Chapter 6.3
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
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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 expec-
tations, 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 manage-
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 distrib-
uted (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
distribution, but also the way IS products
are conceived, designed, constructed, tested, and
delivered to customers (Karolak, 1998).

For these reasons, Distributed Software De-
velopment (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, & Des-
ouza, 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 prob-
lems 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 manage-
ment approaches across different organizational
levels based on the theoretical state of the art
in this area; then we proceed to present an ex-
ploratory — 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 sec-
tion, 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 manage-
ment, followed by a brief description of the most
important characteristics in distributed software
development that are likely to affect risk manage-
ment approaches. The analysis of both literatures