

FINANCE-BASED SCHEDULING: A POTENTIAL ENHANCEMENT OF CONSTRUCTION SCHEDULING TECHNIQUES

ABSTRACT:

Construction contractors often finance projects using bank credit lines that allow contractors withdraw money up to certain credit limits. Finance-based scheduling devises schedules which ensure that the contractor's indebtedness at any time during the project duration will never exceed the credit limit. The scheduling techniques that are being mostly used nowadays in construction industry include the Critical Path Method (CPM), CPM integrated with Line of Balance (CPM/LOB), and Linear Scheduling Method (LSM). The objective of this paper is to present the new concept and technique of the finance-based scheduling referring to the previous work of the author on CPM schedules. Furthermore, the paper envisages the adaptation of CPM/LOB, and LSM techniques to devise finance-based schedules by describing the mechanisms of devising schedules and defining the decision variables. The discussion demonstrated that CPM/LOB, and LSM techniques can be easily adapted for financing feasibility. Thus, the current construction scheduling techniques can be substantially enhanced by incorporating the concept of finance-based scheduling to devise project schedules that satisfy the stringent financing constraints imposed on construction contractors.