ABSTRACT

A central argument in strategic management is that a firm’s resources or capabilities can be sources of competitive advantage, which may lead to superior firm performance. Investments in Information Technology (IT) resources and capabilities represent one of the largest recurring expenditures made by firms. However, despite the magnitude of these investments and their presumed strategic importance to firms, demonstrating a definitive link between IT resource investments and firm-level performance has remained elusive. A review of the last 25 years of the MIS and Strategy literatures, indicates that each of these ‘two camps’ has contributed important insights and a strong co-evolutionary relationships, yet the strategic importance of IT lacks clear theoretical grounding and consistent empirical support. To address this deficiency, in this paper we review the theoretical bases for economic value creation to develop taxonomy for the roles and performance implications of IT, which integrates strategic management theory to offer a contingency perspective for how the roles and value of IT will vary in different strategic and environmental contexts. We apply the taxonomy as a lens through which to examine a sample of prominent prior research on the topic. The authors conclude with a discussion highlighting directions for future research.

Keywords: IT Management, Information Systems, MIS, Strategy and Policy, IS Impacts, IS Impacts, Strategic IS

INTRODUCTION

Investments in Information Technology (IT) average approximately $125 million per year for a typical large U.S. firm (D’Antoni, 2005), and can often represent a major component of a firms’ annual investment in resources and capabilities. Theoretically, such IT investments may be a source of competitive advantage if they improve a firm’s cost position relative to its competitors and/or a firm’s ability to differentiate its products and services from those of competitors (Porter and Millar, 1985). However, the source and sustainability of any competitive advantages provided by IT are not well-explained (Mata, Fuerst, & Barney, 1995;
Drnevich, Hahn, & Shanley, 2006). For example, we find that much of the prior research on the “business value of IT,” with few exceptions (Mata et al., 1995; Ray, Barney, & Muhanna, 2004; Ray, Muhanna, & Barney, 2005) appears to lack a causal mechanism through which firms can theoretically create and capture value from their usage of IT investments. Further, the comparatively “static” nature of theoretical perspectives (i.e., organizational economics and the RBV (Helfat & Peteraf, 2003)) that have dominated research in this domain, may have constrained our collective abilities to understand more fully the dynamic relationships between investments in IT resources / capabilities and competitive advantage.

The purpose of this paper is to address this lack of theoretical clarity and the related inconsistency of empirical support in the prior research on Strategy and IT. We do so through reviewing the literature from ‘two camps’ of perspectives: one in the Management Information Systems (MIS) domain and the other in the Strategic Management domain. From this review, we explore the theoretical bases by which (IT-based) resources/capabilities may influence performance to develop taxonomy of their roles and performance implications. Through this taxonomy, we integrate theoretical perspectives from strategic management to offer a contingency perspective on how the roles and value of IT will vary in different strategic and environmental contexts. We use this taxonomy to examine a sample of prominent prior research on the topic to illustrate and discuss directions for improving future research on Strategy and IT.

THEORY DEVELOPMENT

Before proceeding with a discussion of the literature, several definitions merit clarification. First, the term ‘IT’ generally refers to any form of ‘computer-based’ information system, including mainframe, microcomputer, and intra/internet applications (Orlikowski & Gash, 1992; Powell & Dent-Micaleff, 1997). The term IT resources has come to represent (1) the tangible resources that make up the physical IT infrastructure components, (2) the human IT resources that represent technical and managerial IT skills, and (3) the intangible IT-enabled resources such as knowledge assets and customer orientation (Bharadwaj, 2000, p. 171). These classifications reflect Barney’s (1991, p. 101) broader definition of firm resources as the “assets, capabilities, processes, information, and knowledge controlled by the firm.” IT resources may consist of human, relationship, and technology components, all of which interact with and can hold implications for the other (Ross, Beath, & Goodhue, 1996).

Similarly, the term IT capability represents a firm’s ability to mobilize and deploy its IT-based resources in combination with other resources and capabilities (Bharadwaj, 2000, p. 171). IT capabilities may consist of categories of capabilities such as business and IT vision, design of IT architecture, and delivery of IT services (Feeny & Willcocks, 1998). Since much of the empirical research in this context comes from the MIS literature, and many of the theoretical perspectives come from the Strategic Management literature, we limit our focus to what we can learn about the IT – performance relationship from prior research in the MIS and Strategic Management domains (i.e., the ‘two camps’). Work on the ‘business value of IT’ in the MIS area is quite prevalent, with hundreds of studies documented in various review articles on the topic (Kohli & Devaraj, 2003; Melville, Kraemer, & Gurbaxani, 2004; Piccoli & Ives, 2005). Such work in the MIS literature has largely relied upon micro-economic, industrial organization, sociological, and more recently resource-based view (RBV) perspectives in which to ground its research (Melville et al., 2004). However, some studies have also suggested the need for consideration of transaction cost economics (TCE) (Williamson, 1975) and dynamic capabilities (DC) (Teece, Pisano, & Shuen, 1997) perspectives for grounding this body of research (Melville et al., 2004). Given the heavy reliance of research in the MIS field on theories traditionally associated with Strategic Management, there appears to be a
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