

ABSTRACT

VERIFICATION AND VALIDATION OF BUSINESS PROCESSES IN ENTERPRISE ARCHITECTURE DESIGN USING A FORMAL METHOD WITH V-MODEL

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In the era of global business, information technology is very influential for companies and of course, it is closely related to business strategy. Enterprise Architecture (EA) is here to align strategy and business continuity with information technology. However, the implementation is not easy. Many things cause the failure of EA implementation such as problems in modeling, management, and maintenance. EA consists of several architectural domains and business architecture becomes an important element that coordinates work in other domains with business processes as its main element.

The quality of the business process model using BPMN can be analyzed through a verification and validation process. Formal methods can help achieve verified business processes and validation syntactically and semantically. The model used for verification and validation is Model V. Using this model, verification and validation must be carried out sequentially according to the existing stages.

Model V is divided into 4 layers or phases. Phase one is about the company's strategic plan, layer two is about company services, layer three is about business processes, and layer four is about artifacts. However, layer four will not be verified and validated. Layer three verification and validation is carried out using a formal

method with the Petri Net modeling language. With the Petri net, it can be seen whether the process meets the semantic and syntactic criteria. In this study, an analysis of the errors that occur and their inconsistencies with semantic and syntactic criteria will be generated by analyzing using qualitative analysis and focusing on business architecture.

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