

ABSTRACT

CV XYZ is a business entity in the construction sector. To date, CV XYZ faces challenges in field operational efficiency, resulting in delayed project fund disbursements from project owners. This issue arises due to decentralized financial and material data, lack of clear benchmarks for project progress, data collection occurring just one day before report submission to the project owner, undisciplined recording and coordination, some field data not being recorded, manual record-keeping, and the absence of an integrated system for all data. The objective of this Final Project is to design a construction project monitoring information system to address the challenges faced by CV XYZ.

The problem-solving approach in this Final Project uses the waterfall method to design the construction project monitoring information system. There are five design phases in the waterfall method: requirement analysis, design, implementation, testing, deployment, and maintenance. The developed system will be verified using black box testing and validated using user acceptance testing, referring to ISO 25010:2023, which is used to evaluate and determine software quality with five testing aspects: functional suitability, reliability, interaction capability, performance efficiency, and flexibility. Additionally, the earned value management method is applied to address CV XYZ's issue of lacking clear benchmarks for project progress.

This Final Project has resulted in a construction project monitoring information system that meets the needs and addresses the problems of CV XYZ. The system can be accessed by project stakeholders, including directors, staff, project team leaders, and project owners. The system features user data, project data, work breakdown structure, budget planning, project contracts, project planning, materials, project progress, and project performance.

The construction project monitoring information system provides benefits such as facilitating stakeholders in project monitoring, assisting Project Team Leaders in processing construction project data, minimizing delays in weekly project reports

to the Project Owner, and centralizing the storage of construction project data in a database.

Keywords: Construction Project, Earned Value Management, Information System, Monitoring, Waterfall.