



## Matching business strategy and CIO characteristics: The impact on organizational performance<sup>☆</sup>

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### ABSTRACT

This paper examines the match between chief information officer (CIO) characteristics and the organization's business strategy and how this match influences the organization's business performance. Based on the theoretical underpinnings of typologies of business strategy, alignment between IT strategy and business strategy and upper echelon theory, this study proposes a research model. This study uses survey data from 81 CIOs/IT managers to test the model empirically. The results indicate that a match between business strategy and CIOs of certain repertoires of competencies, experiences and personalities could lead to better organizational performance. The business performance in "matched" organizations is significantly better than that in "mismatched" ones.

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### 1. Introduction

In a diverse and ever-changing marketplace, organizations are constantly seeking to harness technology to improve their core competency and gain competitive advantage, because the agility of an organization to respond to changes in the competitive environment is highly dependent on its leverage on information technology (IT) (Peppard, 2010). Explicitly, knowing how to apply IT in an appropriate and timely way and in harmony with business strategies, goals, and needs could bring the organization closer to business success (Luftman & Brier, 1999; Tallon, 2007). In other words, aligning IT strategy with business strategy has become a critical issue in most organizations (Adcock, Helms, & Wen-Jang, 1993; Asato, De Mesquita Spinola, Costa, & De Farias Silva, 2009).

Some studies seek to understand the linkages between business strategy and IT strategies (Chan & Huff, 1993; Sabherwal & Chan, 2001; Thomas & Hans Georg, 2004). For instance, some prior studies advocate the importance of considering the role of strong partnerships

and mutual understanding and support between IT managers and top business managers (Johnson & Lederer, 2010; Keen, 1996), the competitive use of IT to transform business strategies (Boynton, Victor, & Pine, 1996; Roland & Francine, 2006), and the importance of aligning IT strategy with business strategy for organizations across different industries (Goh, 2007; Rathnam, Johnsen, & Wen, 2004).

The person in an organization who knows technology and business sufficiently well is the chief information officer (CIO). With the increasing importance of IT in transforming business, the role of a CIO has evolved significantly during the past two decades to reflect both the firm's IT infrastructure and IT strategy (Chun & Mooney, 2009). To-date, a CIO is both an executive-level manager who focuses on the firm's strategy and a technical manager who focuses on minimizing costs by rationalizing and leveraging the existing IT infrastructure (Chun & Mooney, 2009). CIOs wield the greatest organizational power to influence the exploitation of IT in their organizations since they have the best knowledge of the technology progression and characteristics. Furthermore, they are the key strategic decision makers who plan and direct the organization's IT strategy and its implementation (Earl & Feeny, 1994). Evidently, people believe that they are now the masterminds in driving business transformation and innovation in organizations (Peppard, 2010).

Previous researches (e.g. Guthrie & Datta, 1997; Thomas & Ramaswamy, 1994, 1996) have investigated on the match between organization's top managers, for example the chief executive officer (CEO), and the organization's business strategy. They posit that a "fit" or "match" between these two will yield better organizational performance. However, given the increasingly important role played by the CIO in shaping an organization's IT strategy (Smaltz, Sambamurthy, & Agarwal, 2006), transforming an organization's business strategy

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(Peppard, 2010) and the need to align IT with business strategy, researchers have not paid sufficient attention to how characteristics of the CIO (who defines, manages and monitors the entire organization's IT development) will match the organization's business strategy and whether this match will influence the organization's business performance. This study strives to fill this gap in the extant literature. Specifically, the study here seeks to answer: How CIOs with different characteristics will match organizations with different business strategies?

Drawing on the theoretical underpinnings of topologies of business strategy (Miles & Snow, 1978), alignment between IT and business strategy (Sabherwal & Chan, 2001) and upper echelon theory (Hambrick & Mason, 1984), this study proposes a research model 1) to examine the match between CIO characteristics and the organization's business strategy and 2) to assess whether this match will influence the organization's business performance. This research empirically tests this model with survey data from 81 CIOs/IT managers in different organizations.

## 2. Conceptual model and hypotheses

Notwithstanding the growing research in strategic leadership (Watts & Henderson, 2006), the causal relationship between managers and strategy is still a source of considerable debate. Particularly, whether managers determine strategies or whether established strategic position impacts the recruitment and promotion decisions of upper echelon executives is often a question pondering researchers till now (Lin & Shih, 2008; Thomas & Ramaswamy, 1996). Despite the absence of consensus on the causal forces, the match or fit between managers and strategic direction is crucial to the organization's success.

While it is important for an organization to align its IT strategy with its business strategy and it's crucial for a CIO with certain repertoires of characteristics to carry out a specific IT strategy, this study proposes the necessity to match CIO characteristics with an organization's business strategy and such a match will have beneficial impact on an organization's business performance. Fig. 1 depicts the conceptual model that examines the match between CIO characteristics and business strategies (H1a–H1f) and the impact of this match on the organization's business performance (H2a and H2b). In the following subsections, by using IT strategy as a linkage, this study will discuss the match between business strategy and IT strategy and the reasoning for matching CIO characteristics to business strategy.

### 2.1. Business strategy and its match with IT strategy

In the realm of strategic management theory, the typology of strategic orientation reflects the central role of managerial influence (Thomas & Ramaswamy, 1996). One of the most well-established

business strategy typologies is the three viable strategic types proposed by Miles and Snow (1978). They include prospector, defender and analyzer. Based on the summary of Sabherwal and Chan (2001), different IT strategies may be appropriate for the three business strategies (Camillus & Lederer, 1985). These three strategies differ in information management sophistication (Gupta, Karimi, & Somers, 1997), in the level of IT investment (Karimi, Gupta, & Somers, 1996), and in their influence on the attributes of formal control systems (Simon, 1987). Based on these three different business strategic orientations, Sabherwal and Chan (2001) suggest different IT strategies for each of them in terms of different emphasis on operational support systems, market information systems, inter-organizational systems and strategic decision support systems.

According to Miles and Snow (1978), prospectors are organizations whose prime capability is that of finding and exploring new product and market opportunities. For a prospector, maintaining a reputation as an innovator in product and a creator of changes in its market may be as important as (in some cases even more important than) high profitability. They invest heavily in product research and development (R&D) and environmental scanning, which requires high level of technological flexibility. However, the emphasis on innovativeness and flexibility often leads to a lack of controls and low operational efficiency. In the research on the match of IT strategy to prospector strategy in prospector firms, Sabherwal and Chan (2001) suggest the concept of IT for flexibility strategy, which refers to the focus on flexibility especially in market information systems and strategic decision support systems.

In contrast, defenders stress on operational efficiency and economics of scale. They seal off a stable and predictable but narrow niche in the total potential market by producing only a limited set of products directed at this segment of the market (Miles & Snow, 1978). The products are normally standard with low prices. Defenders devote significant attention to controlling operating cost, thus their technology choices favor inflexible but cost-efficient methods. Furthermore, they do not tend to search outside their domain for new opportunities, and rarely make major adjustment in their technology (Sabherwal & Chan, 2001). Most of their research and development efforts are related to process improvement instead of product innovation. The IT strategy aligned with defenders is the IT for efficiency strategy which emphasizes on internal and inter-organizational efficiencies in organizational information systems rather than on flexibility (Sabherwal & Chan, 2001). Based on this IT strategy, defenders will put its IT investment mainly on operating support systems and inter-organizational systems.

Between the two extremes of prospector and defender, is a third type of organization called analyzer (Miles & Snow, 1978). Analyzer is a combination of prospector and defender, who seeks to simultaneously minimize risk while maximizing opportunities for growth (Sabherwal & Chan, 2001). In keeping this posture, analyzers adopt dual core technologies that have both stable and flexible components. Unlike defenders, they do not eschew changes; however, they will not initiate changes either, but follow the prospectors for changes instead. According to Sabherwal and Chan (2001), IT for comprehensiveness strategy enables comprehensive decisions and quick responses through knowledge of other organizations, will be suitable for analyzers.

In summary, different business strategies require different IT strategies. Prospectors desire for flexibility and innovation in their IT strategy, defenders emphasize on cost containment and stability, and analyzers endeavor to simultaneously achieve both. Following the argument of Thomas and Ramaswamy (1996), because of its hybrid nature, the strategic and managerial attributes of analyzers are not as clear as those of the prospectors and defenders. The present study, thus, focuses on the two extreme types—prospector and defender and it is believed that this is a necessary first step toward a fuller understanding of the attributes of analyzers in future research.

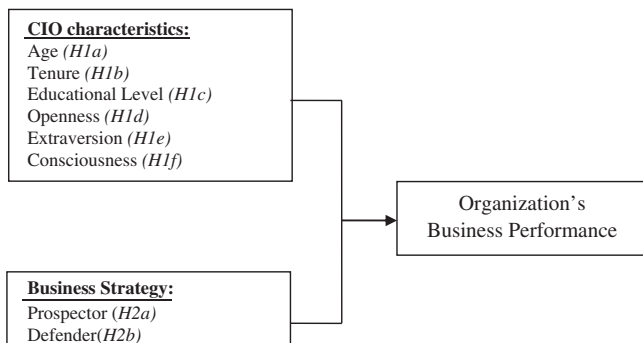


Fig. 1. Conceptual model.

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