



Chapter VIII

Risk Planning and Management

He who is not courageous enough to take risks will accomplish nothing in life.
(Muhammad Ali)

Success today in the business world (whether as an employee, manager, executive, or self-employed businessperson) involves taking some risks. The systems that are changing the world today are very risky, but the payback is enormous (DeMarco & Lister, 2003). One needs to know how to manage risk, however, including how to identify risk sources, quantify risk parameters, and develop plans to handle risk; these are the topics covered in this chapter.

Risks are inevitable in projects (particularly IT projects), *and if a PM does not practice sound risk management, that PM may constantly be in a crisis-management mode.* The high failure rate of modern *large* IT projects, such as those involving EAI/ERP, CRM, and SCM, is largely due to senior management and project management's failure to assess risks up front and to mitigate the causes of the greatest risks at the start of the project (Gibson, 2003). An adequate analysis of potential risks can significantly increase the likelihood of success for a project and can justify dollar amounts set aside for management reserves. "Risk management is increasingly seen as one of the main jobs of project managers" (Sommerville, 2003).

Project Risks and Opportunities

Risk is the possibility of suffering loss. In IT, the loss may involve increased costs, longer completion times, reduced scope, reduced quality, reduced realization of proposed

benefits, or reduced stakeholder satisfaction. *Risk and opportunity are different sides of the same coin. Some IT projects advance the state of the art, and as such are more risky than those that do not. The opportunity for significant advancement cannot be done without significant risk.* “Risk in itself is not bad; risk is essential to progress, and failure is often a key part of learning. But we must learn to balance the possible negative consequences of risk against the potential benefits of its associated opportunity” (Van Scoy, 1992).

Many organizations around the world are involved with general project risk management and/or IT project risk management. Barry Boehm of the U.S. Air Force, while working with the Software Engineering Institute (SEI), set the stage for modern IT risk management (Boehm, 1991). According to the SEI, risk management is a software engineering practice with the following processes: assess continuously what can go wrong (risks), determine what risks are important to deal with, and implement strategies to deal with those risks. The SEI model for risk management is shown in Figure 8.1.

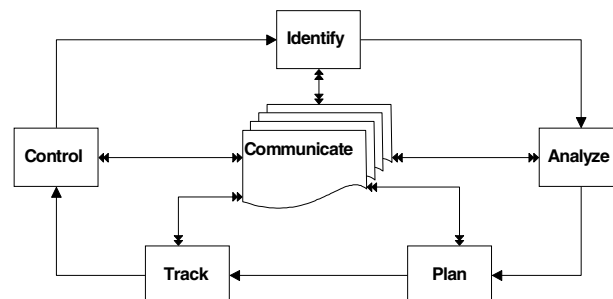
The ISO/IEC 17799-1:2000 Code of Practice provides a sequencing of the risk management process into subprocesses for context identification, risk identification, risk analysis, risk evaluation, and risk treatment. The IEEE 1540 standard on software risk management is being merged with the corresponding ISO/IEC standard. Figure 8.2 shows the IEEE 1540:2001 overall risk management process.

The Project Management Institute (PMI; 2000) Risk Management Processes are:

- Risk identification
- Risk quantification
- Risk response development
- Risk response control

This book will mainly follow the PMI process definitions. All projects have some degree of risk, and most IT projects have *considerable* risk. Risk can, however, be reduced (studies have found that risk can be reduced up to 90% [PMI, 2000]). A PM should be somewhat risk averse (avoids taking unnecessary risks), but to significantly reduce risks, one must start with thorough risk planning.

Figure 8.1. SEI risk management model



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