

ABSTRACT

Digital transformation requires companies and organizations to enhance operational efficiency through systematic and standardized business process management. In line with Presidential Regulation No. 95 of 2018 regarding SPBE and Minister of PAN-RB Regulation No. 19 of 2018 regarding the Business Process Map, the use of BPMN officially replaces flowcharts as the standard for business process visualization. However, this poses a problem as many staff members are not yet familiar with BPMN, thus facing difficulties in its creation. Previous research has also indicated that limited knowledge of BPMN and the complexity of modeling tools are major obstacles. Therefore, there is a need for a solution that can support the process of creating BPMN more easily and in accordance with standards. This research aims to develop and test the back-end system of a web application BPMN Generator, designed based on a Use Case Diagram. The development was carried out using the Design Science Research Methodology (DSRM) approach, while the testing was conducted using the Gray Box Testing method. The back end development of the BPMN Generator web application uses the Strapi framework connected to a PostgreSQL database and is capable of providing a RESTful API for managing business processes in accordance with BPMN standards, with the integration of the bpmn-js library from bpmn.io. However, a technical problem was found with the `pengguna_id` input in the database, which still uses the default value (0). The solution to this issue is upgrading Strapi from version 4 to version 5 to take advantage of the built-in object that automatically populates the ID of the logged-in user. Testing on five test cases with various complexities of business processes shows that all tests were successful, with the actual results matching the expected results. Therefore, this system has met the functional requirements and is capable of producing BPMN according to standards, however, it has not yet simplified the creation of BPMN due to technical issues.

Keywords – BPMN, business process, back end, DSRM, Gray Box Testing, Strapi.