An Empirical Assessment of the Performance Impacts of IS Support for Knowledge Transfer

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ABSTRACT

While a great deal has been written about how information systems (IS) can be deployed to facilitate knowledge transfer (a key knowledge management process) for performance improvements, there is little empirical evidence suggesting firms can actually derive economic returns from using IS to support knowledge transfer. This study attempted to assess the impacts of IS support for knowledge transfer on labor productivity and profitability with both survey and archival data. The potential moderating effects of firm-specific, complementary organizational resources on the performance impacts of IS support for knowledge transfer was also examined and tested. The results showed that IS support for knowledge transfer had a positive direct effect on labor productivity. Coupled with certain firm-specific, complementary organizational resources, IS support for knowledge transfer exerted a positive effect on profitability.

Keywords: competitive advantage; firm performance; information systems; knowledge transfer

INTRODUCTION

With the widespread recognition of knowledge as a key source of sustainable competitive advantage (Nonaka & Takeuchi, 1995; Quinn, Anderson & Finkelstein, 1996; Spender & Grant, 1996), how to manage organizational knowledge to achieve and maintain competitive advantage and superior economic performance becomes a critical issue facing many firms. Central to knowledge management is knowledge transfer whereby a firm develops and utilizes value-creating knowledge (Matusik & Hill, 1998; Nonaka, 1994), and academics and practitioners alike have embraced information systems (IS) as one of the key enablers of knowledge transfer (Alavi & Leidner, 2001; Davenport & Prusak, 1998; Marwick, 2001). While much of the existing literature has identified various ways IS can be
used to support knowledge transfer and IS support for knowledge transfer is often assumed to improve organizational effectiveness, efficiency and competitiveness (Alavi & Leidner, 2001; Alavi & Tiwana, 2003; Gold, Malhotra & Segars, 2001; Shin, 2004), it remains unclear whether such IS support would actually result in positive economic returns, due to scant empirical evidence linking IS support for knowledge transfer directly to the bottom-line performance of firms. Without large-scale empirical research assessing the bottom-line performance impacts of IS support for knowledge transfer, firms and their managers interested in investing in IS support for knowledge transfer to improve their competitive position and performance have little evidence on which to base their IS investment and deployment decisions.

Furthermore, although IS have traditionally been viewed as one of the key enabling tools for knowledge transfer (Alavi & Leidner, 2001; Davenport & Prusak, 1998), researchers have increasingly entertained the notion that IS alone would not influence firm performance, but have to be complemented by other firm-specific organizational resources (e.g., organizational culture and structure) in order to confer knowledge-based competitive advantage (Davenport, Harris, De Long & Jacobson, 2001; Karlsen & Gottschalk, 2004; Lubit, 2001; Roberts, 2000). The presence of these firm-specific, complementary organizational resources not only enables a firm to reap the economic benefits from using IS to share knowledge, but also helps the firm better defend its advantage resulting from IS support for knowledge transfer (Bharadwaj, 2000; Clemons & Row, 1991; Grant, 1996a). Unfortunately, discerning the moderating effects of such complementary organizational resources on the performance impacts of IS support for knowledge transfer has received little attention in the existing literature.

Therefore, the main purpose of this study was to assess the bottom-line impacts of IS support for knowledge transfer. In doing so, the study also sought to explore the potential moderating role of certain firm-specific organizational resources that complement IS support for knowledge transfer in influencing the performance impacts of the IS support. The remainder of the article is structured as follows. The next section (1) reviews the strategic roles of knowledge and knowledge transfer, (2) discusses the competitive value of IS support for knowledge transfer from the resource-based perspective of competitive advantage, (3) elaborates on IS support for knowledge transfer and its performance implications, and (4) explores the potential role of firm-specific, complementary organizational resources in moderating the relationship between IS support for knowledge transfer and firm performance. Together, this discussion provides the conceptual foundation for the development of the research hypotheses. The third section presents the research methodology, including the sample and data collection procedure, the measurement of the variables of interest, the data analyses, and the results. The last section of the article discusses the implications of the research findings, the limitations of the study, and some suggestions for future research and practice.

THEORETICAL BACKGROUND AND HYPOTHESES

Strategic Roles of Knowledge and Knowledge Transfer

It is widely recognized today that knowledge assets represent one of the most important sources of sustainable competitive advantage (Nonaka & Takeuchi, 1995; Quinn et al., 1996; Spender & Grant, 1996). Knowledge not only increasingly adds value to products and services (Davis & Botkin, 1994), but also plays a vital role in transforming resources and capabilities into dynamic core competencies, which arguably form the basis of durable competitive advantage (Grant, 1996a; Leonard-Barton, 1995; Prahalad & Hamel, 1990). Knowledge also exhibits positive-sum, increasing-return qualities, that is, it expands and increases in value when it is used and shared (Miller & Shamsie, 1996; Prahalad & Hamel, 1990). Moreover, because knowledge-based resources tend to be tacit,
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