Information Technology Project Performance: The Impact of Critical Success Factors

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ABSTRACT
In this exploratory research study the critical success factors resulting in Information Technology (IT) project performance were assessed. Previous research supported associations between critical success factors and information technology project performance. A survey of 116 different projects at firms in the United States was used as the context to examine the critical success factors in project performance. The examination of the data analysis showed the size of the project, clarity of goals and mission, availability of required technology, and client acceptance of the project had a significant impact on project performance.

Keywords: Critical Success Factors, Goals and Mission, Information Technology Project Performance, Project Management, Project Size

INTRODUCTION

The results on information technology project success have been mixed. Sauer, Gemino, and Reich (2007) found with experienced IT project managers greater levels of project success (Mahaney & Lederer, 2006) where 28% of information technology projects were successful as compared to previous practitioner research (Hayes, 2004) that found high rates in which IT projects were prematurely terminated. When project management (Raymond & Bergeron, 2008) best practices are followed, the success rates of information technology projects increase dramatically. Gemino, Reich, and Sauer (2007) concluded that personnel who follow project management best practices monitoring factors experience dramatic increases in information technology project success (Wallace, Keil, & Rai, 2004). Earlier Pich, Lock, and De Meyer (2002) defined project failures as budget and schedule overruns, less than optimal performance and missed opportunities and called for clarification on conflicting approaches to project management. Lee and Hirshfield (2006) addressed the rapidly expanding and emerging area of health-care software implementation for projects that go over budget, run late, and fail to meet functional requirements reinforcing the Sauer et al. (2007) finding that experienced IT project managers are critical for project success.

Project management methodologies influence the success of projects (Kerzner, 2003)
where Sauer et al. (2007) showed that experience with these project management methodologies improves the chances of project success. Consistent empirical data are lacking for the associations between information technology, project performance, and critical success factors. Recent research by Sauer et al. (2007) showed that the relationship between project size (Keil, Mann, & Rai, 2000) and project performance is not a simple linear relationship and introduced the construct of project volatility as a moderator of the project size/project performance relationship. In this research, size is addressed in terms of project size and organizational size. Further support for the importance of experienced team leadership and the impact of software volatility and environmental volatility was addressed by Barry, Kemerer, and Slaughter (2006). In this study, IT project success is addressed in terms of critical success factors and in terms of project and firm size.

Disagreement existed in the project management literature as to what constitutes project success (Shenhar & Wideman, 2000; Hyväri, 2006). Project performance was assessed in Gallegos, Senft, Manson, and Gonzalez (2004) as a project delivered on an agreed upon date and an agreed upon budget that satisfied the project specifications. Earlier Pinto and Prescott (1988) addressed project performance similarly on budget, target completion date, and objectives accomplished. As Cooke-Davies (2002) and Pinto and Prescott (1988) note there has been disagreement on a single set of factors to predict project success. Recent research has shown that the social capital of project developers and project managers was important where these developers and managers are more tightly connected in an embedded network (Granovetter, 1983) as they worked on projects.

Cooke-Davies (2002) indicated a gap exists in the project management literature and the business literature with respect to the comprehensive factors supporting project performance (Cooke-Davies, 2002; Hyväri, 2006). Slevin and Pinto (1987) discussed associations between critical success factors to information technology project success that have not been consistently established with empirical data in the literature. Organizational size (Hyväri, 2006) and project size (Sauer & Rich, 2007) might affect relationships between critical success factors and project performance, but the effect has not been consistently observed in empirical data. The current research study contains new knowledge regarding establishing relationships between the critical success factors and information technology performance with size as a surrogate for project complexity.

CRITICAL SUCCESS FACTORS

Pinto (1986) established the dynamic importance of strategy factors compared to tactic factors at different life-cycle phases within a project. Pinto (1986) confirmed critical success factors demonstrated statistically significant relationships with project success. As a project progressed through execution and termination phases, tactic factors demonstrated importance for project performance, with strategy demonstrating more importance in early phases and tactics increasing to equal importance later in the project life cycle (Pinto, 1986). Pyle (1986) explored projects to implement management information systems by studying relationships among critical success factors with project performance and concluded that key success factors are communication, user-led implementations, multidisciplinary teams, collocated team members, top management-led objectives, user-led training, six-month stabilization following implementation, and simulated production environment pilot testing. Pinto and Prescott (1988) observed associations between these success factors and large integrated MRP system project success. Biehl (2007) noted global information systems (GIS) project success factors included elements related to top management urgency for the project and top management project approval. Biehl (2007) also noted increases in GIS project success rates related to the project manager’s ability to respond to difficult situations.
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