Chapter XVII
Organizational Learning Process: Its Antecedents and Consequences in Enterprise System Implementation

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ABSTRACT

This chapter uses organizational learning as a lens to study how firms implement enterprise system. The core research questions are: what are the critical organizational factors affecting organizational learning in ES implementation? How do these elements shape the learning process and thereby influence ES implementation outcomes? To address these questions, we conducted comparative case study with two organizations that have recently adopted ES and achieved significantly different results. Based on the empirical findings, we propose a framework that describes how organizational factors affect the four constructs of organizational learning in ES implementation context – knowledge acquisition, information distribution, information interpretation and organizational memory.

INTRODUCTION

Over the past few years, enterprise systems (ES) have generated much interest among researchers and practitioners as a potential means to enhance organizational agility (Sambamurthy et al. 2003; Davenport 1998). While interest and investment in ES have been rising steadily, actual experiences with ES have exhibited more ambiguity. Some studies report improvements in efficiency and effectiveness from ES adoption, yet others find that the expected gains are far beyond reach (Al-Mashari 2000). It is imperative to conduct research that can make sense of the apparently inconsistent ES adoption results.

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Most of extant research on ES focuses on discrete critical success factors leading to on time and within budget implementation (e.g., Bingi et al. 1999; Holland et al., 1999; Parr & Shanks 2000; Sumner 1999). Yet, to leverage the business value of ES, it is not sufficient to simply adopt and install the system. Rather, employees and the organization as a whole must learn how to apply the technology effectively while they are implementing the system (Fichman & Kemerer, 1997; Cooper & Zmud, 1990; Purvis et al., 2001; Argyris 1977; Attewell 1992). The learning process plays a critical role in shaping IT adoption results (Tippins & Sohi, 2003). Hence studying how different forces affect the organizational learning process allows us to understand what leads to different ES implementation outcomes.

In this chapter, we use organizational learning as a lens to study how firms implement ES. Extant ES literature alludes to organizational learning sporadically and most of them do so in a cursory fashion, except the work of Robey et al. (2001) and Scott and Vessey (1999). Different from these studies, this chapter studies all the four constructs of the underlying learning process involved in ES implementation—knowledge acquisition, information distribution, information interpretation and organizational memory (Huber, 1991). The core research questions are: What are the critical organizational factors affecting organizational learning in ES implementation? How do these elements shape the learning process and thereby influence ES implementation outcomes? To address these questions, we collect data by conducting case studies with two firms that have implemented ES within budget and on time, but with significant different outcomes.

This chapter makes three principal contributions. First, drawing on the rich data of two organizations' experiences, the chapter generates an understanding of the organizational learning associated with ES implementation. Second, dealing with the complex links traced in context, this chapter adds substantive content to our understanding of the central role played by organizational factors in the organizational learning enacted in ES implementation. Such an understanding has been absent from the research and practice discourses on ES. Third, the chapter integrates our research findings with the more formal insights available from the IS implementation and organizational learning literature. It facilitates researchers and practitioners to explain, anticipate, and evaluate organizational learning process associated with the ES adoption. This chapter is organized as follow: first, we briefly describe theoretical background of this study. Second, we discuss our research methodology. Third, we present the empirical findings that emerged from our case study. Last is our discussion and conclusion.

THEORETICAL BACKGROUND

Firms' ability to apply IT effectively in their business activity explains the different outcomes of their IT adoption (Feeny & Wilcocks, 1998; Armstrong & Sambamurthy, 2001; Boynton et al., 1994; Cooper & Zmud, 1990; Sethi & King, 1994). When technologies are first introduced, they impose a substantial burden on the adopter in terms of the knowledge needed to understand and use them effectively (Attewell, 1992; Argyris, 1977; Fichman & Kemerer, 1997; Purvis et al., 2001). Organizations must undergo an intensive learning process to bridge the gap between what they have known and what the new technology requires them to know. Thus, the effectiveness of the organizational learning process plays a critical role in shaping IT adoption results. Indeed, this argument has been widely tested to be valid by the IS implementation literature (e.g., Boynton et al., 1994; Purvis et al., 2001; Fichman & Kemerer, 1997; Ciborra & Lanzara, 1994; Pentland, 1995; Lyytinen & Robey, 1998; Wastell, 1999).

Organizational learning is defined as a process enabling the acquisition of, access to and revi-

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