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Returns to IT excellence: Evidence from financial performance around information technology excellence awards

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ABSTRACT

The resource-based view has been used in IT business value research to theorize and investigate the impact of unique IT capabilities on sustainable competitive advantages. Prior research has empirically documented a positive association between superior IT capabilities and firm performance. However, such analyses have focused on IT capabilities of firms in the early 1990s. In this study, we examine the impact of superior IT capabilities on firm performance over the 1988–2007 period, which allows us to consider the structural shifts in the return of IT capability over time. Our results suggest that firms with superior IT capabilities are able to attain higher firm performance levels until 1999. However, such performance advantage disappears in the post-1999 time period. We also find that a subset of firms that sustain high levels of IT capabilities during the period 1988 to 2007 continue to perform better than their peers. We conclude that managers are able to achieve superior firm performance if they are able to maintain high levels of IT capability over time.

1. Introduction

Information Technology (IT) business value research examines the organizational impacts of IT on business performance and value. Due to IT's strategic impact on organizations, researchers have adopted a variety of approaches to assess the mechanisms and contextual factors by which IT business value can be created and, more importantly, sustained. However, despite the importance of the IT-performance question, there is still uncertainty and debate about what we know and don't know (Melville et al., 2004).

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Much has changed in the economics of IT since the beginning of the new millennium. Major events (e.g., Y2K, dot.com bust, IT outsourcing) likely caused structural shifts in the returns to IT investments and IT capability (Dehning et al., 2004). In addition, according a recent research survey of CEOs from more than 250 companies by the IT Governance Institute (ITGI) (2009), executives agreed that while IT investments can add value to the enterprise, there are challenging barriers that prevent a full return from IT investments. Indeed, in a persuasive article, Carr (2003a) questions IT's strategic importance, and asserts that IT no longer matters for competitive advantage. Since IT resources are easily replicable, firms can no longer create distinctive IT capabilities. Although firms continue to dedicate large amounts of resources in IT and developing IT capability, the returns to those resources are increasingly in question.[1]

In this study, we test the association between superior IT capability and firm performance. Previous research (Bharadwaj, 2000 and Santhanam and Hartono, 2003) documents that firms with superior IT capability do indeed achieve superior firm performance. However, both studies use data from the early 1990s, which precluded the examination of the structural shifts in the return of IT capability over time.[2] In her concluding remarks Bharadwaj (2000 p. 188) states: “Studies adopting a more longitudinal focus are also essential to understand why some firms are better at converting their investments into superior IT capability.” We answer Bharadwaj's call by extending the analysis to more recent time periods (e.g., 2000s), as well as testing whether the theoretical expectations about IT capability apply in more competitive and complex periods. Our analysis is warranted given that the growth rate of business investment in IT boomed in the 1990s before plunging in the early start of the 2000s (Dom, 2004). Our examination sheds light as to whether the plunge in investment levels is tracked by a corresponding drop in performance.

We explore the link between superior IT capability and firm performance using a sample of firms that won the annual *CIO Magazine* IT excellence awards (the CIO 100 Award) over the 1988–2007 period. In a survey by *PR Week* magazine, CEOs named the CIO 100 award among the top 10 most influential corporate scorecards compiled by any publication or organization (CIO, 2010).[3] Consistent with the earlier research (Bharadwaj, 2000 and Santhanam and Hartono, 2003), we find that award-winning firms perform better than an industry-size matched benchmark using several measures of operating and market performance (e.g., ROA; ROS and Tobin's Q). This result represents an important triangulation using a different sample. More importantly, our results suggest that this finding is generally limited to years prior to 1999, which is consistent with a structural shift taking place in the IT capability-firm performance relation in the 2000s.

Indeed, since 1999, the performance advantage that award-winning firms enjoyed has eroded, such that, on average, award firms' return on assets (ROA) and profit margins (ROS) fall below benchmark performance. [4] More broadly, these results may be interpreted in light of Carr's (2003a) arguments that the competitive advantage stemming from IT has diminished in more recent years. We also find that a subset of firms that won multiple awards during the period 1988 to 2007 continue to perform better than their peers. This result is relevant to managers, who naturally expect substantive value from their investments in IT. It suggests that IT excellence is no longer reflected in one or two innovative projects, but rather, IT excellence must be maintained continually to achieve rewards in the current era.

Our study makes several contributions to the accounting information systems (AIS) literature. As argued by Sutton (2010), AIS researchers have been a critical foundation for the rapid growth of business value of IT research. This research stream examines the business performance effects of IT and represents one of the primary streams dominating the AIS literature over the past decades (Sutton, 2010). Our study

[1] The 2008 Gartner CIO Agenda study documents that IT budgets are growing 4.9% on average at enterprises with a strategy of building distinctive IT capabilities, compared to just 3.1% at organizations with a generic IT strategy. In addition, CIO Insight (2008) confirms that IT spending will continue to rise despite the recent recession fears because businesses are expecting IT to have more visibility and impact than in the past. Consistent with firm desires of building distinctive IT capabilities, the CIO is charged with aligning the IT capabilities with the needs of the organization.

[2] The sample period covered by both Bharadwaj (2000) and Santhanam and Hartono (2003) is 1991–1994. Given all the changes that have taken place since the early 1990s, e.g., Y2K, dot.com bust, IT outsourcing, whether the findings by these two studies apply in more recent years (e.g., 2000s) remains an empirical question.

[3] We do note that *CIO Magazine* gives an award for “best individual project” whereas the *InformationWeek* awards used by Bharadwaj (2000) and Santhanam and Hartono (2003) were general IT capability awards. To the extent these awards are not similar, our ability to compare and extend our results to those of Bharadwaj (2000) and Santhanam and Hartono (2003) is limited.

[4] We use as a benchmark the median performance in the same industry and size (revenue) quintile.