MANAGING KNOWLEDGE AND LEARNING IN IT PROJECTS: A CONCEPTUAL FRAMEWORK AND GUIDELINES FOR PRACTICE

[BLAIZE HORNER REICH, Simon Fraser University, Canada]

ABSTRACT

This paper presents a framework identifying the key areas within IT projects where knowledge-based risks occur. These risks include a failure to learn from past projects, competence of the project team, problems in integrating and transferring knowledge, lack of a knowledge map, and volatility in governance. The model was compiled through an extensive literature search encompassing project management, information systems, software development, and team learning literatures. This framework was then tested and modified through a field study of 15 senior project managers from North America and New Zealand. Analysis of the interviews from the field study resulted in a set of five broad principles of knowledge management within projects. These principles relate to a climate for learning, knowledge levels, knowledge channels, team memory, and knowledge risks. Practices suggested by the interviewees accompany each principle.

Keywords: IT projects; knowledge-based risk; risk models

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Introduction

History has shown that it is difficult to demonstrate the value generated from organizational spending on IT projects (Brynjolfsson & Hitt, 1998; Heller, 2000). According to a Standish Group study, IT projects have a 66% failure rate; such projects have either missed the targets or failed to deliver the required business functionality (Standish Group, 2003).

Other reports show that the rate of project success is increasing, caused perhaps by increased usage of project management methods and by a heightened concentration on controlling project size and scope (Sauer, Gemino, & Reich, 2006). However, discussions with project managers have indicated that IT projects are becoming more ambitious, more organizationally and technically complex, and more time-to-market focused. Acceptable project performance may still be an elusive target (Sauer & Reich, 2006).

Increasingly, IT projects are relied on by organizations that are trying to innovate or to respond to competitive threats. Transformations such as mergers, supply chain integration, and customer service innovation are necessary for organizations to survive and prosper. Therefore, the high failure rate of IT projects is a major stumbling block to companies that are trying to innovate through new processes and services.

For years, practitioners and researchers have repeated the same advice to companies trying to improve their track record with IT projects (e.g., Standish Group, 2003): increase executive sponsor support, reduce scope and duration, employ project management methodologies, and manage change requests. Although contingency approaches have been suggested (Barki, Rivard, & Talbot, 2001), the advice has remained largely unchanged.

One promising lens through which projects can be understood and potentially improved is to conceptualize them as arenas in which knowledge is generated and exploited and learning is essential for success. The foundations for this approach are found both in the knowledge management and organizational learning literatures. In addition to this literature, which mainly focuses on permanent organizations and teams, many project-oriented researchers have been investigating aspects of learning and knowledge management in projects (e.g., Bredillet, 2004; Faraj & Sproull, 2000; Tiwana, Bharadwaj, & Sambamurthy, 2003; Walz, Elam, & Curtis, 1993).