

ABSTRACT

The Faculty of Industrial Engineering is one of the faculties at Telkom University Bandung, offering six study programs ranging from undergraduate (S1) to postgraduate (S2) levels, namely S1 Industrial Engineering, S1 Information Systems, S1 Logistics Engineering, S1 Engineering Management, S2 Industrial Engineering, and S2 Information Systems. The large number of study programs has led to increasingly complex needs for assets that support the learning process. In practice, the Faculty of Industrial Engineering faces challenges in determining the priority of assets that need to be repaired. To address this issue, a decision support system is needed by adopting the Analytical Hierarchy Process (AHP) and Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) methods. The system development process is carried out using the Scrum methodology. Several features are available in the system, including criteria management, asset submission, asset selection, and repair status update. The criteria feature is used to manage the criteria in calculating asset repair priority scores. The submission and selection features are used to propose assets for repair, while the status update feature is used to monitor the repair process. System verification was conducted using black box testing, and validation was carried out through User Acceptance Test (UAT). The verification results show that all features function correctly, and the validation results indicate a system acceptance rate of 80,55%, which falls into the "Strongly Agree" category. However, the system developed is still not fully aligned with the needs of users from the laboratory affairs. Therefore, further adjustments are required to ensure that the system can optimally support the entire asset management process.

Keywords— Analytical Hierarchy Process, Asset Maintenance, Decision Support System, Scrum, Technique for Order Preference by Similarity to Ideal Solution