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Chapter VIII

Inclusion of Social Subsystem Issues in IT Investment Decisions:
An Empirical Assessment

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ABSTRACT

Researchers have attempted to augment the traditional cost/benefit analysis model used in the IT decision process. However, frequently social subsystem issues are inadequately considered. Survey data, collected from a U.S. sample of 200 executives, provides an empirical assessment of how these issues compare with other IT decision criteria given differing decision types. The social subsystem issues considered most important by decision makers are also identified and the manner by which they consider these issues is investigated.

INTRODUCTION

In the last several decades, organizations around the world have made enormous investments in information technology (IT) (Siegel, 1998). However, some claim that nearly one third of the outlays for IT are wasted (Alter, 1997). The Standish Group research (The Chaos Report White Paper) shows that 31% of IT projects are canceled before they are completed. Further, results indicate that 53% of IT projects will cost nearly double the original estimates (Webb, 1997). While there are many factors that lead to high failure rates and cost overruns, a contributor is the lack of foresight in IT acquisition or investment processes (Holme, 1997; GAO, 1993).

IT investment decisions have traditionally focused on financial or technological issues, using cost versus benefit analysis. Responding to what appears to be underperformance in anticipated IT investment payoffs, both researchers and practitioners have suggested that traditional valuation analyses are inadequate, and have called for additional research to identify seldom-considered costs and benefits (Hitt & Brynjolfsson, 1996).

Researchers have augmented the traditional cost/benefit approach by adding a strategic perspective to IT investment decisions (e.g., Clemons & Weber, 1990; Post et al., 1995). However, while strategic criteria are increasingly being recognized in IT decisions (Bacon, 1992), some have suggested the dimension that is inadequately considered concerns the organizational issues associated with *employees* in the IT implementation and adoption process (Slater, 1995; Ryan & Harrison 2000). Consistent with the terminology and principles of socio-technical systems (STS) theory (Trist, 1982), we define these issues originating from employees' assessments, capabilities, decisions, and task interdependencies as *social subsystem issues* (Emery, 1962). Social subsystem benefits and costs do accrue when an IT is acquired (Markus & Benjamin, 1996). However, without awareness or formal consideration of social subsystem issues, organizations have no way of understanding their impact on the success and potential payoff of the chosen IT.

Some prior research focusing on IT valuation has examined social subsystem issues. For example, Hochstrasser (1990) and Keen (1991) addressed techniques to evaluate "soft" organizational costs, some of which were in the social subsystem domain. Belcher and Watson (1993) included certain social subsystem benefits when assessing the returns of an Executive Information System (EIS). Holden and Wilhelmij (1995) used a knowledge value-added technique to evaluate people, culture and knowledge. Ryan and Harrison (2000) investigated the types of social subsystem costs and benefits decision makers incorporate into their decision process.

Our investigation continues this stream of research, taking a descriptive approach to understanding the incorporation of these issues. It was motivated by two primary research questions: