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TITLE OF DIPLOMA THESIS:

Valuation methodologies multi-project scheduling with resource constraints using Primavera software

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ABSTRACT

Modern project management requirements which impose the simultaneous management of several projects with limited and predetermined availability of resources have led a number of scientists to focus their efforts on resource – constrained multi-project scheduling problem (RCMPSP).

In this thesis the list and the assessment of the main and most representative methodologies, firstly developed with regard to the resolution of the general model RCMPSP are presented. Then, an effective schedule of one portfolio of projects is formed and the leveling of the use of resources through the alternative solutions, which are cases of RCMPSP and provided by the software used, is attempted. The implementation takes place with project management software package Primavera P6. A methodological approach to the characteristics of software is given and a case study of multiple representative projects is analyzed. More specifically, the portfolio of projects is created and the different options of leveling arising from the use of alternative priority rules as well as the pairwise combinations are examined and evaluated. The results present the feasibility and effectiveness of each combination. In the end, the findings of thesis and proposals for future research on the subject are introduced.

KEYWORDS

Project management, Multi-project scheduling, Resource-constrained, Priority rules, Primavera P6