TIME COST-TRADE OFF ANALYSIS ON EXPANSION PROJECT OF PETROKIMIA GRESIK HOSPITAL

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Abstract
To prepare a construction schedule usually does not directly produce an ideal schedule, the goal of the preparation is to produce a realistic schedule based on reasonable estimates. The resulting schedule should be easily modified to achieve the main goal, so that the duration of the project is within the time limit given by the project owner. This must be done by a variety of considerations and reasons. One way to speed up the project duration is crashing. The purpose of crashing is to reduce the duration of a job that would affect the project completion time. There are various ways to reduce the duration of a project one of which is by using Method Time Cost Trade-Off.

The purpose of applying Time Cost-Trade Off analysis to expansion project Petrokimia Gresik Hospital is to determine the lowest crash cost and shortest crash duration that can be applied to the project implementation. This method is based on shorting the duration of an event that belongs to the critical path which is already defined using program called quantitative method (QM) for windows. Then from the duration which already been shortened, we will find and get the cost that need to be taken out to speed up the whole project duration.

The result of this research is we get the total duration resulting the lowest cost to expansion project of Petrokimia Gresik Hospital, the cost is about Rp 9,847,794,385,00 which
consisted of direct cost about Rp 9,277,471,122,00 and indirect cost about Rp 570,323,263,00. That cost makes the project duration get accelerated from 405 days to 393 days. Even there is an additional cost for the accelerated work scope, that addition can be pressed again to provide an selection overview of acceleration alternative to build that project and other similar projects.

**Keywords**: Crashing Method; Hospital; Time Cost-Trade Off