

## **ABSTRACT**

# **BUSINESS ARCHITECTURE ANALYSIS: VALIDATION AND VERIFICATION OF THE BUSINESS PROCESS MODEL USING PETRI NETS**

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Enterprise Architecture (EA) is a concept for aligning business functions and IS / IT functions. The concept of EA in its development is divided into four domains, namely Business Architecture, Data Architecture, Application Architecture, and Technology Architecture. Business Architecture as Business Domain is a bridge that connects business needs and the needs of IS / IT. One business element produced by Business Architecture to connect it is business processes.

Enterprise Architecture (EA) optimizes business processes so that they can adapt to business changes. However, many failures were found in the EA project. One of the EA project failures is caused by the integration between Enterprise Architecture and Business Process Management (BPM). BPM as a method that supports Business Architecture is considered difficult in practice. BPM covers the modeling, analysis, simulation, and implementation of business processes. However, in business process modeling there are some errors that are often found. These errors can have an impact, both on the design of IS / IT or the realization of an improper process. In order to realize a good business process model, it is necessary to validate and verify the business process model contained in the EA design.

In this Final Project, validation and verification of the business process model is carried out on the Regional Company EA design of the Natural Resources Management sector in the Logistics and General functions. Generally, the business process model is described using BPMN because BPMN is the standard language for business process modeling. However, BPMN has not provided a method that can validate and verify business process models. Petri Nets, is a business process modeling language that provides business process validation and verification methods. Petri Nets analyzes business process models in terms of structure and behavior (sound). This analysis is done using WoPeD tools. The results of this Final Project research is to produce a validated and verified business process model.

**Keyword:** business processes, validation, verification, BPMN, Petri Nets, Enterprise Architecture, Business Architecture