ABSTRACT

Success or failure in implementing a project often occurs due to lack of planning and ineffective control in the implementation process, resulting in inefficient results. In this study, the SMK Negeri 1 Garut (DOOM) infrastructure development project applied the CPM and PERT methods in its planning which aimed to produce an estimate of the project completion time, costs, probability, and several planning alternatives that could be carried out in order to produce maximum and efficient results for project success.

The research stage began by determining the activities, sequence and duration for each stage of the project activity using the PERT and CPM methods. The tool used in the data processing process was POM QM.

Based on the PERT method, the project duration was 128 days with a probability of 0.5 or 50%. The critical path in the project is on the activity path B-C-D-E-F-G-H-I-J-K-L-M-N-O-P where the CPM method produces a project time of 116 days with a probability of 0.0013 or 0.13%, while based on the Crashing project it produces a project time of 97 days with a probability of 3.095359E-15. Furthermore, the probability of the project according to the work contract of 126 days is 0.3085 or 31%. Then for the probability of 95% it produces a project time of 130 days with a total acceleration cost of 2,575,898,910.73.

There are several suggestions, including in making an addendum, the company does not focus much on cost changes alone, but there needs to be consideration in changing the time in order to achieve the target according to the expected time. Furthermore, the Company can carry out project planning using the CPM and PERT methods as alternatives in project planning, and use the most optimal cost alternative in accelerating the project so as to avoid losses.

Keywords : CPM, PERT*, Project Management*