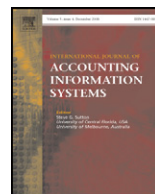




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Role of IT executives in the firm's ability to achieve competitive advantage through IT capability

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ABSTRACT

Contrary to prior studies that have tried to examine the role of IT capabilities (ITC) on firm performance in isolation from the role of senior IT executives, we propose that the two are linked. More specifically, we argue that there is a positive relationship between the structural power of senior IT executives and the likelihood that the firm will develop superior ITC. Furthermore, the contribution of ITC to a firm's competitive advantage is much stronger in firms with powerful senior IT executives as they are the driving force that may ensure the continuous renewal of ITC. We develop a two-stage econometric model designed to test this chain hypothesis that the structural power of senior IT executives will affect a firm's ability to achieve superior ITC, in turn driving firm performance. Empirical evidence based on a sample of large US firms strongly supports both of our hypotheses.

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1. Introduction

Anecdotal evidence based on companies that have been known for their superior organizational IT capability indicates that powerful senior IT executives¹ play a pivotal role in orchestrating their company's success. The objective of this study is twofold. A two-stage approach is used in order to examine the contribution of senior IT executives on their firm's ability to achieve superior IT capability, and the impact of co-presence of powerful senior IT executives in firms with superior IT capability on their firm's competitive position.²

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¹ Salient examples include Shack at PNC, Kepler at Dow Chemical, Webb at Equifax, Stanley at Harrah's, and Mott at Wal-Mart.

² Our study concurs with prior research that firms use many different titles for their senior IT executives (e.g., CIO, CTO, VP, Director, Managing Director). We are speculating that for brevity the majority of studies tend to use the blanket label 'CIO' to refer to a firm's senior IT executive. While this is convenient, it is an oversimplification. It ignores the fact that a senior executive's title and number of titles is a proxy of their power within the organization, i.e., a proxy for their structural power (Finkelstein, 1992).

Our study builds on and integrates two streams of research that fall under the broader IT business value literature: (1) Studies that examine role of organizational IT capability on firm performance. One of the first studies in this area by [Bharadwaj \(2000\)](#) has shown strong support for the hypothesis that firms with superior IT capability perform better than their competitors. However, a follow up study by [Santhanam and Hartono \(2003\)](#) found that the role of IT capability on firm performance is weaker once you account for the firm's prior performance. In general the results from IT capability studies remain mixed. (2) Studies that examine the role of senior IT executives on their firm's market and financial performance. According to [Chatterjee et al. \(2001\)](#), markets react positively to the announcement of the creation of a new CIO position. [Khallaf and Skantz \(2011\)](#) find that CIO appointments improve firm financial performance but the performance improvement is largely limited to 'firms appointing a CIO for the first time' and first movers. Notwithstanding the contribution of both of these studies ([Chatterjee et al., 2001; Khallaf and Skantz, 2011](#)), a question with significant practical implications for senior business executives and senior IT executives remains unanswered. Do incumbent senior IT executives add value? The importance of evaluating the value adding contribution of incumbent senior IT executives has been suggested by [Chatterjee et al. \(2001; p. 58\)](#): "...evidence suggests that CIOs experience a high turnover rate, relative to other senior executives. Is this solely a function of poor performance by incumbents?"

In this study we propose integrating these two streams of research in order to better understand the value adding contribution of senior IT executives and the role of IT capability on their firm's performance. Prior studies have either tried to examine the role of IT capabilities on firm performance (e.g., [Bharadwaj, 2000; Santhanam and Hartono, 2003](#)) or the role of senior IT executives on firm performance ([Khallaf and Skantz, 2011](#)) in isolation. We propose that one should consider the role of senior IT executives in a firm's ability to develop superior IT capability, and then the value added by senior IT executives through superior IT capabilities. Building on existing literature (e.g., [Raghunathan and Raghunathan, 1989; Grover et al., 1993; Armstrong and Sambamurthy, 1999](#)) this study argues that there is a positive relationship between the structural power of senior IT executives and the likelihood that the firm will develop superior IT capability. Structural power is 'perhaps the most commonly cited type of power; it is based on formal organizational structure and hierarchical authority' ([Finkelstein, 1992; 508](#)). Furthermore, given the dynamic nature of IT capabilities ([Bhatt and Grover, 2005; Lim et al., forthcoming](#)) the contribution of IT capability to a firm's competitive advantage is much stronger in firms with powerful senior IT executives as they are the driving force that may ensure the continuous renewal of IT capability.

The data set for testing our hypotheses was developed by integrating data from *InformationWeek 500* (proxy for firms with superior IT capability), Lexis-Nexis and a variety of online sources (search for official title and number of titles to proxy for structural power of senior IT executives) and *Compustat* (firm performance data) for the period 1997–2004. A two-stage econometric model is used to test the chain hypothesis that the power of senior IT executives will affect a firm's ability to achieve superior IT capability, and that this in turn drives firm performance. Empirical evidence based on a sample of large US firms strongly supports our hypotheses.

This study contributes to prior literature on IT capability and firm performance by demonstrating that the impact of superior IT capability on a firm's competitive performance is contingent upon the structural power of the firm's senior IT executive. The results show that in firms where senior IT executives have high power, the effect of superior IT capability on firm performance remains strong, even when accounting for the firm's prior performance, time, and industry effect. Furthermore, our study contributes to the growing literature on the role of senior IT executives ([Chatterjee et al., 2001; Dehning and Stratopoulos, 2003; Khallaf and Skantz, 2011; Masli et al., 2011](#)) by illustrating that the impact of a firm's senior IT executive on its performance is channelled through superior IT capability. Identifying antecedents of IT capability, i.e., factors that lead a firm to achieve and sustain superior IT capability, as well as recognizing the role that these factors play on the rent yielding capacity of IT capability, helps to illuminate the proverbial black box of IT business value research. Finally, this study has important practical implications for senior business executives who want to compete through IT enabled strategies. The message is that bestowing more power on senior IT executives increases the likelihood that the firm will develop and sustain superior IT capability, the *sine qua non* for an IT enabled strategy.

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