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TITLE OF DIPLOMA THESIS:

COMPARATIVE ASSESSMENT OF DESIGN STRUCTURE MATRICES IN SCHEDULES OF MULTIPLE PROJECTS UNDER CONSTRAINED RESOURCES

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ABSTRACT

Project management was developed as an individual faculty, separate from management principles implementation and entrepreneurial research. It's application fields vary from construction to engineering. The proper combination of specialized knowledge, tools and practices in conjunction with their assiduous employment and implementation in any kind of project so as to secure customer satisfaction are deemed as prerequisites for a successful Project Manager. Under real circumstances, project management is effecuated, in most cases, in tandem with the management of a handful of projects, with limited as well as predefined resource allocation. This problem, known as Resource-constrained Multi-project scheduling problem (RCMPSP) has been occupying a host of researchers, who have committed their effort upon its solution, while a multitude of approaches, methods and techniques have been developed since 1970. The ulterior motive of the current thesis is to formulate a settlement methodology of the RCMPSPS problem by employing ProjectDSM and MSProject software packages. The DSM methodology is described while it's features along with the capacity of it's use in multi-project managemet with constained recources are being investigated. The leg-work is being implelented in a sum of 3 projects with an adequate amount of activities and a common recourse pool by using softare packages Microsoft Project and Program_DSMV2.1. The current dissertation describes both the potential as well as the shortcomings of integrating and using Structure-Design records during the course of effective designing of multi-project scheduling under constrained resources.

KEYWORDS

Project Management, Resource-Constrained Multi-Project Scheduling, RCMPSP, Design Structure Table, Design Structure Matrix, DSM, MS Project