

Chapter XVI

The Institutionalization of IT Budgeting in Firms: Investigating Sources of Influence

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ABSTRACT

Organizations around the world invest billions of dollars each year in information technology (IT) related products and services. What are the factors influencing each individual firm's investment budget decisions? Limited empirical results derived from firm-level data suggest that internal affordability, such as previous IT budget levels, sales, profitability, and size, are significant sources of influence. In this study, we introduce the perspective of "external institutional influence" for examining corporate IT budgeting processes, in addition to the internal affordability perspective. Using firm-level IT and financial data of publicly traded companies in the financial sector, we show that the two most significant sources of influence on corporate IT budgets are the firm's IT spending level of the previous year (internal) and the IT spending level of the perceived industry leaders (external). We posit that as IT becomes pervasive in all aspects of business operations and all sectors of the economy, IT budgeting processes have been, at least partially, institutionalized. The implications of this institutionalization are discussed and future research directions are suggested.

INTRODUCTION

Studies show that more than two trillion dollars were spent on IT related products and services by

organizations worldwide in 2001, of which more than \$800 billion were in US alone (Carr, 2003; Steinert-Threlkeld, 2002; WITSA, 2002). Not surprisingly, over the last three decades, there

have been strong interests, from both academicians and practitioners, in understanding why organizations invest in IT and what impact IT has on organizations (e.g., Applegate, Austin, & McFarlan, 2003; Bharadwaj, 2000; Brynjolfsson & Hitt, 2000; Clemons & Row, 1991; Gordon, 2002; Melville, Kraemer, & Gurbaxani, 2004; Porter & Millar, 1985; Strassmann, 1996; Wade & Hulland, 2004; Wilson, 1993). Managing IT budgets and creating business value from IT investments have been some of the top challenges facing firms in the global economy (Curley, 2006; Luftman Kempaiah, & Nash, 2005).

A stream of academic research on the business value of IT and IT investments provides many justifications for investing in IT. The process-based view states that IT investments create competitive advantages by improving operational efficiency of business processes (Barua, Kriebel, Mukhopadhyay, 1995; Mooney, Gurbaxani, & Kraemer, 1996; Soh & Markus, 1995). The resource-based view proposes that IT investments improve organizational performance by creating and leveraging resources and capabilities (Bharadwaj, 2000; Clemons & Row, 1991; Mata, Fuerst, & Barney, 1995; Powell & Dent-Micallef, 1997; Wade & Hulland, 2004). The economics-based view suggests that IT investments create higher marginal return than other types of capital investments in economic production processes of organizations (Brynjolfsson & Hitt, 1996; Hitt & Brynjolfsson, 1996; Lehr & Lichtenberg, 1999; Lichtenberg, 1995; Siegel, 1997). More recently, a significant development in theories of IT business value is the digital options view that applies real options thinking and analytical models to IT investment analysis (Benaroch & Kauffman, 2000; Tallon, Kauffman, Lucas, Whinston, & Zhu, 2002; Taubes, Feurstein, & Mild, 2000). This view holds that the value of IT to businesses is not limited to short-term, direct, and tangible benefits, as identified in the economic and process views, but can be extended to long-term capabilities and flexibilities created or enabled by IT investments. Sambamurthy et

al. (Sambamurthy, Bharadwaj, & Grover, 2003) further theorize that the digital options created by IT provide a platform for organizational agility that, in conjunction with entrepreneurial alertness and competitive action, has a significant impact on firm performance.

In this study, we offer an alternative perspective on the justification of investing in IT based on the internal affordability stemming from the strategic necessity argument (Carr, 2003; Clemons & Row, 1991) and the external influence according to the institutional theory (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Scott, 1995). We argue that as IT permeates all aspects of business processes, managers and stakeholders of firms become increasingly more acceptive to the notion of strategic necessity of IT. Over time, their IT budgeting processes become institutionalized. As a result, IT investment becomes less about creating competitive advantages for firms, but more about following organizational routine and creating legitimacy for management as well as organizations. This argument is based on two recognizable patterns of the firm-level IT budget data used in this study: (1) firm-level IT budgets as a percentage of revenue hover around a narrow range of 3%-5% with small variances across all firms; and (2) the two most significant determinants of an individual firm's IT budget are IT spending level of the perceived successful firms in the same industry as well as the individual firm's previous IT spending level. These patterns suggest the presence of institutional forces in the IT budgeting processes of these firms.

The rest of the chapter is organized as follows. In the next section, we develop the theoretical foundation and research hypotheses from the perspectives of strategy necessity and institutional theory. It is followed by descriptions of our research model and data set. Then we present the results of empirical tests of these research hypotheses using firm-level IT budget data. Finally, managerial implications and directions for future research are discussed.

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