Chapter 6.7
Risk Management in Distributed IT Projects:
Integrating Strategic, Tactical, and Operational Levels

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ABSTRACT

Distributed IT projects exhibit certain features that make them fundamentally different from traditional co-located projects, not only involving additional steps and decisions, but also impacting the risk management process. The goal of this paper is to discuss these impacts and to suggest the development of an integrated risk management process taking into account site dispersion, time zone difference, and cultural boundaries not only at the operational, but also at the tactical and strategic level. We also report results of an exploratory case study conducted in a software development center (a Brazilian subsidiary of a U.S. corporation) in support of such a model, and conclude with a discussion of theoretical and practical implications of our work.

INTRODUCTION

Project failure, particularly in information systems development, is unfortunately a very common occurrence (Schmidt, Lyytinen, Keil, & Cule, 2001). Many of these failures are well

documented. Key reasons include the lack of top-management commitment to the project, lack of client responsibility, unstable corporate environment, failure to manage end-user expectations, failure to identify all stakeholders, lack of change management, poor risk management and control, unclear or misunderstood scope, staffing volatility, poor team relationships, and artificial deadlines. Sophisticated risk management techniques have been developed to address these problems (Kumar, 2002).

However, a new level of difficulty looms: such risks are magnified when IS projects are distributed (Erickson & Evaristo, 2005). IS projects tend to be performed in a distributed fashion in offshore outsourcing arrangements, for instance. That is becoming increasingly more common for several reasons: the search for lower costs, higher quality, and better access to skilled resources (Herbsleb & Moitra, 2001). In fact, economic forces are relentlessly turning national markets into global markets; software development is becoming a multi-site, multicultural, and globally-distributed undertaking (Morstead & Blount, 2003). This phenomenon is impacting not only marketing and distribution, but also the way IS products are conceived, designed, constructed, tested, and delivered to customers (Karolak, 1998).

For these reasons, Distributed Software Development (DSD) has attracted a large amount of research over the last few years (i.e., Herbsleb & Moitra, 2001; Carmel, 1999; Prikladnicki, Audy, & Evaristo, 2003; Kiel, 2003; Lanubile, Damian, & Oppenheimer, 2003; Evaristo, Scudder, & Desouza, 2004; Robinson & Kalakota, 2004). In this context, risk management is critical. According to Karolak (1998), risk management in distributed IT projects should happen at the operational as well as at the strategic and tactical levels. In the strategic and tactical levels, the role of risk management is to help in the decision whether to distribute the development of an IT project across several locations and, once the decision is made, to help in identifying the risks in projects that will

be developed by a particular subsidiary. In the operational level, the risk management process relates to the software development process and is performed by the project manager.

This study examines risk management problems that organizations face when going global in software development. In particular, there is a strong lack of alignment between the risk management approaches or decisions made at the top and how that is shared and implemented across tactical and operational levels. We therefore focus on the following research question: How can we integrate the risk management processes across strategic, tactical, and operational levels in distributed IT projects?

In order to analyze this problem, we first develop a model of integration of risk management approaches across different organizational levels based on the theoretical state of the art in this area; then we proceed to present an exploratory — but model-inspired — case study in a software development center: a Brazilian subsidiary of an U.S. corporation. Based on the results of our case study and how it fits with the model developed, we develop and present strong practical implications for how organizations may better integrate their risk management approaches across different levels.

In the next section of this manuscript, we present the theoretical base; in the following section, the process integration proposal; the section afterwards, the research method and the case study description, with practical implications of the integration proposed; and finally, in the last section, further considerations, suggestions for future studies, and research limitations.

THEORETICAL BASE

In this section, we first discuss risk management, followed by a brief description of the most important characteristics in distributed software development that are likely to affect risk manage-

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