Chapter 55
Risk Management Usage and Impact on Information Systems Project Success

April H. Reed
East Carolina University, USA

Mark Angolia
East Carolina University, USA

ABSTRACT

This article explores the usage of risk management practices on virtual Information Systems projects to address the growing industry practice of geographically separated teams. A survey of 557 virtual-project managers assessed usage of risk management practices and association with successful outcomes. The Theory of Reasoned Action is used to model attitudes and behavior. Correlation analysis indicated a strong relationship between risk management and successful outcomes, irrespective of success measured by budget, functionality, or schedule. Findings indicated that while the highest levels of risk management usage were characteristic of project success for virtual projects, many well-trained project managers are short-cutting use of all three core practices. While risk assessment and risk control are typically performed, only 52% of participants completed the final step of developing a risk management plan. This may not only lead to sub-optimal project outcomes, but also renders the first two actions an inefficient use of resources.

INTRODUCTION

The emergence of virtual projects with the use of distributed resources has changed the way some project management practices operate. Although traditional face-to-face and virtual projects are alike in some ways, their differences can make managing virtual project teams more complicated and complex. Virtual projects, also referred to as distributed projects, consist of non-co-located project team members who typically reside in different geographical locations, may operate in different time zones, and rely on

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information communication technologies (Reed & Knight, 2011). These types of projects are common due to the global nature of many organizations. The key aspects that define virtual project teams also include their sources of complexity, which include problems with communication, culture, and trust (Berry, 2011; Brandt, England, & Ward, 2011; Nydegger & Nydegger, 2010). These complexities can cause virtual projects to be higher in risk and thus more likely to require risk management practices.

Prior research into project risk and risk management established its role in the success of projects (Addison & Vallabh, 2002; Boehm, 1991). The importance of effective risk management practices was more recently stressed in a report by PMI on the outlook for project management in 2012 (PMI, 2011). Unfortunately, research also identified risk management practices as the least mature of the project management knowledge areas identified by the Project Management Institute (PMI) (PMI, 2013; Yazici, 2009). This deficiency continued to be emphasized in the PMI 2015 Pulse of the Profession report (PMI, 2015), where risk management was listed as a foundational practice that needed greater attention. The 2015 report stated more rigorous risk management was needed since "This year, 83% of high performers report frequent use of risk management practices compared to only 49% of low performers" (PMI, 2015, p. 4).

Research into Information Systems (IS) projects has long recognized the importance of project management techniques (Ibbs & Kwak, 2000; Kerzner, 2001). Huang and Han (2008) indicated that problems with software development were prevalent, citing "cost overruns, project delays, unmet user needs, and unused systems," and labeling these problems as chronic (p. 41). The Standish Group's Chaos Report, published annually since 1994, is a leading indicator of the software development industry (Hastie & Wojewoda, 2015). The Standish Group determined that failed and challenged software projects represented approximately two-thirds of all project outcomes, while only about a third of those projects were successful (Standish Group International, 2009). The Chaos Report classifies project outcomes into one of three categories: successful, challenged, or failed. These classifications are defined as:

- **Success:** Meets scope criteria within a range acceptable to the organization.
- **Challenged:** Project delivered but fell outside of an acceptable range for time, budget, or quality.
- **Failed:** Project could not deliver a completed solution.

The 2015 Chaos report shows failed and challenged projects at 71 percent, which demonstrates no improvement over 20 years of data tracking (Hastie & Wojewoda, 2015). Also of note is that the definition of success has evolved, from strict adherence for meeting time, budget, and scope, to accepting a "range" of acceptable outcomes as long as the organization and customer are satisfied. While the Chaos report establishes project management expertise, which includes risk management, as one of the top 10 success factors for projects, it does not differentiate between face-to-face versus virtual projects. Thus, the goal of this study was to explore the usage and impact of risk management practices on virtual IS projects with the underlying research question to determine if a relationship existed between risk management usage and virtual project success.

This research contributes to the existing body of knowledge on risk management value and usage by extending the information on virtual IS projects. This also contributes to practitioner knowledge of risk management by identifying specific practices where improvement is likely to have an actual impact on virtual project success. The paper utilizes the Theory of Reasoned Action (TRA) with data collected

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