ABSTRACT

PT XYZ is one of the companies engaged in Information and Communication Technology (ICT) services and the largest telecommunications network in Indonesia. One of the projects being handled by PT XYZ is a core system application development project owned by PT ABC as a corporate customer. PT XYZ collaborates with partners from PT XYZ's subsidiaries to carry out work on the core system application development project in 2021. This application development project is carried out with an umbrella contract scheme, there are four project stages in the period 2021 to 2022 involving 2000 mandays. The design of this final project will focus on the core system application development project involving 1050 mandays. Over time, the core system application development project at the end of the project week 38, there is work that is still in the development process so that the project is confirmed by the project manager to experience delays. The delay is caused by work activities not in accordance with the plan and work that is delayed due to ineffective utilization of working hours and various other factors that occur in the project.

The solution provided in this final project is that PT XYZ requires acceleration of the project schedule in order to minimize project delays. The method used to accelerate the project schedule is the crashing method. This crashing method is carried out by obtaining the results of crash duration and crash cost of a project activity affected by the critical path. Furthermore, an analysis is carried out based on the value of direct cost, indirect cost, and total cost of each remaining project work activity. The process of accelerating this schedule using alternative working hours, the company applies 8 working hours a day starting from 08.00 - 17.00 from Monday to Friday. The scheme used in the addition of working hours is the addition of 1 hour, 2 hours, 3 hours and 4 hours in one day with 20 hours of additional working hours in one week. After doing the crashing calculation and getting the value of direct cost, indirect cost, and total cost on critical path activities, the optimum point will be sought.

In the core system application development project, the remaining 2 work activities have a project duration of 70 days with a value of Rp. 1,515,300,000 from a total cost of Rp. 3,887,200,000. In accelerating this schedule using the addition of working hours for overtime as much as 20 hours which is done every week. After crashing, it is found that the project acceleration with the addition of working hours, so that the project duration changes to 51 days by paying Rp. 254,643,111. This acceleration design uses google spreadsheets to make it easier for stakeholders, namely project managers, to help calculate the crashing acceleration of the project schedule.

This design provides advice to companies when they want to accelerate the project schedule to be able to minimize project delays so that it makes it easier for stakeholders, namely project managers, to make decisions by looking at the graphs displayed on the google spreadsheet related to project acceleration using crashing.

***Keywords** — [**Critical Path Method, Crashing, Schedule Acceleration, Project Delay**]*