CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This section outlines the research design, data gathering technique, the questionnaire, and data analysis. This study employs mixed methods research, which involves gathering, evaluating, and combining quantitative and qualitative data to address the research questions.

3.2 Research Approach and Design

The research methodology for this study will be mixed methods, focusing on qualitative collecting and analysing data, followed by quantitative data collection and analysis. This research need to use mixed methode because researcher can cross-validate and corroborate findings, increasing reliability and validity of the results. On the holistic perspective this method will provides a more complete understanding of the research problem by integrating diverse type of data. Creswell (2003) describes mixed methods research as gathering and interpreting quantitative and qualitative data in a single study. Then, the research design is generated on the concept of waqf Pesantren related to poverty alleviation theoretically and practically using qualitative and quantitative methods.

Combining both qualitative and quantitative research methods provides a comprehensive understanding of the waqf model at Pesantren Gontor, capturing the full scope of its impact on poverty alleviation. Quantitative data offers measurable evidence, such as the number of people employed or the revenue generated, while qualitative insights provide context and depth, revealing the underlying mechanisms and stakeholder experiences. This combination ensures triangulation, enhancing the validity and reliability

of the research findings. The complexity of waqf management, encompassing economic, social, and educational dimensions, requires a holistic perspective that mixed methods can provide. Additionally, this approach addresses different research questions, with quantitative methods focusing on scale and extent, and qualitative methods exploring how and why the model works. The flexibility in data collection, integrating surveys, financial reports, interviews, focus groups, and case studies, allows the research to adapt to diverse types of information and contexts. The rich integration of quantitative and qualitative data generates detailed, actionable insights, supporting comprehensive recommendations for policymakers and practitioners. Ultimately, the mixed method approach ensures a thorough investigation, balancing breadth and depth, and informing both academic understanding and practical applications of the waqf model for poverty alleviation. The exploratory sequential design is the type of mixed methods approach that will be employed in the research. It begins with collecting and analysing qualitative data, followed by a development phase in which the qualitative observations are transformed into a quantitatively tested strategy or instrument. Several variables such as waqf Pesantren, human resources, waqf based Business Units and poverty alleviation will be tested with quantitative measures.

In general, the research can be classified into three basic designs. It could be exploratory, descriptive, or causative. Based on the preceding classifications and the researcher's limited resources, this study is best described as exploratory and descriptive. It is also linked to a number of social scientific studies that describe settings and experiences and analyse a specific phenomenon.

Descriptive studies explore what was, when, and how, whereas explanatory studies address the why. Explanatory studies are frequently used in conjunction with case studies. According to Yin, case studies help address research concerns, such as how and why. This study will employ descriptive document analysis and explanatory case studies to examine waqf Gontor. The study collects secondary data and information about waqf through a descriptive research method. Second, it draws on in-depth interviews with several practitioners and academics who are experts in waqf Pesantren. The case study will be located in Pesantren Gontor. The last method will be used as a questionnaire after studying the concept and practice of waqf Pesantren Gontor's influence in poverty alleviation.

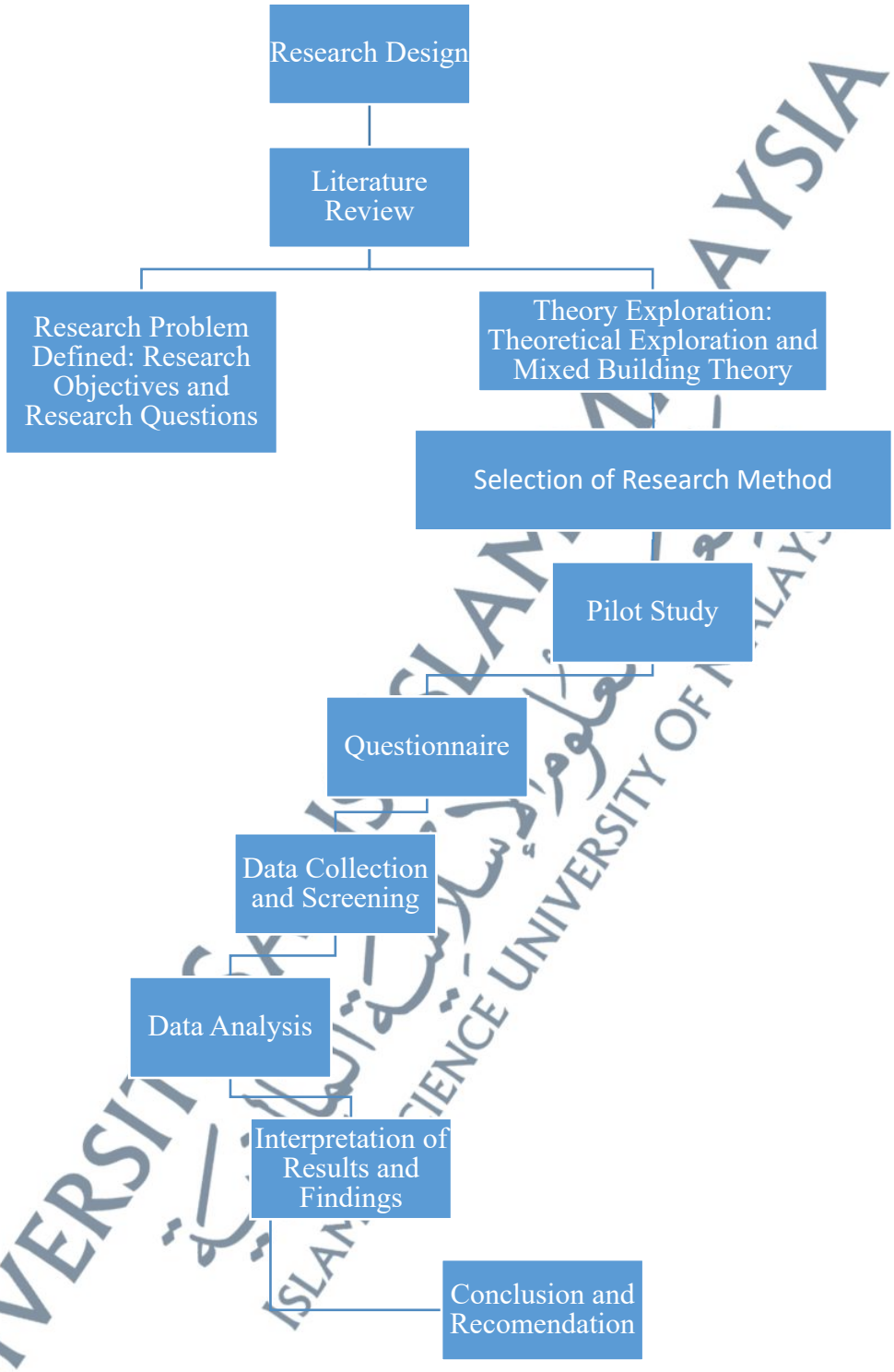

Figure 3. 1 Research Design Flow Chart

3.3. Data Collection

In collecting data, this study will utilize three methods: document studies, interviews and questionnaires. All methods will be explained below.

3.3.1. Document Studies

Lincoln and Guba (1985:65) defined a document as any written or recorded material that was not prepared for the evaluation or at the request of the inquirer. Documents can be examined to uncover patterns and trends from the past, which historians frequently undertake. The majority of the information used in this study was gathered from primary and secondary sources. In the case of primary sources, they are gathered from the Qur'an and Sunnah, whilst secondary sources are gathered from written texts such as textbooks, journals, bulletins, report documents, and magazines, among other sources. As a result, this research will collect information from the Qur'an and Sunnah (primary sources), as well as from other Islamic references and other documents that are linked to the subject of waqf.

3.3.2. Interviews

The qualitative interview is one of the primary ways to get data for a research project. It can be semi-structured or unstructured. Before that, the interview questions will be validated by the experts. Qualitative interviews can be done one-on-one, in groups, face-to-face, over the phone, or online through synchronous or asynchronous computer-mediated interaction. Asking questions and getting answers is a good way to learn about people's views, meanings, and definitions of real situations and constructions. During the interview, waqf experts are asked about the development of waqf as a solution for poverty alleviation in Indonesia's ZISWAF (Zakat, Infaq, Shodaqoh and Waqf) institutions.

According to Kvale (1996), the entire interviewing process consists of seven stages: 1) Thematizing, which refers to clarifying the purpose of the interviews and the concepts to be explored; 2) Designing encompasses outlining the process by which you will achieve your goal, taking into account the ethical dimension; 3) Interviewing; 4) Transcribing (creating a written transcript of the interviews); 5) Analysing; 6) Verifying (checking the dependability and validity of materials); 7) Reporting. In addition, there are three types of interviews: unstructured, semi-structured, and structured.

This study will employ a semi-structured interview in which some questions are predetermined, and others are changeable based on the situation or circumstance. Semi-structured inquiries are typically open-ended, and after posing each question to the study participant, the interviewer follows up with probes requesting additional details and a description of what was answered. As a result, semi-structured interviews are classified as qualitative rather than quantitative because the questions are open-ended rather than closed-ended.

The interview data is being utilized to explore the concept and growth of ZISWAF (Zakat, Infaq, Shodaqah and Waqf) institution as a solution to poverty reduction, specifically in Indonesia. The semi-structured interview was chosen because of its benefits for the interviewees, such as flexibility in answering questions. Furthermore, it allows the researcher to ask relevant questions that were not planned for the interview and allows for identifying new aspects throughout the interview process, resulting in a more in-depth understanding. This research utilizes in-depth interviews, and the interviews are structured similarly to a discussion or interactive dialogue. The informant serves as the guide for the interviewer or researcher.

3.3.3. Questionnaire

A questionnaire is a pre-written collection of questions respondents respond to, typically within a limited number of strictly specified possibilities. It is one method of eliciting information from people (or responses to our study questions), frequently but not always through the use of questions. Primary data for this study were collected by survey, defined as a sequence of pre-determined questions that can be self-administered via mail or asked by interviewers.

The study's questionnaire is quantitative. The quantitative questionnaire will be used to develop a model of waqf Pesantren Gontor related to poverty reduction. The respondents will answer scale questions, often closed-ended and comprised of some variables linked to Waqf Pesantren Gontor.

3.3.4. Focus Group Discussion

Focus group discussions constitute an invaluable asset in qualitative research, yielding rich and detailed data that enable researchers to grasp complex issues from diverse viewpoints. Despite necessitating meticulous planning and adept moderation, the insights derived from FGDs substantially enhance comprehension of the subject under scrutiny and inform decision-making across a multitude of domains.

FGDs can help researchers understand the informants' ideas about the most potential waqf business units in Gontor. By involving various stakeholders in waqf, such as waqf business unit managers and waqf experts, FGDs can reveal the problems and obstacles faced in waqf management.

3.4. Sampling Unit

According to Berg & Lume (2012), a sample is a group of individuals drawn from a particular population to reflect the population under investigation. Respondents for ANP, in this case, academics, regulators, and practitioners, while the respondent for the structural equation modelling (SEM) is the person in charge of the waqf based Business Units. Sampling is the term used to describe selecting a sufficient number of objects from a population (Sekaran & Bougie. 2016).

3.4.1. Types of Sampling

There are two distinct sampling designs for relevant data: probability and nonprobability. Probability sampling can be classified into simple random and complex random. These sampling techniques are excellent for quantitative research since they generate a representative population sample. The subject of this research will be nonprobability sampling.

Nonprobability sampling is picking samples based on their potential to focus attention on specific social processes. The study may employ two nonprobability sampling techniques: convenience and purposive sampling. According to Sekaran & Bougie, a convenience sample approach is used when qualitative research is conducted for exploratory objectives.

Nonetheless, acquiring information from a specific target population may be necessary. Purposive sampling requires collecting data from a particular target: individuals who will offer the required information. The study's sample is composed of individuals who work in the field of waqf Pesantren, and they could be practitioners or experts.

Before delivering the questionnaire to all research samples, the researcher will run a pilot test on 30 respondents to determine the feasibility of the research design. A pilot study is a mini-version of a full-scale study or a trial run in preparation for the comprehensive study. The latter is also dubbed a feasibility study. It can also be a specialized pre-testing of research equipment, including questionnaires or interview schedules.

3.5. Data Analysis Method

This study will employ a mixed-method approach. When answering the first problem formulation, the researcher will use the Analytic Hierarchy Process (AHP) as a qualitative method and structural equation modelling (SEM) to answer the second problem formulation. Content analysis will be utilized to analyse the document and text. The term content analysis refers to the process of interpreting written, verbal, or visual communication information. It is the methodical investigation and interpretation of a body of material to find patterns, themes, biases, and significance (Berg and Lune, 2012).

3.5.1 Analytic Hierarchy Process (AHP)

The Analytic Hierarchy Process (AHP) is a process that helps decision makers to obtain the best solution by decomposing complex problems into simpler forms and then synthesizing the various factors involved in the decision-making problem. AHP considers the qualitative and quantitative aspects of a decision and reduces the complexity of a decision by making one-to-one comparisons of the various criteria selected to then process and obtain the results. This technique not only helps decision makers to obtain the best alternative solutions, but also provides a clear rational understanding for the choices made.

There are four basic principles of AHP that must be understood, there are:

1. Decomposition is breaking complex problems into simpler forms and arranging them into a hierarchical tree.

2. Comparative Judgment is the process of assessing the relative importance of one criterion with other criteria at a certain level. This assessment affects the priority of criteria which is the core of the AHP method. The results of this assessment are arranged in the form of a pairwise comparison matrix.

3. Synthesis of Priority is synthesis process among local priorities in a hierarchical level to obtain global priorities from various criteria for a decision making.

4. Local Consistency is assessment of relative importance that is consistent between one criterion and another.

There are several stages carried out in the AHP method, including:

Stage 1: Defining the hierarchical structure of the problem. Problems are decomposed into a hierarchical tree that shows the relationship between problems, criteria, and alternative solutions. The hierarchy tree is illustrated in Figure 3.2.

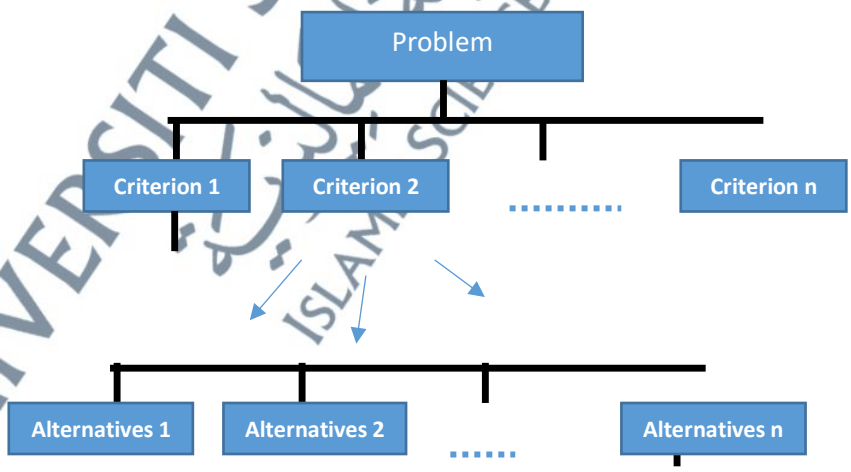

Figure 3. 2 Hierarchy Tree

Stage 2: Weighting the criteria at each hierarchical level at this stage, all criteria at each hierarchical level are given an assessment of the relative importance of one criterion to the other. The assessment uses the Saaty weighting standard with a scale ranging from 1 to 9 and vice versa. Information about the scale can be seen in table 3.1 below.

Table 3.1: Pairwise Comparison Scale for Analytical Hierarchical Process Preferences

Scale	Explanation
1	Equally Preferred
3	Moderately Preferred
5	Strongly Preferred
7	Very Strongly Preferred
9	Extremely Preferred
2,6,4,8	Intermediate values between the two adjacent judgments

Based on these criteria values, a pairwise comparison matrix A can be compiled as follows (Saaty, T.L (1977):

$$A = \begin{bmatrix} a_{1,1} & a_{1,2} & a_{1,3} & \dots & \dots & \dots & a_{1,j} \\ a_{2,1} & a_{2,2} & a_{2,3} & \dots & \dots & \dots & a_{2,j} \\ a_{3,1} & a_{3,2} & a_{3,3} & \dots & \dots & \dots & a_{3,j} \\ \dots & \dots & \dots & \dots & \dots & \dots & \\ a_{i,1} & a_{i,2} & a_{i,3} & \dots & \dots & \dots & a_{i,j} \end{bmatrix}$$

(3.1)

$a_{1,j}$ declares the elements of matrix A row to column j.

Stage 3: Calculating the weighting of the criteria and the consistency of the weighting.

This stage calculates the weighting priority by finding the eigenvector value of matrix A through the following process:

1. Square matrix A. The value of matrix elements A^2 is determined using the following formula:

$$\boldsymbol{a_{i,j} = \sum_{k=1}^{n} a_{i,k} \cdot a_{k,j}}$$

(3.2)

$\boldsymbol{a_{i,k}}$ declaring element matrix *A* row I column k.

$a_{k,j}$ declaring element matrix A row k and column j.

2. Add up the elements of each row of matrix A^2 so that it gets a matrix B with using the following formula below (Saaty, T.L (2000):

$$\boldsymbol{b_i = \sum_{j=1}^{n} a_{i,j} = +a_{i,1} + a_{i,2} + a_{i,3} + \ldots\ldots\ldots + a_{i,j}}$$

(3.3)

b_i declares matrix elements B row i. Matrix B is composed using elements b_i as follows:

Add all elements of matrix B using the following formula:

$$B = \begin{bmatrix} b_1 \\ b_2 \\ b_3 \\ \dots \\ \dots \\ b_i \end{bmatrix} \qquad \sum_{i=1}^{n} \boldsymbol{b_i} = \boldsymbol{b_1} + \boldsymbol{b_2} + \boldsymbol{b_3} + \dots\dots\dots + \boldsymbol{b_i}$$

(3.4)

3. From the B matrix that was obtained in step 2 above, then normalization is carried out on the B matrix to obtain the eigenvector value of the B matrix. The eigenvector value of matrix B is described in matrix E as follows:

$$E = \begin{bmatrix} \boldsymbol{e_1 = b_1 / \sum_{j=1}^{n} b_i} \\ \boldsymbol{e_2 = b_2 / \sum_{j=1}^{n} b_i} \\ \dots\dots\dots \\ \boldsymbol{e_3 = b_i / \sum_{i=1}^{n} b_i} \end{bmatrix}$$

(3.5)

e_1 denotes the elements of the matrix *E* row number 1.

4. The three processes above are carried out repeatedly and at the end of each stage, the difference in the eigenvector matrix E value obtained with the previous

eigenvector matrix E value is obtained, until a number close to zero is obtained. The matrix E obtained in the last step shows the priority of the criteria indicated by the coefficient of the eigenvector value.

Stage 4: Calculating Weighting Alternative

At this stage alternative weighting is carried out for each criterion in the pairwise comparison matrix. The process for weighting these alternatives is similar with the process for calculating weighting criteria.

Stage 5: Displaying the sequence of alternatives considered and selecting alternatives. This stage calculates the eigenvector values that obtained at the alternative weighting for each criterion with the eigenvector values that obtained at the criteria weighting. This is done to determine the choice of the available alternatives. The largest number of values is the best choice. The calculation is shown as follows (Saaty, 1994):

$R = Alt \times E$

$$R = \begin{bmatrix} Alt_{1,1} & Alt_{1,2} & \ldots & \ldots & Alt_{1,b} \\ Alt_{2,1} & Alt_{2,2} & \ldots & \ldots & Alt_{2,b} \\ \ldots & \ldots & \ldots & \ldots & \ldots \\ \ldots & \ldots & \ldots & \ldots & \ldots \\ Alt_{a,1} & Alt_{a,2} & \ldots & \ldots & Alt_{a,b} \end{bmatrix} \begin{bmatrix} E_1 \\ E_2 \\ \ldots \\ \ldots \\ E_b \end{bmatrix} \quad R_a = \begin{bmatrix} R_1 \\ R_2 \\ \ldots \\ \ldots \\ R_a \end{bmatrix}$$

(3.6)

R_a obtained by the following formula:

$$\boldsymbol{R_a = \sum_{b=1}^{n} Alt_{ab}.E_b}$$

(3.6)

$Alt_{a,b}$ denotes matrix element *Alt* row a column b and E_b denotes matrix element *E* row b.

The AHP model employs primary data in multiple stages, including a literature review, a focus group discussion (FGD) and a questionnaire. Numerous studies on Waqf Pesantren's literature identified the initial variables used for the AHP framework. The AHP framework's draft was subsequently confirmed during the focus group discussion (FGD). Respondents to the FGD represented experts such as practitioners and academicians.

3.5.1.1 Consistency AHP

Between one criterion and other criteria cannot be completely consistent. This inconsistency can be caused by errors in entering judgments into the system, lack of information, lack of concentration, the real world is not always consistent, or an inappropriate hierarchical structure model. The AHP method permits the occurrence of inconsistencies in the assessment of criteria, but the inconsistencies in these assessments may not exceed a consistency ratio of 10%. This consistency ratio can be obtained by the following steps:

1. Calculating λmax of each order matrix by adding up the multiplication results between the total weights of all criteria in each matrix column and the main eigenvector value of the matrix.

2. Calculating the index consistency value for each matrix by using the formula:

$$CI = \frac{\lambda_{\max} - n}{n-1} \quad (3.7)$$

CI = Consistency index

n = Order of the matrix maximum

λ max = Eigenvector value maximum

The consistency ratio can be calculated using formula (Saaty. T.L. 1994):

$$CR = \frac{CI}{RI} \quad (3.8)$$

CR= consistency ratio

RI= Random Index

Table 3.2 below shows random index values for each matrix of order 1 to 10 (Saaty, 1991):

Table 3. 2: Random Index Value

Order	*RI*
1	0
2	0
3	0.52
4	0.89
5	1.11
6	1.25
7	1.35
8	1.40
9	1.45
10	1.49

3.5.1.2 AHP Model

The proposed AHP Model construction is as follow:

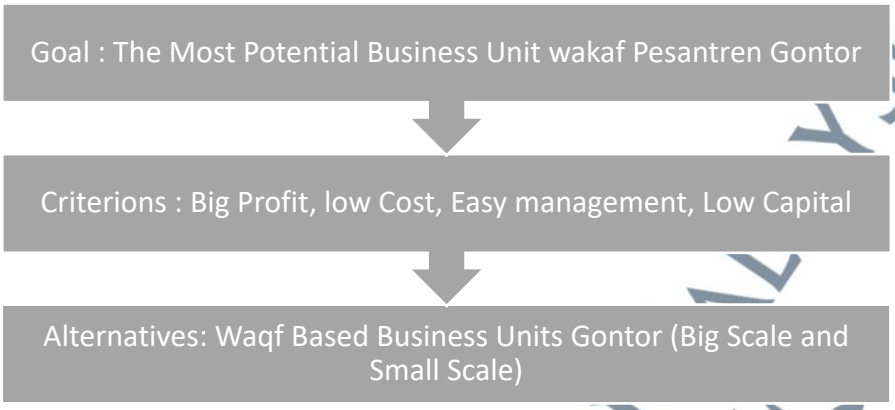

Figure 3. 3: AHP Model Construction

The AHP process' ultimate objective is to recognise the most potential business unit of waqf Pesantren Gontor. Conducting a literature review and an interview will be detailed to expound on the technical and fundamental concerns.

Businesses that generate big profits typically enjoy better financial stability, enabling them to sustain operations over the long term and withstand economic challenges. Significant profits allow businesses to expand, innovate, and enter new markets, thereby enhancing their competitiveness and market reach. Profitable businesses are more attractive to investors and financiers, facilitating easier access to additional capital necessary for further growth.

Low-cost businesses typically achieve greater efficiency in resource utilization, which can enhance profit margins and increase competitiveness in the market. These businesses are also better equipped to withstand economic fluctuations due to their larger financial cushions, allowing them to manage revenue downturns more effectively. Therefore, low cost is considered one of the key criteria in determining the most potential waqf businesses in pesantren.

Businesses with easy management structures tend to operate more efficiently on a day-to-day basis. Simple and well-organized processes allow businesses to save time and costs, boosting productivity. Easily managed procedures facilitate the training and orientation process for new employees, reducing the time needed to bring them to full productivity. Simple management structures enable businesses to adapt to market changes and customer needs more easily, as this flexibility allows them to quickly respond to new challenges and opportunities. With simpler procedures, decision-making can be faster and more effective, enabling businesses to be more responsive to changes and to seize market opportunities promptly.

Small capital makes businesses more accessible to many people, including students and the pesantren community. This can be a great way to empower the community by providing entrepreneurial opportunities without requiring a large investment. Businesses with small capital typically have lower financial risks. If the business does not go as planned, the financial losses incurred will be smaller compared to businesses requiring large capital. Small-capital businesses tend to be more flexible and can be started quickly. Additionally, these businesses can be developed gradually as capital and profits increase. Small-capital businesses can also serve as educational and training tools for students. They can learn entrepreneurial skills, management, and business operations on a manageable scale.

3.5.1.3 AHP Proposed Respondents

AHP respondents should comprise experts on waqf Pesantren business unit, Gontor, especially related to poverty alleviation. The proposed list of respondents for this study is as follows:

Table 3.3: AHP Proposed Respondents

NO	Name	Position
1	Ismail Budi Prastyo, M.A	Chief of Gontor Foundation
2	Suraji Badi' M. A	Chief of Gontor Financial
3	Samsudin Nur Ahmadi, MA	CEO of Business Unit Wakaf UNIDA Gontor
4	Dr. Khoirul Umam	Expert of Pesantren Waqf
5	Hanif Hafidz, S.Ag	CEO Gontor Pesantren Cooperation
6	Dr. Imam Kamaluddin	Dean of Shariah Faculty UNIDA Gontor
7	Sabar, S.Ag	Chief of business Unit Gontor

3.5.2 Structural Equation Modelling (SEM)

Covariance-based SEM (CB-SEM) and partial least squares SEM (PLS-SEM) are two types of SEM modelling that can look at the relationship between latent variables. They were both developed by Jöreskog in 1969. The partial least squares SEM is used (PLS-SEM). PLS-SEM is sometimes called "soft modelling" because it does not make as many assumptions and can use a small number of people. Because PLS-SEM can test weak theories and weak data, like small sample sizes or problems with data normality, it is a good tool to use (Wold, 1975). The PLS-SEM can also be used to test the theory. It can show whether there is a relationship between two latent variables. It can also help with two big problems: first, an unacceptable solution;

second, the singular matrix problem. Because PLS is based on variance and not covariance, the singular matrix problem will never happen.

The partial least squares structural equation model (PLS-SEM) is a hybrid model that combines two models: the measurement model (outer model) and the structural model. In general, PLS-SEM employs an ordinary least squares (OLS) regression-based estimate technique. As with the OLS regression model, this strategy focuses on forecasting a set of hypothesized relationships that maximize the variance described by the dependent variable. As a result, the emphasis of PLS-SEM is on prediction rather than explanation, which makes it extremely beneficial for studies that examine factors affecting a particular aspect, such as those on sources of competitive advantage, drivers of success, and others (Hair et al, 2014).

3.5.2.1 PLS Estimation Procedure and Statistical Test

Estimating and evaluating statistics on the resulting model is a significant statistical analysis in PLS-SEM modelling. The estimating and testing stages in PLS-SEM modelling are generally stated as follows:

1) Specifying the model. This step includes the theoretical specification of the link between latent variables and the methodology for measuring each latent variable. The model specification can be accomplished by experience in a particular field and through a survey of theory and literature. The model specification for this investigation was constructed using a combination of existing literature.

2) Create a flowchart. To aid in the comprehension and analysis of model findings, the previous stage's inner and outer model designs might be expressed

as a path diagram. The inner model explains the relationship between the latent variable and its measuring indicators, whereas the outer model explains the relationship between the latent variables. The path diagram depicts the research hypothesis and the relationship between the variables that will be evaluated. Generally, this figure is referred to as a path model. The path model is a graphic that visually presents the hypothesis to be investigated by connecting latent variables based on theory. In the research process, creating a route model enables the researcher to visualize the links between the variables of interest.

3) Calculating the parameters of the model. The PLS-SEM method estimates parameters that indicate the relationship between measurement indicators (manifest variables) and their latent variables, as well as the relationship between multiple latent variables in the coincide measurement indicator (manifest). When considered from this perspective, the results of the PLS-SEM can be described and interpreted as a mixture of two models: the measurement model (outer model) and the structural model (inner model). The PLS-SEM is a technique that uses the OLS regression-based estimation technique in most cases. The OLS regression model and other methods are concerned with forecasting a postulated set of relationships that maximize the variance specified in the dependent variable, such as logistic regression. As a result, the emphasis of PLS-SEM is on prediction rather than explanation, which makes it particularly effective for studies on sources of competitive advantage and success drivers.

4) Model evaluation. In PLS-SEM, model evaluation encompasses both the outer and inner models. Convergent validity, discriminant validity, and construct

reliability are all included in the examination of the outer model. Convergent validity is a measure of internal consistency that verifies that the items or indicators used to estimate each latent variable genuinely measure it and do not measure any other latent variables. The average variance extracted (AVE) can be utilized in PLS-SEM to estimate the construct's convergent validity. The AVE is defined as:

$$AVE = \frac{(\sum \lambda_i{}^2)}{\sum \lambda_i^2 + \sum_i \sigma^2(e_i)}$$

(3.9)

Where:

λ = loading factor

$\sigma^2(e_i)$ = error variance

Discriminant validity testing is done to ensure that the reflective construct in the PLS pathway model has the best relationship with its own indicator (for example, compared to other constructs) in the way it is shown in the model (Hair et al, 2017). Discriminant validity has become a pivotal part of analysing the relationship between latent variables. There are many different ways to check for discriminant validity when you use variant-based structural equation modelling, like PLS. Fornell-Larcker criteria and cross-loadings checks are the most common ways to do this. It must be easier to see cross-loading when you look at it. The factor loading indicator on the construct you want must be higher than the loading

indicators on all other constructs if the loading factor cut-off value is higher than 0.70.

Construct reliability is used to determine the reliability of indicators to measure latent variables. Cronbach's alpha is a reliability (or consistency) coefficient that indicates how effectively a collection of items or indicators represents a latent variable's single dimension. Cronbach's alpha is typically low when data has a multidimensional structure. The formula for Cronbach's alpha is as follows (Cronbach, 1951):

$$\boldsymbol{\rho_c} = \frac{(\boldsymbol{\Sigma_i l_i})^2}{(\boldsymbol{\Sigma_i l_i})^2 + \boldsymbol{\Sigma_i var(e_i)}}$$

(3.10)

Where:

l = standardized outer loading value of the i measuring indicator for a certain latent variable.

e = measurement error of the i measuring indicator

var (ei) = variant of the measurement error

Meanwhile, the inner model evaluation includes multicollinearity, coefficient of determination (R^2) and predictive relevance (Q^2). Multicollinearity (or collinearity) is a statistical phenomenon in multiple linear regression analysis where two (or more) independent or predictor variables are highly correlated with each other or intercorrelated (Allen. M, 2017). According to Hair et al. (2014), collinearity is very high (or multicollinearity symptoms emerge) when the tolerance is 0.20 or below, which also implies that the VIF is 5 or above.

Furthermore, the coefficient of determination R^2 is used to measure how well the model predicts what will happen. It is calculated as the squared correlation between the actual value and the predicted specific endogenous constructs. Range: R^2 values can go from 0 to 1, with a high number indicating better predictions. It's hard to give a general rule of thumb for how much R^2 should be because it depends on the complexity of the model and the field of study. There are some fields where the number 0.20 is considered high. In studies of what drives success, researchers expect a value much higher than 0.75. In marketing research, R^2 values of 0.75, 0.50, or 0.25 for endogenous latent variables can, as a rule of thumb, be called substantial, moderate, or weak, respectively, when they come from endogenous latent variables (Hair et al., 2017; Reinartz et.al, 2009).

5). Test the model's overall fit by running it via a simulation. The overall fit model test is intended to determine whether or not the model's predictive value is capable of effectively predicting the response to other sampled data. When using PLS-SEM, the standardized root mean square residual is one way that may be used to verify the overall fit of the model (SRMR). PLS-SEM goodness-of-fit measures were introduced by Henseler et al. (2014) as a measure of goodness-of-fit for PLS-SEM that can be used to avoid model specification errors. SRM is defined as the difference between the observed correlation and that predicted by the model that predicts the correlation matrix (see Figure 1). This allows us to examine the fit criterion as a function of the mean magnitude of the difference between actual and expected correlations as the absolute measure of the difference (model).

3.5.2.2 SEM Model Construction

SEM Model will be used to explore the influence of waqf Pesantren Gontor, waqf based Business Units, human resources and Gontor's values toward poverty alleviation. The structural equation model construction will show below:

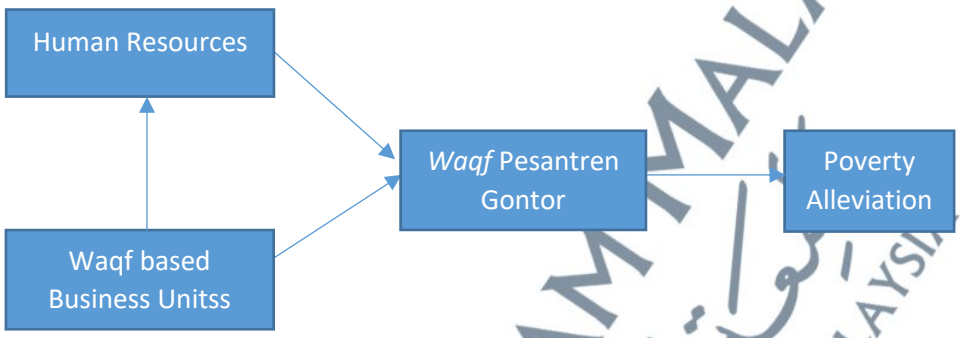

Figure 3. 4 : SEM Model Construction

3.5.3. SEM Proposed Questionnaire

This section shows the list of SEM variables, indicators, SEM latent and manifest variables.

Table 3.4: List of SEM Variables

Variable	Reference	Code
Human Resources		
Attitude/ Good Manner	Febriyanti, et al. (2018 p.322)	H1
Qualified Human Resources	Kamri (2010 p.666); Siswanto, et.al. (2013 p.51)	H2
Skill Needed	Rashid (2012 p.109); Febriyanti (2018 p.322)	H3
Work Experience	Bahroni (2012 p.358); Febriyanti (2018 p.320)	H4
Quality of Work	Bahroni (2012 p.359); Febriyanti (2018 p.322)	H5

Waqf based Business Units		
Source of Fund	Indrawati (2014 p.86); Ahwarumi, et al.(2018,p.357)	B1
Profitability	Bahroni (2012 p.359); Indrawati (2014, p.85)	B2
Business Capital	Philips (1983, p.32)	B3
Product Innovation	Philips (1983, p.32)	B4
Market Need	Philips (1983, p.32); Ahwarumi, et al.(2018,p.355)	B5
Waqf Pesantren Gontor		
Potential of Assets	Mannan (2005); Zuki (2012, p.173)	W1
Professional Nazir	Khan (2015, p.48); Zuki (2012, p.174)	W2
Productive Waqf	Rashid (2012, p.108)	W3
Regulation		W4
Supporting factor of Waqf	Hasan (2006, p.4)	W5
Management of Waqf Assets	Rashid (2012, p.106); Shulthoni, et al. (2018, p.158)	
Poverty Alleviation		
Community Welfare	Isbah (2006, p.120); Ahmad (2015, p.118-130)	P1
Staff Worker Welfare	Dhofier (1980, p.188)	P2
Economic Empowerment	Isbah (2006, p.125); Febriyanti (2018, p.319)	P3
Supporting Da'wah	Isbah (2006, p.140)	P4
Teachers Welfare	Dhofier (1980, p.147); Febriyanti (2018, p.319)	P5

Therefore, the model specification is as follows:

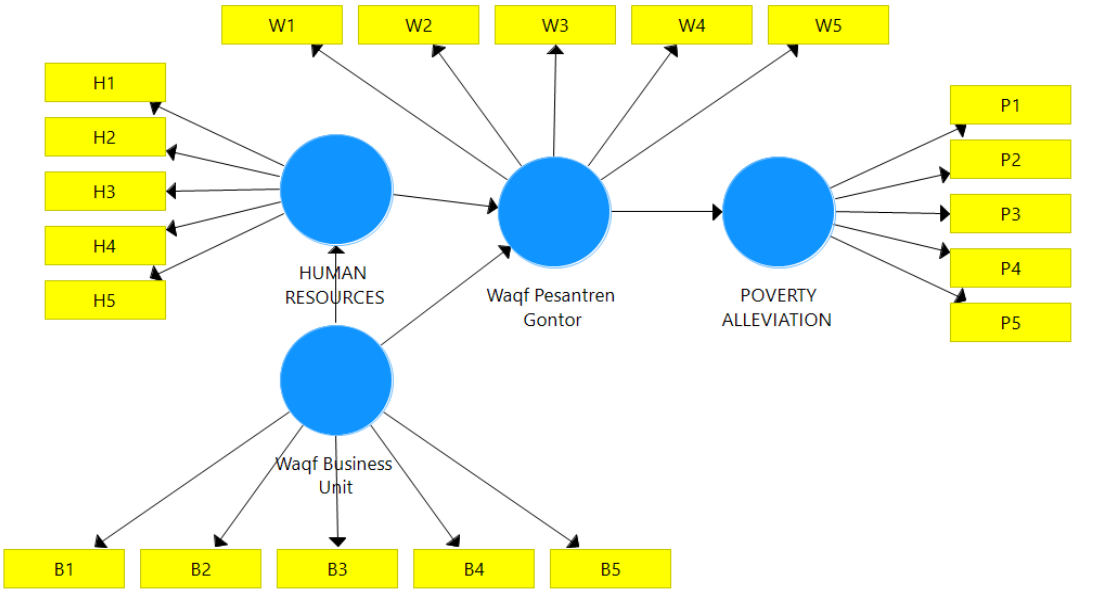

Figure 3. 5: SEM Latent and Manifest Variables

3.5.2.3 SEM: Respondents' Population and Sampling

According to combined source of waqf Gontor business units, the total population of business units owned by Gontor Pesantren is shown in the following table:

Table 3.5: List Number of Business Units Waqf

NO	Gontor Branch	Number of Business Units Waqf
1	Gontor Main Campus (Ponorogo)	27
2	Gontor 2 Male Campus (Ponorogo)	14
3	Gontor 3 Male Campus (Kediri)	22
4	Gontor 4 Male Campus (Banyuwangi)	20
5	Gontor 5 Male Campus (Magelang)	7
6	Gontor 6 Male Campus (Sulawesi)	9
7	Gontor 7 Male Campus (Lampung)	20
8	Gontor 8 Male Campus (Aceh)	6
9	Gontor 9 Male Campus (West Sumatra)	11
10	Gontor 10 Male Campus (Jambi)	11
11	Gontor 11 Male Campus (Poso-Sulawesi)	7
12	Gontor 12 Male Campus (Riau)	7

13	Gontor 1 Female Campus (Ngawi)	29
14	Gontor 2 Female Campus (Ngawi)	15
15	Gontor 3 Female Campus (Ngawi)	16
16	Gontor 4 Female Campus (Sulawesi)	5
17	Gontor 5 Female Campus (Kediri)	14
18	Gontor 6 Female Campus (Poso)	4
19	Gontor 7 Female Campus (Riau)	9
20	Gontor 8 Female Campus (Lampung)	6
21	UNIDA Male Campus	10
22	UNIDA Female Campus	12
TOTAL		281

Source: Wardun Gontor Magazine, 2021

The minimum number of respondents required for a structural equation model (SEM) depends on several factors, including the complexity of the model, the number of latent variables and observed indicators, the effect sizes of the relationships, and the desired statistical power. While there is no universally agreed-upon rule for determining the minimum sample size for SEM, researchers typically consider guidelines and recommendations (Kline, R. B, 2015).

However, it's crucial to note that the minimum sample size can vary depending on the specific research context and goals. Some researchers argue for larger sample sizes to ensure adequate statistical power and model stability, particularly for complex models with a large number of parameters.

William C. Hair, Jr., et al., authors of the book "Multivariate Data Analysis" (2014), provide a guideline for determining the minimum sample size for structural equation modelling (SEM). According to their recommendation, a sample size of at least 100 to 200 cases is generally considered appropriate for SEM. Hair, et al., suggest that the lower limit of 100 cases is suitable when the model is simple, with a small number of latent variables and observed indicators.

3.6. Pilot Study

The pilot test is used to evaluate the instrument's reliability and validity. Before the questionnaire was distributed to actual respondents, it was piloted with 30 respondents from Staff of *Gontor* Business Units. Data regarding the characteristics of the pilot test respondents are as follows:

Table 3.6: Respondent Characteristics of Pilot Test

Respondents	Number of Respondent	Percentage
Staff	30	100%
Age	Number of Respondent	Percentage
20 - 25	30	100%

Based on table 3.1 above, it can be seen that there were 30 respondents, and the average age of the respondents was 21-25 years old. Then the results of the questionnaire pilot test were tested for validity and reliability using the PLS Smart 4.0 program.

3.6.1 Validity Test

The validity test is used to measure the legitimacy or validity of a questionnaire. The measurement is valid if it measures the objective using actual or genuine data. If the significance value is less than 5% and r count is greater than r table, it is possible to conclude that all question items are valid. The validity test results are shown in table 3.2 below:

Table 3.7: Recapitulation of Validity Test Results of Pilot Test

Variables	Indicators	Outer Loading	AVE	Explanation

Human Resources Development (X1)	H1	0.795	0.636	VALID
	H2	0.738		VALID
	H3	0.729		VALID
	H4	0.837		VALID
	H5	0.878		VALID
Waqf based Business Units (X2)	B1	0.784	0.586	VALID
	B2	0.769		VALID
	B3	0.712		VALID
	B4	0.823		VALID
	B5	0.735		VALID
Waqf Pesantren Gontor (X3)	W1	0.840	0.719	VALID
	W2	0.805		VALID
	W3	0.910		VALID
	W4	0.853		VALID
	W5	0.828		VALID
Poverty Alleviation (Y1)	P1	0.956	0.735	VALID
	P2	0.911		VALID
	P3	0.843		VALID
	P4	0.790		VALID
	P5	0.772		VALID

On the basis of table 3.2, it can be concluded that the research instrument is valid, as its significance value is less than 5% and r count is greater than r table.

3.6.2 Reliability Test

This examination is conducted on question items included in the valid category. If Cronbach's Alpha (α) is greater than 0.70, the research data is considered to be of

high quality and reliability for use in data analysis. The following are the results of the reliability test based on the Alpha Cronbach formula:

Table 3.8: Recapitulation of Reliability Test Results of Pilot Test

Variables	Cronch's Alpha	Explanation
Human Resources Development (X1)	0.858	Reliable
Waqf based Business Units (X2)	0.828	Reliable
Waqf Pesantren Gontor (X3)	0.902	Reliable
Poverty Alleviation (Y1)	0.908	Reliable

Results shows that the composite reliability value of Variable of Human Resource development (0.858), variable of waqf based Business Units (0.828), variable of waqf Pesantren Gontor (0.902), variable Poverty alleviation (0.908) prove that all reflective paradigms exhibit higher levels of internal consistency reliability.

3.7. Conceptual Framework

An overall conceptual framework for this study is summarized below:

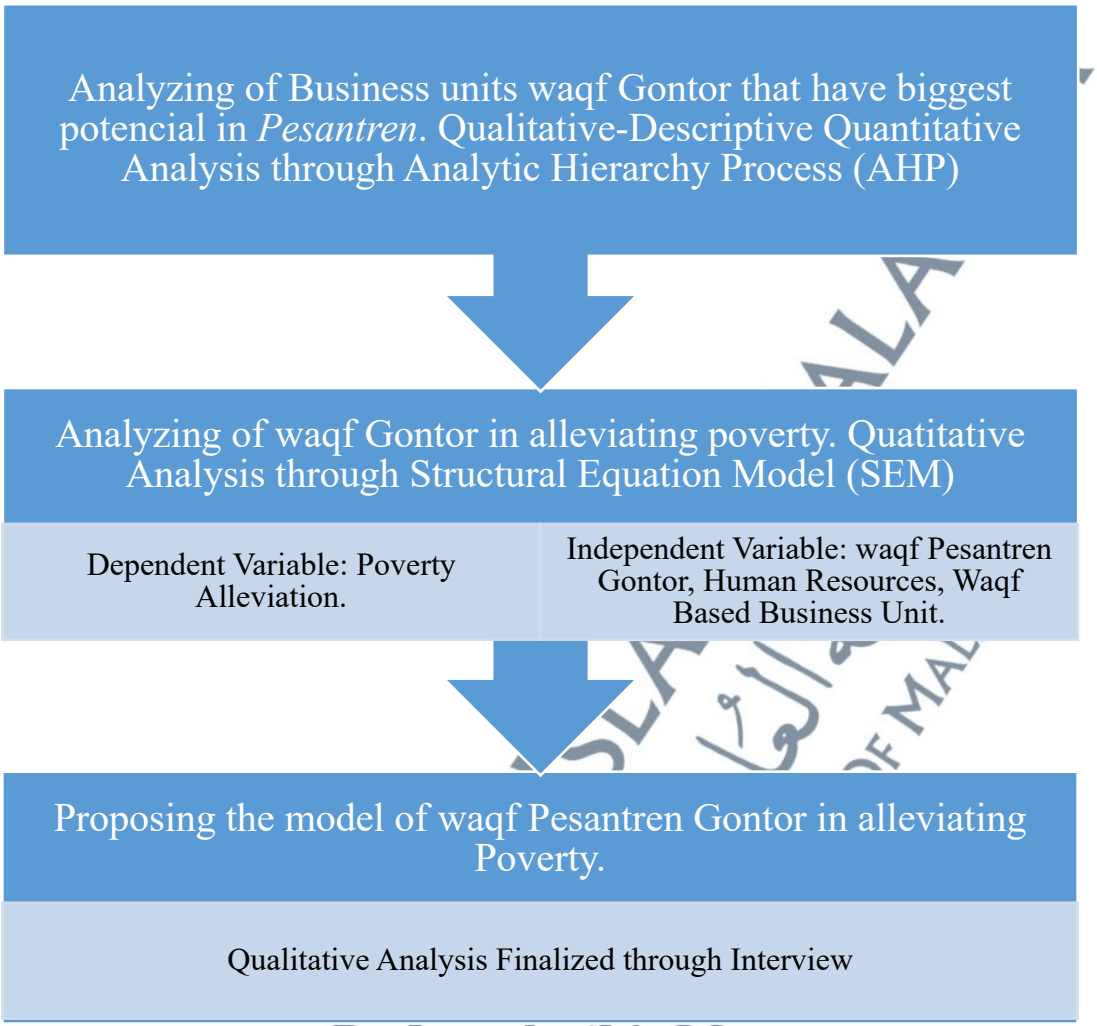

Figure 3.6 : Overall Conceptual Framework

3.8. Summary

It can be concluded that the study will combine qualitative and quantitative methods. The sources of data are generated from primary and secondary sources. The available data will be analysed using the appropriate method to achieve the study's objective. For the qualitative data, interview and Analytical Hierarchy Process (AHP) will be utilized, and for quantitative data, will use structural equation modelling (SEM).