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Information systems, strategic flexibility and firm performance: An empirical investigation

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Abstract

This study investigated the bottom-line impacts of IS support for strategic flexibility. The performance effects of IS support for two key components of strategic flexibility (product flexibility and cross-functional coordination) and the moderating effects of unique, complementary knowledge and information were examined and tested with both survey and archival data. The results showed that IS support for product flexibility was positively related to sales growth and returns on sales. The study also found a stronger association between IS support for product flexibility and ROS, and a positive relationship between IS support for cross-functional coordination and sales growth, when IS were complemented by unique knowledge and information.

JEL classification: L21

Keywords: Information systems; Strategic flexibility; Competitive advantage; Firm performance

1. Introduction

For the past decade, strategic flexibility has been increasingly recognized as a critical organizational competency that enables firms to achieve and maintain competitive advantage and superior performance in today's dynamic and competitive business environment (Sanchez, 1995; Hitt et al., 1998). Correspondingly, there has been a growing research interest in the strategic impacts of the linkage between information systems (IS) and

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strategic flexibility (Goldhar and Lei, 1995; Lei et al., 1996; Byrd, 2001; Santhanam and Hartono, 2003). While many conceptual frameworks, case studies and anecdotes have been offered to show that firms can use IS to support the development of strategic flexibility, hence gaining competitive advantage, it remains unclear whether IS support for strategic flexibility can actually improve a firm's bottom-line performance, due to little prior empirical work on this issue. Without empirical research assessing the bottom-line performance impacts of IS support for strategic flexibility, firms and their managers who are interested in investing IS for achieving strategic flexibility have little evidence on which to base their IS investments. In this paper, I seek to address this imbalance by presenting the results from an empirical study linking IS support for strategic flexibility to firm performance.

In a broader sense, investigating the relationship between IS support for strategic flexibility and corporate bottom-line performance contributes to the continuous research efforts to address a critical, and yet elusive issue of whether IS investments improve organizational effectiveness (see, for example, Brynjolfsson and Hitt (1998) and Lucas (1999) for reviews of the empirical studies assessing the performance impacts of IS). In recent years, a growing number of IS and management researchers has taken the resource-based view of the firm in the strategic management literature as a new theoretical lens to examine the ‘‘productivity paradox’’ regarding the strategic impact of IS (Feeny and Ives, 1990; Clemons and Row, 1991; Mata et al., 1995; Powell and Dent-Micallef, 1997; Lado and Zhang, 1998; Bharadwaj, 2000; Byrd, 2001; Sambamurthy et al., 2003). One important insight generated from this line of research is that the crux of competitive advantage from IS investments may lie in their influence on value-creating, firm-specific and hard-to-copy resources and capabilities (Feeny and Ives, 1990; Clemons and Row, 1991; Lado and Zhang, 1998; Bharadwaj, 2000; Byrd, 2001; Sambamurthy et al., 2003). In other words, IS may enhance a firm's bottom-line performance by supporting its efforts to build and exploit valuable, unique and non-imitable resources and capabilities.

This research attempts to extend the current resource-based research on the strategic value of IS in several regards. First, since strategic flexibility is widely recognized as a key organizational capability associated with the long-term success of a firm (Sanchez, 1995; Lei et al., 1996; Hitt et al., 1998), assessing the empirical relationship between IS support for this critical capability and firm performance provides a test of the resource-based argument that IS used to create and leverage internal sources of sustainable competitive advantage are associated with superior firm performance. Secondly, in view of the important role of complementary assets (Teece, 1986) in enabling firms to reap the benefits from their IS investments (Feeny and Ives, 1990; Clemons and Row, 1991; Powell and Dent-Micallef, 1997), I incorporate unique, complementary knowledge and information (firm-specific knowledge and information a firm needs in order to exploit its IS for strategic flexibility) as a potential moderator in the study and argue that the strength of the association between IS support for strategic flexibility and firm performance is likely to vary across firms, depending on the existence and distribution of these unique, complementary resources. While important for ascertaining conditions under which IS can be used to build ‘‘core’’ or ‘‘distinctive’’ competencies such as strategic flexibility (Miller and Shamsie, 1996), discerning the moderating effects of unique, complementary knowledge and information has received little attention in the prior research linking IS support for critical organizational resources and capabilities to firm performance. Thirdly,