Chapter 6.1
IT-Enabled Strategy:
Implications for Firm Performance?

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ABSTRACT

The rapid evolution of IT has enabled new organizational capabilities to manage knowledge and information. Given this evolution, IT systems for enabling the acquisition, processing and dissemination of knowledge may present unique opportunities, if effectively leveraged, for firm competitive capabilities. This chapter examines some of these uses of IT; offers a framework to view firm activities as knowledge Inflow, Intraflow and Outflow processes; and explores possible performance implications of some potential IT-enabled capabilities. Such IT enablement challenges some existing views of strategic management theory and suggests that theory may need to be reexamined and extended to handle some implications arising from advances in IT systems. We explore potential implications of IT-enabled capability and argue that through adopting, integrating and effectively leveraging these capabilities, firms may have the opportunity to enhance their competitive advantages and performance.

INTRODUCTION

Information processing and knowledge management (KM) systems have seen a significant evolution over the past decade. As management research from a knowledge-base view (KBV) links the competitive advantage of an organization to individual tacit knowledge (Kogut & Zander, 1992; Grant, 1996), what impact has this rapid evolution in IT capabilities, and the resultant increase in organizational abilities to now codify and more effectively acquire, store and transfer knowledge, had on firms and their performance? These changes in management information systems (MIS) capabilities may also provide cause to reexamine some of our theories and accepted views of the bounds of organizational capabilities

based upon knowledge. Specifically, if a firm's KM systems are significantly augmented in terms of their capabilities for data acquisition, codification and combinative capabilities, what are the theoretical implications of the sustainability of competitive advantages and firm performance based upon such knowledge? These are the issues and implications explored in this chapter.

In this chapter, we explore IT-enabled means of acquisition of data and information, and systems for conversion of information into actionable knowledge. This is conducted through exploration of the potential impacts of KM technology in combination with variations of IT systems infrastructure. We are specifically interested in exploring the potential implications for firm performance through mediating or moderating relationships of IT resources on firm knowledge flows. We discuss how IT systems may enable organizations to more effectively acquire, codify, aggregate and allocate competitive knowledge. Through this discussion, we review common competency-based perspectives of strategic management. From this theoretical basis, we develop propositions regarding whether IT-enabled knowledge capabilities should lead to increased performance or a corresponding decrease in the firm's ability to sustain competitive advantage on that knowledge. To facilitate this, the chapter provides a brief review of research on related IT applications and platforms in the context of organizational KM processes, and then explores theoretical implications of IT-enabled KM on firm competitive advantage and performance.

ISSUES, CONTROVERSIES, PROBLEMS

The Evolution of IT-Enabled KM Capability

IT knowledge systems have evolved significantly over the past decade. These include a wide variety of approaches, which range from simple e-mail and groupware collaboration tools to extensible markup language (XML)-based workflow management systems, knowledge repository networks and aggregated knowledge portals, to complex Online Analytical Processing (OLAP)-based customer data warehouse (CRM) and data mining/ business intelligence (BI) and alerting systems. Regardless of the technical system, common threads exist across IT platforms and applications. Among current and recent generational systems, these include relational database central processes, XML- and Java-based open architectures, and fairly transparent workflow management (WFM) capabilities. These solutions are significantly advanced from previous systems of only a few years ago, and the MIS field has been actively attempting to address limitations of the models underlying these technical systems.

Current generational databases have benefited from extensive theoretical advances in the areas of database design (Dey, Sarkar & De, 1998; ; Storey, Chiang, Dey, Goldstein, & Sundaresan, 1997; Storey & Dey, 2002) and database design cost-benefit considerations (Dey et al., 1998). Further, current-generation databases are more capable of handling entity matching and semantic heterogeneity, which is a key issue facing organizations with both cross-generational legacy technology and in the management of knowledge inflows. Object-oriented database approaches (Dey, Sarkar, & De, 2002), as well as significant advances using decision theoretic (Dey et al., 1998, 2002), and algebraic and probabilistic solutions to these issues (Dey & Sarkar, 1996, 2000) have also been advanced, which may benefit current and future generation databases. Therefore, the existence of prior- or current-generation databases may significantly moderate the effectiveness of current-generation IT, such as CRM systems, on the organization's ability to acquire information and generate knowledge (customer analytics), as well as create knowledge outflows to improve sales (such as sales force automation and targeted

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