference between the observed correlation and the expected as an absolute measure of the conformity criterion (model). Henseler et al. (2014) introduced SRMR as a conformity measure for PLS-SEM that can be used to avoid model specification errors. SmartPLS also provides bootstrap-based inference statistics of the SRMR criteria. For interpretation of SRMR bootstrap confidence interval results, see bootstrap-based testing for proper overall model fit (Hair et al., 2019).

For theory testing, consider using SRMR, RMStheta, or the exact fit test. Apart from the conceptual problems, this measurement behavior has not been studied in depth in the context of PLS-SEM, and the threshold value has not been lowered. Following a conservative approach, the SRMR value (RMStheta) is less than or equal to 0.10 (Worthington, 2006), or according to Weston, the SRMR value $\leq 0.08$ indicates a good fit (Weston et al., 2006). According to Hair, it is not recommended to use GoF to determine model suitability (Hair et al., 2019).

## 3.8. Hypothesis Testing

After the model is tested both partially and in its entirety, the next stage is to test the hypothesis. Testing this hypothesis is intended as a step to evaluate the results of the study compared to what the researcher expects by using the bootstrap resampling method. (Hair, 2019) argues that the application of the bootstrap resampling method allows the application of freely distributed data, does not require normal distribution assumptions, and does not require large samples. The bootstrap method developed by Geisser & Stone is based on the sample data resampling method with its data collection requirements in providing statistical completion of one sample size with the aim that the sample can represent the actual population data, usually in

determining the resampling size can be obtained thousands of times to represent the population data size.