

Optimal IT Project Selection – Quantification of Critical Scoring Criteria

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Abstract: The management of IT project portfolios is challenging because of IT projects' complexity, dynamics, unknowns, and uncertainties. IT projects account for a large IT budget proportion and significantly influence value contribution, strategic development, goal achievements, and competitive advantages. Many IT projects still fail, exceed time and resources, and do not reach their planned goals because of wrong decisions, unsatisfactory evaluation, and missing selection criteria. Thus, a continuous IT project scoring and selection is crucial to enable an optimal portfolio composition. We conduct a systematic literature review and 14 semi-structured qualitative expert interviews to develop a uniform and holistic scoring approach. Our findings show that IT projects' urgency, strategy, efficiency, risk, and complexity are critical IT project scoring criteria. Our scoring approach increases objectivity and quality in evaluating planned and running IT projects and allows more convincing and transparent decisions.

Keywords: Information Technology (IT) Projects, IT Project Portfolio Management (ITPPM), IT Project Evaluation, Scoring Model, Scoring Criteria

1 Introduction

Expenditures in Information Technology (IT) projects rapidly increased worldwide, and the amount is expected to rise further [Ga20]. The IT of a company or an organization is of high importance and a critical success factor and thus influences long-term performances [CS13, Ma19]. It is crucial to permanently select and manage the “right” IT projects to build an optimal IT project portfolio, achieve goals, create value, be innovative, and stay competitive because IT projects account for a large proportion of IT budgets. So the decision nowadays is not whether or not to invest in IT projects but to identify those that together contribute most to the operational and strategic goals [CS13]. Thereby, all IT project proposals share and compete for the same scarce resources and are carried out under the same management [AG99, LRS20, PMI13]. In this context, we define IT project portfolio management (ITPPM) as a continuous and dynamic process in which IT project proposals are collected and together with ongoing IT projects (re-)scored, (re-)prioritized, (re-)selected, and (re-)scheduled considering different constraints, interdependencies, resource limitations, and stakeholder interests [CEK99, Ke11, ML07, PMT15].

IT projects are challenging to manage because of their cross-functionality, dynamics, non-routine, temporary, and complex nature with resulting unknowns and uncertainties. A selection of IT projects is further connected with many difficulties, as both qualitative and quantitative factors must be considered [ANJ10]. Various IT projects fail and do not reach

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