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Strategic Alignment Between IT Flexibility and Dynamic Capabilities:
An Empirical Investigation

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ABSTRACT

Dynamic capabilities theory (DCT) emerged as a leading framework in the process of value creation for firms. Its core notion complements the premise of the resource-based view of the firm and is considered an important theoretical and management framework in modern information systems research. However, despite DCT's significant contributions, its strength and core focus are essentially in its use for historical firm performance explanation. Furthermore, valuable contributions have been made by several researchers to extend the DCT to fit the constantly changing IT environments and other imperative drivers for competitive performance. However, no DCT extension has been developed which allows firms to integrally assess their current state of maturity to derive imperative steps for further performance enhancements. In light of empirical advancement, this article aims to develop a strategic alignment model for IT flexibility and dynamic capabilities and empirically validates proposed hypotheses using correlation and regression analyses on a large data sample of 322 international firms. The authors conjecture that the combined synergetic effect of the underlying dimensions of a firm's IT flexibility architecture and dynamic capabilities enables organizations to cope with changing environmental conditions and drive competitive firm performance. Findings of this study suggest that there is a significant positive relationship between firms' degree of strategic alignment—defined as the degree of balance between all dimensions—and competitive firm performance. Strategic alignment can, therefore, be seen as an important condition that significantly influences a firm's competitive advantage in constantly changing environments. The proposed framework helps firms assess and improve their maturity and alignment of IT flexibility and dynamic capabilities. This article concludes with a discussion, suggestions for future research and managerial implications are also discussed.

KEYWORDS

Assessment Tool, Dynamic Capabilities, Firm Performance, IS/IT-alignment, IT flexibility

1. INTRODUCTION

Modern firms across a wide range of industries and sectors are constantly seeking competitive potential in order to improve customer efficiency, firm effectiveness, and transform the organization toward a sustainable and evolutionary fit business model driven by organization-wide innovations (Dao, Langella, & Carbo, 2011; Hanelt, Busse, & Kolbe, 2016; Seidel, Recker, & Vom Brocke, 2013). The adoption, effective use, and alignment of information systems and information technology (IS/IT) are critical in this respect (Hanelt et al., 2016; Malhotra, Melville, & Watson, 2013; Melville, Kraemer,

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& Gurbaxani, 2004; Wade & Hulland, 2004). However, various scholars have argued that firms need to deal with various complexities arising from aligning business operations and IS/IT domains (Sabherwal, Hirschheim, & Goles, 2001; Wegmann, 2002), while also taking into account the dynamics of the environment (Eisenhardt & Martin, 2000; Teece, Pisano, & Shuen, 1997) and continuous organizational change (Brown & Eisenhardt, 1997). It has been well documented in the literature that this particular process complements the leveraging of idiosyncratic and intangible resources to build competences (Wernerfelt, 1984), i.e., the internal oriented resource-based view (RBV) of the firm. The dynamic capabilities theory (DCT) extended this rather static RBV (Teece et al., 1997) and embraced environmental influences and market dynamism (Wang & Ahmed, 2007). Eisenhardt and Martin (2000) observed that dynamic capabilities can could be effective if they match the rate of environmental changes and not all enterprise-level responses to external stimuli are manifestations of dynamic capabilities (Winter, 2003). Moreover, Henderson and Venkatraman stressed that alignment, as a dynamic capability, is not an ad-hoc event, but rather a process of continuous adaption and change. As such, they argued that 'no single IT application—however sophisticated and state of the art it may be—could deliver a sustained competitive advantage' (Henderson & Venkatraman, 1993). It is also within this particular context that IT capabilities and scalable enterprise IS/IT infrastructures have been proposed as a means to achieve a competitive edge (Duncan, 1995; Kim, Shin, Kim, & Lee, 2011; Tiwana, Konsynski, & Bush, 2010).

IT capabilities have been viewed by past literature as complex, multidimensional constructs (Pavlou & El Sawy, 2006). As such, scholars and practitioners have used inconsistent conceptualizations of this term, while complementary perspectives that investigate the dynamics among different types of IT capabilities (e.g., IT flexibility, human and management capabilities), have been largely overlooked (Fink, 2011; Kim et al., 2011). Past literature, suggested that the unique characteristics of an IT infrastructure determine the value of that infrastructure to organizations (Byrd & Turner, 2000). Moreover, a firm's IT flexibility is regarded as a critical aspect of an IT infrastructure that can potentially influence a firm's ability to use and reconfigure IT strategically (Bharadwaj, 2000; Bhatt & Grover, 2005; Ray, Muhanna, & Barney, 2005). Hence, we focus on the IT flexibility dimension of the IT capability, which is likely to help firms differentiate themselves from competition and drive competitive firm performance (Mikalef, Pateli, & Van de Wetering, 2016). In doing so, we build upon Simon's theory of near decomposability, i.e., his design principles for modular systems and loose coupling (Simon, 1965; Weick, 1976), which have also been linked to increased levels of strategic alignment under volatile circumstances that require agile and swift responses by the firm (Tallon & Pinsonneault, 2011). This demonstrates that a flexible IT infrastructure can facilitate a timely response in terms of IT-based competitive actions, geared towards sustained competitive advantage (Overby, Bharadwaj, & Sambamurthy, 2006). In this respect, the IT infrastructure is not only used to support current operations but is developed on the basis of constant adaptations, or as referred to, a platform for digital options (Overby et al., 2006; Sambamurthy, Bharadwaj, & Grover, 2003).

Although IT flexibility may to some extent strengthen a firm's armory of digital options, it is conceivable that this imperative dimension in isolation may not be sufficient to drive firm performance. This relates well to the principles of efficacious IS/IT adaptation and coevolution: "…having none of them is a disaster; having all particularly feeds adaptive and synergetic success…" (Benbya & McKelvey, 2006). This synergetic success especially fits the core concept of strategic alignment, i.e., equilibrium of different organizational dimensions, and external fit as strategy development that is based on environmental trends and changes (Chan & Reich, 2008; Henderson & Venkatraman, 1993; Van de Wetering & Batenburg, 2014) and also more recent work on facilitation of dynamic capabilities (Sher & Lee, 2004), co-evolutionary relationship between IT investments, capabilities and their ability to launch competitive actions (Patrick Mikalef et al., 2016; Sambamurthy et al., 2003). Hence, we foresee synergies arising from IT flexibility and complementary organizational capabilities in strengthening a firm's armory to improve competitive firm performance (Bhatt & Grover, 2005; Lane, Salk, & Lyles, 2001; Roberts, Galluch, Dinger, & Grover, 2012; Wade & Hulland, 2004). We, therefore,

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