

Effectiveness of Project Time Acceleration with Workforce Optimization in Adjusting Contract Deadlines

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ABSTRAK

Frequent delays in the completion of construction projects are a common problem encountered in the field, particularly due to an imbalance between available resources and project schedules. This situation necessitates the implementation of effective and efficient acceleration strategies to avoid cost overruns and penalties resulting from delays. One method that can be applied to address this issue is the Time Cost Trade Off (TCTO), which in this study focuses on the approach of adding labor as an effort to accelerate the project. The ongoing construction project of the 3rd Floor Integrated Laboratory Building at the Faculty of Engineering, University of Jember, was selected as a case study because the project faced potential delays and serves as a real-world example of the importance of optimal time and resource management. This study aims to analyze to what extent increasing the workforce can accelerate project completion time without placing excessive pressure on implementation costs. The analysis results demonstrate that the project can be completed in 79 working days, resulting in a time efficiency of 10.23% (9 days) and a cost efficiency of 1.2% (IDR 31,493,617.9) from the normal project cost of IDR 2,627,642,636.31.

Keywords: *Project Acceleration; Labor; TCTO; Cost and Time*