

# Chapter XVII

## The Integrated Project Risk Model: A Risk–Based Model for Managing Information Technology Projects

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### **ABSTRACT**

*An overwhelming number of Information Technology (IT) projects experience persistent problems and failures. This chapter reflects on some of the important aspects of IT Project Management as applied to the implementation and post-implementation of Enterprise Information Systems and ERP applications. The proposition is based on the author's professional experience as a system consultant, a manager and an educator. It also echoes some of the important findings of a major action research undertaken by the author over seven years, where he had a dual role as a project resource and a researcher, allowing him a first hand experience of enterprise applications issues and problems, culminating in a clear insight to why IT projects fail and how to overcome persisting inadequacies that lead to project failures. By investigating 25 major IT projects and analysing the variables that influence project performance, the research has successfully developed, tested and refined a hypothesised risk-based management model. With its components, processes, metrics and tools clearly defined and characterised, the Integrated Project-Risk Management (IPRM) model and system are presented as viable alternatives to conventional project management approaches and tools.*

## **INTRODUCTION**

There is no doubt that huge investment funds have been committed as a result of rapid corporate business increasing acceptance of enterprise information systems since the early 1990s. This has created unprecedented levels of synergy and momentum within organizations to implement new enterprise systems and replace outdated legacy systems. Unfortunately, by large the outcomes of such projects were less than satisfactory, and many project failure cases were widely publicized in the literature.

From traditional project management viewpoint the majority of projects have suffered from deadly schedule and delivery delays, cost over-runs and compromised quality of the delivered products. Nevertheless, the investigation of reported failures have opened practitioners' eyes to important non-traditional issues such as change management problems and users' acceptance dilemmas among other things.

Although investigations of IT projects' unfavorable outcomes linked to the deployment and assimilation of enterprise systems have resulted in new approaches and methodologies as proposed recipes for success, a close examination of the offerings indicate that the majority seem to be merely re-packaged versions of the traditional project management model.

While some of the proposed models offer minor improvements by targeting best-of-practice in conventional time-based project management processes; others incorporate additional components (add-ons) such as quality, risk and configuration. Nevertheless, there is no substantial proof that these approaches were based on a deep understanding of the causes and symptoms of failures, the specific IT environment and issues, and the complex interaction between the technology, business and human resources. When these new models and implementation methodologies were put to the test in many different applications

the outcomes were less than impressive, and the failure of projects have persisted.

## **RESEARCH BACKGROUND**

To establish a clear context of the research on hand and to prepare for a clear definition of the research question, scope and objectives was only possible through a comprehensive literature review of the relevant issues, the outcome of which is summarized as follows:

Information Technology is clearly an important industry and discipline, with far-reaching impact on all aspects of life. The discipline has accomplished milestones in terms of technology development, and indications are that its importance and widespread applicability will continue to expand, with increased IT investment in areas such as hardware infrastructure projects, software development and enterprise applications implementations. The literature emphasises the persisting issues of coping with the change associated with technology adoption and the definition of the role of IT in business and in relation to other disciplines.

The mishandling and mismanagement of IT projects is one of the main themes of the research. IT Projects are the vehicles for adopting, deploying, implementing or upgrading IT, and yet they are different from those of other disciplines, because of their environment, technical complexity, dynamic nature, relative uniqueness, strong impact on business processes, strong impact on business culture and users attitudes, varying stakeholders expectations and acceptability, interrelationships with other disciplines, and unproven return on investment (Anderson et al., 2002, Yeo 2002, Niazi et al., 2003, Westerveld 2003, Peterson et al., 2002; Ross 2003).

The literature has highlighted the unsatisfactory record of IT projects in terms of failure to be delivered on time and within budget, or to meet

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