

KOSZTYÁN Zsolt Tibor

Project expert system – fact or fiction?

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Network-based project planning and resource allocation methods which are applied in traditional Project Management System (PMS) can be used for operation level of the management. With this PMS system using network-based project planning methods we can schedule our projects and share resources between projects, but we cannot rank different kinds of projects regarding different kinds of target functions and cannot utilize the experiences of the previously successful or failed projects. In this paper, I introduce a newly developed matrix-based method which can be used for ranking project or multi project scenarios with different kinds of target functions. I demonstrate how to use genetic algorithms (GA) for selecting (multi) project scenarios methods that are used in an expert module, and I show how to integrate this expert module into the traditional PMS system. The introduced matrix-based methods can handle priorities of the task or project completions in order to select the best possible (multi) project considering a given target function like minimal project cost, minimal duration, priorities, minimal average resource demands or combination of these target functions.