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Optimization of Critical Chain Multi-project Schedule Based on Delay Loss

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Abstract

In order to solve the problems of schedule conflict, resource competition and cost overruns, a new management model of critical chain multi-project schedule based on delay loss of activity is proposed. First, a priority rule based on minimum activity delay loss and the calculation formula is provided. Then, with the goal of the shortest project duration and the lowest cost, a schedule management model of critical chain multi-project is constructed, and genetic algorithm is designed to identify the critical chain of the multi-project. Finally, a case study is provided to verify the shortest duration, lowest cost and maximum resource utilization of the multi-project schedule using this method. © 2023 Owner/Author.

Author Keywords

CCPM; Delay loss; Genetic algorithm; Multi-project schedule management

Index Keywords

CCPM, Critical chain, Delay loss, Low-costs, Management Model, Multi-project schedule management, Multi-projects, Optimisations, Project schedules, Schedule management; Genetic algorithms

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