

# ***CONSTRUCTION PROJECT SCHEDULING ANALYSIS WITH TIME-COST TRADE-OFF AND RESOURCE CONSTRAINED SCHEDULING APPROACH***

## ***ABSTRACT***

*Construction project scheduling is an important step in a construction process that controls cost, duration, and resources. Therefore, some analysis methods emerge, such as Time-Cost Trade-Off (TCT) or Network Compression and Resource Constrained Scheduling (RCS) or Resource Allocation. Those analysis methods have different goals. TCT is intended to seek minimum cost with optimum duration. RCS is intended to make sure that the resources' requirement doesn't exceed the availability. Because the need from construction project scheduling, many researches tried to do optimizing with various numeric methods. There are some researches that try a simpler approach with TCT and RCS methods with certain steps. Analysis method with TCT and RCS approach should be easier to be applied by contractor. Therefore, evaluation in terms of process and results are needed to prove it. Analysis is applied to two study cases from ASCE journal and one from real project. In terms of process, analysis methods with TCT and RCS approach is easier to be applied compared with numeric optimization method. In terms of result, analysis methods with TCT and RCS approach have a near result to numeric optimization method solution.*

*Keywords: Scheduling analysis methods, Time-Cost Trade-Off, Resource Constrained Scheduling*