Chapter XXI
Comparative Study of IT Investment Management Processes in U.S. and Portugal

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ABSTRACT

This article investigates IT investment management processes in the U.S. and Portugal. In Portugal compared to the United States, we find less involvement of operational business users, less formalized processes, more bottom-up generation of ideas, less focus on business metrics other than financial ones, and more highly involved corporate boards. We develop a framework for understanding IT investment that includes five stages: idea generation, business case generation, investment selection, project implementation, and value realization. Several of Hofstede's factors are used to explain national cultural differences in each of these stages. Cultures with high power distance involve fewer business line employees in idea generation, fewer operational business managers selecting investments, and more centrally managed project implementations. In cultures with high uncertainty avoidance, fewer large scale strategic project ideas are generated and there is a stronger emphasis on financial criteria in information technology investment selection.

INTRODUCTION

Corporate information assets can account for more than 50% of business capital spending (Nolan & McFarlan, 2005). Yet senior managers have questioned whether proposed savings from information technology (IT) investment materialize (Advisory Board Company, 1997). Most organizations are not generating maximum value from IT investments (Ross & Weill, 2002). IT alone does not create benefits; it is the management process that uses IT to create benefits (Brynjolfsson & Hitt,

1998; Keen, 1991). Companies that manage their IT investments most successfully generate returns at least 40% higher than their competitors (Ross & Weill, 2002).

Many IT processes do not have standard operating procedures. Management develops its own internal processes for IT investment. Since benefits realization depends upon these processes, a better understanding of the factors that influence them could help generate greater value from IT investments. Management processes for IT investments have received minimal attention in the literature (Sherer, Ray & Chowdhury, 2002). Achieving value from IT investment requires sound business processes involving appropriate individuals through all stages of the investment cycle. We present a stage model for IT investment management that delineates management choices regarding who to involve in each stage and what processes to use.

Management processes are influenced by both organizational and national culture. There has been scant research examining the role of culture in key IT governance areas including IT investment and prioritization (Leidner & Kayworth, 2006). It is generally accepted that national culture plays a role in determining behaviors and practices that prevail in a particular business context (Davison & Martinsons, 2003; Grover, Segars & Durand, 1994; Hoftsede, 1993; Mathews & Ueno, 2001); in fact, the entire concept of management differs among nations (Hoftsede, 1993).

We focus in this article on the impact of national culture on IT investment management processes. The research question is as follows: *How does national culture impact processes used in IT investment management?* To answer this question, we first develop, in the second section, a framework for understanding the processes in IT investment management. We discuss factors that may influence an organization's choice of processes. The third section describes several case studies and develops some propositions about how cultural differences may influence management processes. The fourth section summarizes the key contributions of this research and its implications for research and practice.

IT INVESTMENT MANAGEMENT AND NATIONAL CULTURE

What choices do managers make when developing, evaluating, and implementing IT to maximize payoff? To answer this question, we need to open up the "black box" of IT investment management and adopt a process approach (Devaraj & Kohli, 2002; Soh & Markus, 1995). Table 1 presents our process framework that describes the key stages in IT investment management. This model allows us to delineate key management choices that are made, in particular, who is involved and what processes are followed in each stage.

Many of the IT management choices are driven by IT governance, the patterns of authority for key IT activities in business firms, including IT infrastructure, IT use, and project management (Sambamurthy & Zmud, 1999). Governance involves authority, control, accountability, roles, and responsibilities. It goes beyond structure and organization to include processes and human relationships including communication, liaisons, shared risks, responsibilities, rewards/penalties, and steering committees (Luftman, 2004). However, considerable diversity exists in the patterns of IT governance arrangements across contemporary firms (Sambamurthy & Zmud, 1999). To date there have been no IT governance standards (Nolan & McFarlan, 2005).

Studies have considered a variety of factors that influence choice of governance arrangements including industry, firm size, corporate strategy, and corporate structure (Sambamurthy & Zmud, 1999). Cultural differences, both at the organizational and national level, have been shown to influence strategy and structure as well as behaviors and practices within organizations (Davison & Martinsons, 2003; Hofstede, 1997,