Investigating the effects of IS strategic leadership on organizational benefits from the perspective of CIO strategic roles

Fang Ding [a], Dong Li [a], Joey F. George [b],*

[a] Guanghua School of Management, Peking University, No. 5 Yiheyuan Road, Haidian District, Beijing 100871, PR China
[b] SCIS Department, College of Business, Iowa State University, 2340 Gerdin Business Building, Ames, IA 50011, USA

ABSTRACT

In this study, the effects of IS strategic leadership on organizational outcomes are examined from the perspective of CIO strategic roles. A field survey is conducted that collects data from 110 matched pairs of CIOs and business executives within organizations. Our findings suggest that strategic leadership significantly affects both organizational benefits and information system quality. Further, we found that IS quality significantly mediates the relationship between IS strategic leadership and organizational benefits. We also note that IS vision significantly moderates the relationship between IS strategic leadership and IS quality, although it does not moderate the relationship between IS strategic leadership and organizational benefits or the relationship between IS quality and organizational benefits.

© 2014 Elsevier B.V. All rights reserved.

1. Introduction

Half of CIOs are still stuck in the old school and not really business focused. That's surprising. I've always been a business-first, IT second executive. . .. There is a perception problem that CIOs and IT as a whole have to get past, the whole "If you need to know how to silence your iPhone, call your IT person" thing. . .. When you think about it, though, the CIO is the one executive who really understands the enterprise business process end-to-end.
– Brian Beams, CIO, Pharmavite, 2/20/14, enterprisersproject.com

Over the past two decades, information systems have continued to grow in importance as a means of enhancing the strategic growth of many organizations [70]. Meanwhile, the effects of IS strategic leadership [40,41] on organizational benefits continue to be a major concern of CIOs and other executives [4,12,40,41,51,62].

In today's organizations, the strategic focus of the CIO is to align IS strategy with business strategy to achieve organizational goals [13,60,62]. We suggest that IS strategic leadership is also likely to have implications for organizational benefits, which is consistent with Hambrick and Mason's [33] "upper echelon" theory whereby top executives in an organization affect organizational performance. Prior research has generally assumed that IS leadership influences organizational outcomes through the IS function [1,13,21,65]. Many past CIO studies have been merely anecdotal and descriptive in nature and focused less upon the special attributes of IS leadership compared with general leadership. As Karahanna and Watson [40] indicate, the idiosyncratic aspects of IS leadership stem from the nature of IS and the role of the CIO in the organization. IS leadership is more than general leadership because it requires the extra dimension of IS intelligence. However, there is a lack of research that employs a systematic approach to empirically investigate whether IS strategic leadership affects organizational benefits and IS quality from the perspective of the strategic roles of the CIO. It is also unclear whether IS strategic leadership differentially affects organizational outcomes when organizations have different IS natures, such as different IS visions (i.e., the inform and transform visions) [3,24,57,74]. Further, prior studies have failed to open the black box of how IS strategic leadership influences organizational benefits through the mediating effects of IS quality. This gap in the current body of knowledge must be addressed through theory-driven empirical studies that enrich the IS strategic leadership literature. Hence, our study focuses on the mediating effects of IS quality and the moderating effects of IS vision on the relationship between IS strategic leadership and organizational benefits from the perspective of CIO strategic roles (i.e., IS strategist and business strategist) within organizations that espouse different IS visions.

By introducing a new theoretical model, we present the useful lens of CIO strategic roles through which researchers can examine

* Corresponding author. Tel.: +1 515 294 7162.
E-mail addresses: dingfang@gsm.pku.edu.cn (F. Ding), lidong@gsm.pku.edu.cn (D. Li), jfgeorge@iastate.edu, joey.george@stanfordalumni.org (J.F. George).

the special nature of IS strategic leadership and how such leadership can influence organizational outcomes. Additionally, because the nature of IS is related to the special attributes of IS leadership, we examine the relationship between IS strategic leadership and the nature of IS, which is described in this paper as IS quality and IS vision, respectively. Our empirical results show that IS strategic leadership has significant direct effects on organizational benefits and on IS quality. Additionally, IS quality mediates the relationship between IS strategic leadership and organizational benefits. Specifically, IS strategic leadership, as moderated by IS vision, has different levels of influence on IS quality.

The remainder of this paper is organized as follows. The second section proposes four hypotheses that predict the direct and indirect effects of IS strategic leadership on organizational benefits. The research method and data analysis are described in the third section. Section four presents the contributions and limitations of this study.

2. Theory and hypotheses

Some researchers propose that the CIO is an important asset who can add business value to information systems [19] and potentially enhance organizational performance (e.g., [3,10,39]). The conceptual model underlying our research draws upon the combination of upper echelon theory [33] and prior literature regarding IT management and CIOs. Upper echelon theory posits that upper echelon characteristics determine strategic choices and thereby affect organizational performance. The specific strategy dimensions listed in the IT management and CIO literature include IS strategy choice, IS quality, and IS innovation [31,41]. The previous IT management and CIO literature suggests that the attitudes of CIOs and other top executives significantly influence the strategic possibilities of the organization [31,32,63]. According to the organization's strategic development needs, the IS strategic leader can use the "IS resource" not only to support business strategy but also to drive business strategy and maintain a dynamic balance between these two efforts [18,51]. Hence, we propose that IS quality mediates the relationship between IS strategic leadership and organizational benefits.

Upper echelon theory [33] suggests that the combination of certain situational conditions and a leader's characteristics will lead to certain strategic choices. The situation, the leader's characteristics, and the strategic choices then interact to determine organizational benefits. The leader faces complex situations and brings a cognitive base and values to decisions, which creates different visions for the organization [33]. The leader's eventual perception of the situation is combined with his/her values to

establish the basis for strategic choices. IS vision is treated here as a feature that can reflect a leader's perceptions but that can also directly affect a strategic choice because an IS leader can theoretically improve IS quality and organizational benefits based on a particular IS vision for the organization. With this in mind, we propose that IS vision moderates the relationship between IS strategic leadership and IS quality and organizational benefits.

Strategic CIOs are members of the firm's C-level executive team and assume many influential roles [19], such as participating in strategic decision-making activities [56], offering the IS vision for the firm, promoting IS as an agent of business change [7], redesigning firm strategy, and ultimately creating value for the organization [4]. IS strategic leadership is typically strongly tied to organizational strategic decision-making [46], which means that the degree to which IS contributes to the organization is closely related to IS strategic leadership [10]. The strategic leadership literature also suggests that leadership can have important but varied influences on organizational performance [24]. The research model is shown in Fig. 1.

2.1. Literature review

2.1.1. IS strategic leadership

Management researchers believe that a leader is someone who can influence others and has managerial authority [56]. Vroom et al. [68] define leadership as the "process of motivating people to work together collaboratively to accomplish great things." In their paper, these authors propose that leadership is a process in which a leader influences a group to successfully achieve a goal rather than to attain personal property and that the consequence of this influence is that all group members cooperate closely to pursue great things. Finkelstein & Hambrick [24] noted: "In terms of the concept of (strategic) leadership, some mainstream methods focus on examining an individual's executive ability." Therefore, the leader implements certain tasks, and strategic leadership manifests through the leader by means of his ability to have a profound effect on organizational performance based on his choices and implementation of strategies. The roadmap of the definition of IS strategic leadership is shown in Fig. 2.

Despite the central importance of IS strategic leadership in practice and research, our review of the literature suggests that the concept of IS strategic leadership is a term that is readily used but not fully understood. We conducted a search of the literature relevant to IS strategic leadership by searching titles, abstracts and keywords in EBSCO/Business Source and ProQuest/ABI Inform using the string "Info* OR IT OR IS" through 2012, which resulted in 3271 articles. Consistent with the prior literature, the CIO is
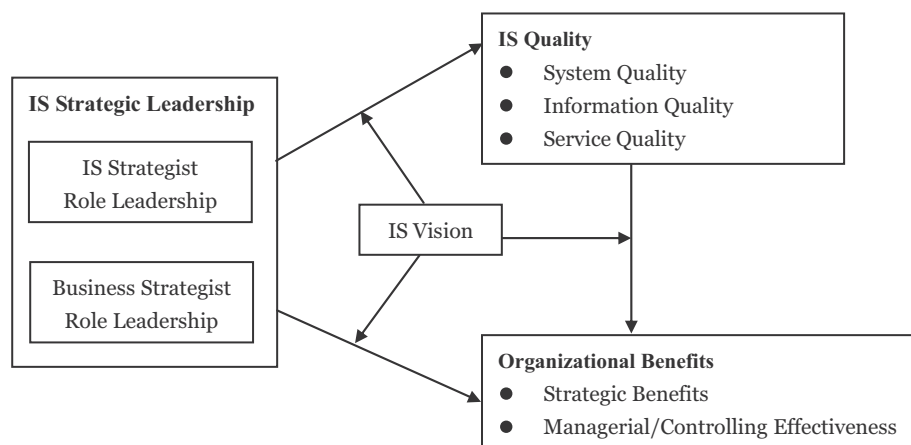

Fig. 1. Research model.