IDEA GROUP PUBLISHING
701 E. Chocolate Avenue, Suite 200, Hershey PA 17033-1240, USA
Tel: 717/533-8845; Fax 717/533-8661; URL-http://www.idea-group.com
ITB9864

Chapter IX

Examining the Influence of ERP Systems on Firm-Specific Knowledge Assets and Capabilities

Tom Butler
University College Cork, Ireland

Aidan Pyke
Cork Institute of Technology, Ireland

ABSTRACT

There is a paucity of in-depth research on the effects that enterprise resource planning (ERP) systems have on firm-specific intangible assets, such as knowledge, and associated capabilities. Accordingly, this chapter explores the implementation of SAP in two operational units of the Boxit Group—a global player in the manufacture of chapter and packaging. Leonard-Barton's (1995) theory of knowledge creating activities, knowledge sets, and core and non-core capabilities is employed as a conceptual framework to examine the implementation and use of SAP modules in the firm studied. The findings of this in-depth exploratory case study illustrate that the introduction of SAP-specific business routines can threaten established core, enabling and supplemental capabilities and

related knowledge sets. The integration of SAP's embedded business routines and reporting functionality contributed to the creation of (a) highly rigid reporting structures; (b) inflexible managerial decision-making routines; and (c) reduced autonomy on the factory floor in the firm studied. SAP thus endangered the firm-specific knowledge creating activities that underpinned operational core capabilities in this organization. Finally, Leonard-Barton's conceptual framework is extended to incorporate insights into the manner in which ERP systems such as SAP affect the various aspects of organizational knowledge sets.

INTRODUCTION

There is a paucity of in-depth research on the effects that enterprise resource planning (ERP) systems have on firm-specific intangible assets, such as knowledge, and associated capabilities. Accordingly, explored in this chapter is the implementation of SAP in two operational units of the Boxit Group — a global player in the manufacture of paper-based packaging. Leonard-Barton's (1995) theory of knowledge-creating activities, knowledge sets, and core and noncore capabilities is employed as a conceptual framework with which to examine the implementation and use of SAP modules in the firm studied. The findings of this in-depth exploratory case study illustrate that the introduction of SAP-specific business routines can threaten established core, enabling, and supplemental capabilities and related knowledge sets. The integration of SAP's embedded business routines and reporting functionality contributed to the creation of highly rigid reporting structures; inflexible managerial decision-making routines; and reduced autonomy on the factory floor in the firm studied. SAP thus endangered the firm-specific knowledge-creating activities that underpinned operational core capabilities in this organization. Finally, Leonard-Barton's conceptual framework is extended to incorporate insights into the manner in which ERP systems such as SAP affect the various aspects of organizational knowledge sets.

Previous research on ERP systems centered on business modeling, product development issues, the life cycle of ERP systems, and the knowledge required to manage the implementation of ERP systems (Esteves & Pastor, 2001). Studies of ERP system implementation and use, which focus on knowledge and its management, address such issues as change management around ERP system implementation (Al-Mashhari, 2000); senior managers' perspectives on knowledge management in ERP environments (Klaus &