

CHAPTER I

INTRODUCTION

I.1 Background

Over the past few years, the Government has used information and communication technology to integrate their internal functions and improve service delivery (Manoharan & Ingrams, 2018). E-Government also has a role in smart cities as part of a broad smart city in the context of the city and involves the transformation of Government to a modern ICT-based (Anthopoulos & Reddick, 2016).

With the urgency in administering e-government, governments from various countries have developed electronic-based government services in their countries, including Indonesia. In order to implement e-government in Indonesia, the Government, through Presidential Decree No. 95 of 2018, establish a presidential regulation on an electronic-based government system, which is used as a reference by the Central Government and Regional Governments in managing e-Government. The purpose of this regulation is to create clean, effective, transparent, and accountable governance along with quality and reliable public services that require an electronic-based government system (Presidential Decree, 2018).

In 2020, the United Nations (UN) published the e-Government Survey 2020, ranking the E-Government Development Index (EGDI) in 193 countries. Indonesia is ranked 88th out of 193 countries (Nations, 2020). This ranking is still below several Southeast Asian countries, including Singapore, Malaysia, and Brunei Darussalam. This ranking shows that the Indonesian Government still needs to improve the Electronic-Based Government System to catch up with other countries.

To increase the e-Government index in Indonesia, the Government of Indonesia, through the Minister of State Apparatus Empowerment, issued Ministerial Regulation Number 59 of 2020 concerning the Monitoring and Evaluation of e-Government. This regulation is used as a guideline for Central Agencies and Local Governments to assess the maturity level of e-Government in government

agencies. The maturity level of the e-Government is given a predicate and an index value with the following details:

Table I- 1 Index of SPBE

No	Index	Predicate
1	4,2 – 5,0	Satisfying
2	3,5 – < 4,2	Very Good
3	2,6 – < 3,5	Good
4	1,8 – < 2,6	Enough
5	< 1,8	Not Enough

With this regulation, every government agency, the central and regional governments, make a work plan to construct e-Government. However, in development, there is still some obstacles faced by the Government. The main challenge faced by every Government in implementing e-government is proper planning and management (Sarrayrih & Sriram, 2015). This problem is shown by the Ministry of Finance, which states that the total ICT expenditure of the Central and Regional Governments increases every year, resulting in a waste of funds. From 2014 to 2016, government ICT spending reached 12.7 trillion rupiahs. In the Information and Communication Technology Council findings, this wastage occurred due to constructing an unintegrated silo system because each Ministry, Institution, and Government built their government applications without proper plans and strategies. The silo construction system causes the disintegration of the existing information system in the Government, thus causing data security and data validity not to be fully trusted because the government data are not integrated. Therefore, both the Central and Regional Governments must improve to prevent the chain effects caused by these problems.

One of the Governments in Indonesia that is improving e-Government services is the West Java Provincial Government. Based on the 2019 SPBE monitoring and evaluation data accessed on the SPBE website, the West Java Provincial Government received a 'Good' predicate with an index of 3.12. Despite receiving

a 'Good' rating, the Government of West Java has still not met the National SPBE target in the policy aspect of SPBE services. In this aspect, the West Java Government only got an index of 2.4 out of a target of 2.6. This index shows that it is necessary to improve the service policy, which will later assist the West Java Government in achieving its goals and objectives.

As part of the West Java Provincial Government, the Department of Energy and Mineral Resources (ESDM Department) has an active role in the West Java provincial government in the West Java Government's target to improve electrical energy infrastructure that supports economic growth and access to electricity for households to remote areas so that they can contribute in improving SPBE services in West Java Province. Therefore, This research will focus on the Department of Energy and Mineral Resources of West Java Province.

The Department of Energy and Mineral Resources of West Java Province is a Type A Provincial department that carries out government affairs in the energy and mineral resources sector based on West Java Provincial Regulation Number 6 of 2016. The ESDM department is divided into four sections: the groundwater sector, mining sector, electricity sector, and energy sector. Based on the 2018-2023 ESDM Strategic Plan, one of the indicators (KPI) assessed in the performance of the ESDM Department is the increase in the amount of electricity consumption per capita and the number of electrical power installations that are feasible to operate. Electricity consumption per capita is an international indicator to measure the economic progress of a region based on the use of electrical energy to encourage the growth of the productive sector (RPJMD, 2018)

In achieving the target to increase sufficient electricity usage. Several problems were identified, including:

1. The high number of electrical installations that must be certified.
2. Not yet optimal coverage of home electrification services.
3. Fulfilment of non-optimal Electricity Business Licensing.

To overcome this difficulties, proper planning is needed in maximizing IT. The solution that can be done is to carry out Enterprise Architecture Design which is

carried out to define business architecture, data architecture, application architecture, and technology architecture by creating business models, business strategies, and business processes that are aligned with the infrastructure of IT organization (Rusli & Bandung, 2017).

This research will use the TOGAF framework. TOGAF is based on an iterative process model supported by best practices and a reusable set of existing architectural assets. The use of TOGAF is chosen because it is a framework that provides a comprehensive approach to designing, planning, implementing, and managing enterprise information architecture. TOGAF has the flexibility to change according to organizational needs whenever needed and in the iterative stages. For these reasons, TOGAF is ideal for use as a framework in EA development for SPBE in Provincial Government West Java.

This research is focused on four SPBE domains, namely Business Processes, Data and Information, Applications, and Services. The domain refers to the Presidential Regulation on National Electronic-Based Government Architecture. Several factors underlie this, including:

1. SPBE architecture is implemented in central and local government agencies.
2. TOGAF is able to adapt architectural styles flexibly.
3. There is no IT master plan/blueprint in West Java, so Infrastructure and Security Architecture cannot be described in detail.

Based on the background of the writing above, this research will focus on designing Enterprise Architecture using the TOGAF ADM 9.2 framework at the Department of Energy and Mineral Resources of West Java Province by focusing on Electricity Sector.

I.2 Problem statement

The following problem formulation is made to examine the problem based on the above background, namely “How to analyze and design Enterprise Architecture blueprint at the Department of Energy and Mineral Resources of West Java

Province using TOGAF ADM 9.2 in the domain of Business Processes, Data and Information, Applications, and Services for Electricity Sector”.

I.3 Research objectives

The purpose of this research is to produce a blueprint for the design of Enterprise Architecture using TOGAF ADM 9.2 at the Department of Energy and Mineral Resources of West Java Province in the domain of Business Processes, Data and Information, Applications, and Services for Electricity Sector.

I.4 Research scopes

Limitations of this research, among others:

1. The Enterprise Architecture design phase using TOGAF ADM 9.2 will focus on the domains of Business Processes, Data and Information, Applications, and Services (excluding SPBE Infrastructure and SPBE Security).
2. The business architecture design will be carried out by adjusting Regulation of Ministry of Administrative and Bureaucratic Reform of the Republic of Indonesia No.19 of 2018 concerning the Preparation of the Business Process Map for Government Agencies, so that adjustments are made to the output that will be produced.
3. The research will focus on the Department of Energy and Mineral Resources of West Java Province in Electricity Sector, which oversees the target of 'Meningkatnya infrastruktur energi listrik yang mendukung pertumbuhan ekonomi dan akses listrik terhadap rumah tangga hingga ke pelosok' (Improving electrical energy infrastructure that supports economic growth and access to electricity for households to remote areas).

I.5 Research benefits

This research is structured with the hope that it can provide some theoretical and practical benefits as follows:

1. Provide a proposal for designing an Enterprise Architecture blueprint for the Department of Energy and Mineral Resources of the West Java

Provincial Government to improve performance in increasing adequate electricity usage services in West Java.

2. Can be a reference and essential information for other researchers when analyzing and designing Enterprise Architecture within the scope of the West Java Provincial Government.