

CHAPTER 3 – RESEARCH METHODS

3.1. Research Framework

To ensure that the research runs according to the planned stages, it is necessary to create a comprehensive and end-to-end research framework. Research framework is an important part of a research, in which the research framework is made to facilitate the execution of research so that the stages are clearly measured, and the final goal can be achieved. Figure 3.1 explains the Research Framework used in this study.

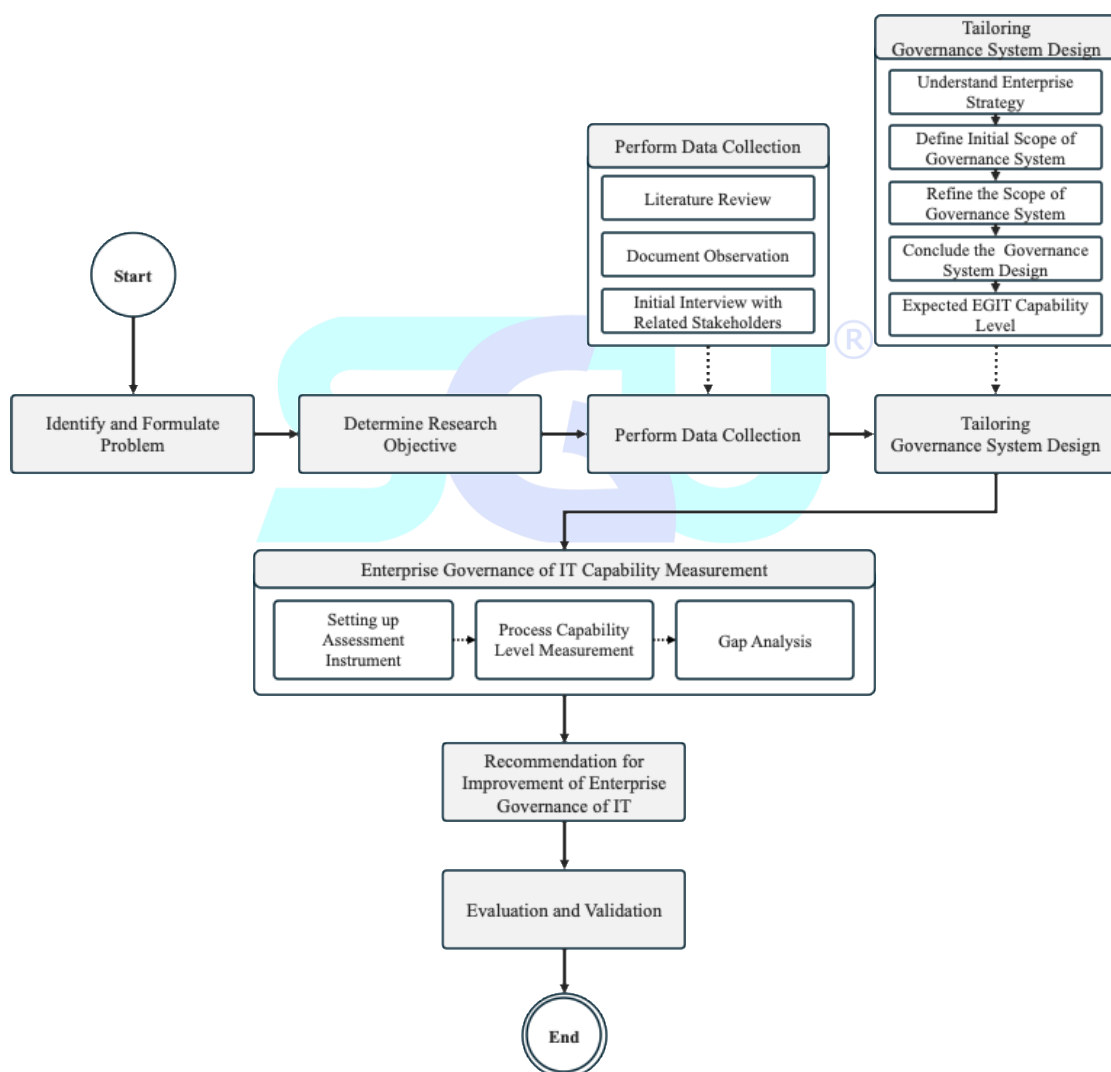


Figure 3.1 Research Framework

The methodology illustrated in Figure 3.1 comprises seven primary stages. The first stage involves identifying and formulating the problems faced by PT. EFG. Next, the

Determine Research Objective stage is focused on defining the goals to be achieved through this research. In the third stage, data relevant to the development of IT Governance at PT. EFG is collected and analyzed. Following this, the Tailoring Governance System Design stage involves creating an Enterprise Governance of IT framework to define the Governance and Management Objectives (GaMOs) that form part of PT. EFG's EGIT framework.

After identifying the objectives, the fifth stage involves measuring the capability levels of the GaMOs and conducting a gap analysis. This process results in recommendations for improving IT governance. In the final stage, the recommendations are evaluated and validated to ensure they are both applicable and feasible for implementation. Here is a comprehensive description of each stage:

3.2. Identify and Formulate Problem

At this stage, all problems in the organization are identified, including pain points raised by the Top Management of PT. EFG, both related to strategic and operational issues. Problem identification is done by interviewing the Director, Section Head and IT Staff. The questions to identify problems are formulated based on the COBIT Design Factor components and pain points directly conveyed regarding the issues occurring in the organization.

3.3. Determine Research Objective

Once the problem has been identified, the next step is to define the research objectives. This involves addressing the issues that have arisen and engaging in discussions with stakeholders. Some solutions may begin to be presented as an initial overview so that stakeholders understand the pain points and solutions that might be implemented.

3.4. Perform Data Collection

At the data collection stage, a literature review of relevant sources to this research is conducted, including books, journals and articles. Also, some supporting documents have begun to be received, some of the document received are Guideline for Organizing IT, Backup Server Procedure, Login and Logout SIMRS Procedure, IT Policy, Handling Power Outages Procedure, Manual of Downtime System, Report of

Downtime Handling, Key Performance Indicators Document, Organizational Structure, Vision and Mission and other relevant documents such as incident ticket, service request dashboard. In this stage, interviews also conducted to deepen the initial analysis.

3.5. Tailoring Governance System Design

This stage is carried out for Tailoring Governance System so that the output of this process is to produce Governance and Management Objective which is part of the future Enterprise Governance of IT. At this stage there are 5 sub-stages to be carried out, the first is "Understand Governance Strategy" to understand the context and strategy of the Company. The second stage is "Define Initial Scope of Governance System" to determine the priority of Governance and Management Objective based on 4 initial Design Factor. The third stage is "Refine the Scope of Governance System" to deepen the scope analysis by assessing 7 Design Factors. Furthermore, the fourth stage is "Conclude the Governance System Design" to finalize the Governance and Management Objective which is part of the Governance System Design, and the last stage is the Expected EGIT Capability Level to determine the target value to be achieved for each Governance and Management Objective that has been selected. In this stage, what differentiates it from previous studies is that the researcher utilizes all Design Factors to identify the governance and management objectives that define the scope of the organization's governance system, the factors are Current I&T Related Issues, Threat Landscape, Compliance Requirement, Role of IT, Sourcing Model for IT, IT Implementation Method, Technology Adoption and Enterprise Size. After Tailored Governance System Design has been defined, at this stage it is necessary to validate with stakeholders to determine whether the Governance and Management Objective that is part of the Governance System Design is appropriate. If it is appropriate, the next step is to assess all Governance and Management Objectives that are part of Enterprise Governance of IT, but if it is not appropriate, adjustments are made again in the Conclude the Governance System Design phase.

3.6. Enterprise Governance of IT Capability Measurement

At this stage, a capability level assessment is carried out against the Governance and Management Objective which has become part of Enterprise Governance of IT (EGIT). After the assessment is carried out, a gap analysis is obtained and compared with the

target capability level to be achieved. At this stage, the assessment process is conducted through interviews, and the results are recorded in the assessment instrument to calculate the capability level score.

3.7. Recommendation for Improvement of EGIT

At this stage, all findings and gaps obtained are provided with recommendations for improvement to achieve the targeted capability level. Recommendations are formulated based on the requirements contained in the Management Practices and Activities in each Governance and Management Objective. Also, recommendations can be obtained from other frameworks, for example related to the APO Domain, several related frameworks or standards can be used such as DMBOK, TOGAF, and ISO. Then in the BAI and DSS domains can use ITIL/ISO20000.

3.8. Evaluation and Validation

All research results and recommendations for improvement are evaluated and validated involving relevant subject matter expert. In this process, the research result are presented by the author, then evaluated and validated by the expert in a Focus Group Discussion forum to gather feedback for refinement.

Evaluation is used to assess the framework and results of the research that has been performed. The evaluation is conducted by performing focus group discussion with the subject matter expert to gather feedback.

Based on the recommendations and suggestions obtained from this research, the author jointly conduct a validation process of the research results with the expert, ensuring that the recommendations are appropriate and applicable to be implemented. The validation mechanism performed by means of a Focus Group Discussion with the expert, so that it can be validated properly.

3.8.1. Evaluation and Validation Question

The following questions were made to be addressed in the focus group discussion. This question has considered the success indicators of the research, as outlined in Table 4.35, which details the topics, areas of SPICE, and the indicators to be identified.

Table 4.1 Evaluation and Validation Question

Topic & SPICE Area	Indicator	Question
Evaluation (SPIE)	Completeness of Analysis	Does the framework for designing an enterprise governance of IT that is designed and applied in this research can be used and applicable?
Validation (SPI)	1. Completeness of Analysis 2. Realistic & Practical Recommendation	Has the selected Governance and Management Objective sufficiently encompassed the foundational and essential processes that an organization must undertake?
Validation (SPICE)	Realistic & Practical Recommendation	Is the established target capability level realistic and achievable?
Validation (SPICE)	1. Realistic & Practical Recommendation 2. Stakeholder Engagement	Are the recommendations derived from this research suitable to be adopted and implemented?
Validation (SPICE)	1. Realistic & Practical Recommendation 2. Stakeholder Engagement	Are the established improvement roadmap feasible to be executed?

This list of questions encompasses only the primary inquiries. During the interview process, supplementary follow-up questions will be asked as necessary to further elucidate responses and acquire more comprehensive insights.

3.8.2. Expert Criteria

The criteria of Experts involved in the evaluation and validation process:

1. Latest education is master's degree
2. COBIT Certified from ISACA
3. Have more than 10 years' experience in IT Governance area

3.9. Analytical Method

The research methodology used in this research is qualitative and quantitative.

1. Qualitative Methodology, which is research that produces data that are abstract because they are in the form of words, sentences or paragraphs and are subjective because they are based on opinions or conclusions. Qualitative data obtained in this study are data from observations and interviews.
2. Quantitative Methodology, which is research that produces data in the form of numbers or amounts. Quantitative data obtained in this study is in the form of calculation data on the results of the capability level assessment.

3.10. Success Criteria

To assess the success of a research project, it is essential to establish criteria that are specific, measurable, and achievable. This criterion is derived from the research questions defined in Chapter 1. Here are some selected success criteria and indicator:

1. Completeness of Analysis
 - a. Comprehensive analysis of IT governance in the organization that produce a current state condition.
 - b. Identification of current and target capability level.
2. Realistic and Practical Recommendation
 - a. Actionable implementation recommendations tailored to the organizational context.
 - b. Prioritization of recommendations based on impact and feasibility.
3. Stakeholder Engagement
 - a. Engaging key stakeholders actively in the research process, such as through interviews and surveys.
 - b. Feedback from stakeholders on the generated recommendations.

This criterion will serve as the foundation for formulating the questions for the Focus Group Discussion, which will involve subject matter experts (SMEs).