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TITLE OF DIPLOMA THESIS:

Development of a method for deciding project cancellation

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ABSTRACT

During the initiation, the design, the execution or the closure of a project, a lot of problems sometimes arise which jeopardize the feasibility of its existence. In these cases, a project manager is required to reach a decision on the continuation, the suspension or even the cancellation of a project aiming to avoid future worst scenarios. Taking this decision is a complex matter due to the number, the variability and the multiplicity of the origin of the parameters involved in the system, and the uniqueness of each project, organization and implementation environment. The international scientific community has worked occasionally with similar issues. A significant number of studies have taken place on identifying the root causes related to projects' underperformance (delays, budget overruns, etc.), and the critical success factors and the key performance indicators. However, there has been a disproportionate lack of comprehensive methodological approaches to make such a decision. Another important issue that complicates the problem, is the coexistence of interdependent quantifiable and non-quantifiable parameters. The trigger of this study was an earlier research by Stroggylis (2012) which established the critical factors to obtain a new model for deciding on construction project early termination with the consideration of its performance. The four-level approach of the various parameters (Technique, Tactics, Strategy and Identity) is maintained. In order to determine the relative weights, taking into consideration the interdependencies, the Analytic Network Process (ANP) is used for the parameters which involved in each phase of a project life-cycle. Then, for assessing the performance of a project with respect to the different parameters, the possible situations of the aforementioned parameters are mapped in distributions of triangular fuzzy numbers and word limits are adopted to deal with the test problem. Finally, the applicability of the proposed method is tested through a case study.

KEYWORDS

Decision analysis theory, multi-criteria decision problems, Project cancellation, Analytic Network Process (ANP), Interdependencies between critical success factors (CSFs) and key performance indicators (KPIs), Linguistic fuzzy scales