



## **Chapter X**

# **Perceptions of IS Risks and Failure Types: A Comparison of Designers from the United States, Japan and Korea**

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## **ABSTRACT**

*Information systems (IS) designers from the United States, Japan, and Korea were surveyed to explore potential similarities and differences in their views on two IS risk factors, various types of IS failure and the overall failure rate on IS projects. While there were only a few differences between the U.S. and Japan, there were a number of differences in the views of designers from the U.S. and Korea. The results revealed that a lack of user involvement and a lack of experienced IS personnel were perceived as greater risk factors in Korea than in the U.S. and Japan. The data also revealed that unmet project goals and missed deadlines were perceived by designers from Korea as more likely to contribute to IS failure than did the designers from Japan and the U.S. Finally, the designers from Korea perceived a higher overall failure rate on IS projects than did the designers from the U.S. The findings were discussed in terms of the importance of national differences in technology development and national culture.*

## INTRODUCTION

For a number of years, researchers have investigated potential methods of improving the rate of success on Information Systems (IS) projects. Some of the earliest attempts were based on the critical success factors approach. This approach assumed that the success of an IS project was dependent on a small number of key factors. Thus, investigations were conducted to identify factors that were capable of statistically distinguishing between successful and unsuccessful projects (e.g., Ginzberg, 1981; McDoniel, Palko, & Cronan, 1993). While these studies provided many useful insights with regards to the successful development of IS projects, they typically were only concerned with the distinction between successful and unsuccessful projects. Thus, these studies generally did not take into consideration the types of IS failure associated with unsuccessful projects.

Recent studies have demonstrated that there are a variety of ways in which IS projects may fail. For example, studies have reported that up to 90 percent of all IS projects fail to meet their goals (Clegg et al., 1997). In addition, investigations have estimated that between 40 and 80 percent of IS projects exhibit some degree of budget escalation (Clegg et al., 1997; Keil, Mann, & Rai, 2000). Empirical evidence also reveals that between 30 and 70 percent of IS projects are designated as sometimes or usually late (Phan, Vogel, & Nunamaker, 1988; van Genuchten, 1991). Thus, it is perhaps not surprising that three-fourths of all large-scale IS developed in the U.S. are considered to be "operational failures" (Gibbs, 1994).

While a number of studies have investigated the prevalence of various types of IS failures, most of the research has been conducted in the U.S. or other countries with a Western culture (Keil et al., 2000; Schmidt, Lyytinen, Keil, & Cule, 2001). However, the recent growth in multinational businesses has resulted in a significant increase in IS applications which cross national boundaries and span diverse cultures. It has been suggested that the IS development process in global environments is likely to differ from the IS development process in the U.S. due to national differences in government regulations, worker expectations, information sharing, competitive strategies, and cultural factors (Duval, 1995; Hunter & Palvia, 1996; Shore & Venkatachalam, 1996). Thus, the types of IS failure most common in global environments may differ from what has been reported in studies conducted in the U.S. National differences in the types of IS failure that are most prevalent and the factors contributing to these differences may require managers of global IS to alter their approach to IS development in order to cope with the most frequent problems in the host country (Katz & Townsend, 2000). Therefore in an era of corporate multi-nationalism and globalization of markets, cross-national research on possible differences in the types of IS failure may prove to be extremely valuable to managers of global IS.

## Software Risk Management

An approach to improving IS success that may be particularly conducive for taking into consideration the various types of IS failure is the concept of software risk management (Boehm, 1991; Hall, 1998; Karolak, 1996). This approach attempts to reduce the possibility of IS failure by identifying and analyzing threats to IS success and then developing strategies to overcome potential risks. The risk factors are defined as any condition that can present a serious threat to the completion of an IS project (Schmidt

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