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Information technology investment governance: What is it and does it matter?☆

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ABSTRACT

While the growth in the number of IT investments remains strong, research in the IT investment field is limited, resulting in suboptimal practical guidance on effectively governing IT investments. Based on resource-based theory, this paper reports the initial work involved in developing a construct named IT investment governance (ITIG), because it can be used to measure organizations' capability to govern their IT investments. This paper then empirically examines the association of ITIG and corporate performance. The preliminary result is a four-factor, 16-item instrument for assessing the ITIG construct. This method's factors are IT investment value governance, IT investment value monitoring, IT investment appraisals and IT investment project management. The impact of ITIG on corporate performance was demonstrated with a significant and positive relationship found to exist between the ITIG construct and corporate performance, thus supporting the effectiveness of the ITIG construct. Corporations with higher levels of ITIG capability are more likely to maximize the contribution of their IT investments to firm value.

1. Introduction

Expenditure on IT can represent a significant investment in corporate resources for businesses because it can increase their expectations of the value of IT (Kappelman et al., 2014). Recently, Gartner (2015) reported

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that worldwide IT spending totalled $3.8 trillion in 2015, up 2.4% from 2014 spending. At an organizational level, IT investment was higher than 50% of capital spending of many firms (Nolan and McFarlan, 2005). A survey by the Society for Information Management found that, in 2014, corporations allocated on average 5.1% of revenues to their IT budgets (Kappelman et al., 2014). Despite the growing amount of IT investment in organizations, there appear to be few recently validated measures to guide organizations on how to govern IT investments effectively (Peppard et al., 2007; Sherer, 2007; Bulchand-Gidumal and Melián-González, 2011; Maes et al., 2012; Schryen, 2013).

IT investment governance (ITIG) which is a subset of IT governance is mainly concerned with the aspects of value delivery and resource management of IT within organizations (Weill and Ross, 2004; ITGI, 2008). Weill and Ross (2004), note that IT governance encompasses five sub-domains: IT principles; IT architecture; IT infrastructure; business application needs; and value delivery and resource management. Building on the prior literature, this study focuses on the IT investment aspect of IT governance (i.e., resource management and value delivery). In this study, value is defined as "the impact of investments in particular IS assets on the multidimensional performance and capabilities of economic entities at various levels, complemented by the ultimate meaning of performance in the economic environment" (Schryen, 2013, p. 141). IT investments require proper governance, as improper governance of IT investments may jeopardize the level of IT's contribution to the overall business value achieved (e.g., Sherer et al., 2002a, 2002b; Jeffrey and Leliveld, 2004; Peppard, 2007; Bajaj et al., 2008; Kumar et al., 2008). Prior studies propose areas that need to be governed effectively. For example, Weill and Ross (2004) propose three main concerns in IT investment: (1) how much to spend, (2) what to spend it on, and (3) how to reconcile the needs of different constituencies. Prior to that, Bacon (1992) highlighted similar concerns for IT investments by proposing these questions: "how do organizations decide on their information systems and technology (IST) investments, and how should they decide?" (p. 337). Such concerns need to be addressed effectively to ensure that IT investments contribute to firm performance. Thus, in this context, ITIG is important.

This paper proposes ITIG as an organizational capability that can play important roles in explaining the link between IT investments and corporate performance. Using resource-based theory as its theoretical foundation, this paper posits that ITIG is an organizational capability that helps organizations realize optimal benefits from their IT investments. In this paper, organizational capability refers to how an organization performs "a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving particular end results" (Helfat and Peteraf, 2003, p. 999). In this paper, the organization itself is represented by its board of directors and its top management team members. Boards of directors and top management should engage in decision making and monitoring of IT investments within their organizations to ensure that the IT investments deliver real value to them (Weill and Ross, 2004; Nolan and McFarlan, 2005; Peppard et al., 2007; Mithas et al., 2011). ITIG as an organizational capability, can provide sustained advantages for corporations as ITIG can provide a valuable, rare, inimitable and non-substitutable (VRIN) resource (Barney, 1991). This accords with Bharadwaj's (2000) view that how a firm leverages its investments to create unique IT resources and skills is what determines its overall effectiveness because [IT] investments *per se* do not provide any sustained advantages.

To perform their functions properly, the boards of directors and top management need research-based guidance to help them obtain and optimize the value of IT investments (ITGI, 2008). Van Grembergen and De Haes (2008), however, reveal that ITIG practices are difficult to realize. According to ITGI (IT Governance Institute) (2008), this situation is due to limited access to a structured approach to ITIG. Nolan and McFarlan (2005) report in a survey by Deloitte Consulting on boards of directors and top level management that, of the 35 organizations surveyed, only one respondent reported the use of a comprehensive approach to measuring and managing IT investments. Deloitte Consulting reported similar findings, whereby they found only 13% of the respondents monitor and measure the value of their IT investments (Corporate Board Member, 2007). Furthermore, ITGI (2008, p. 12) report that "a comprehensive, proven, practice-based structured governance framework—that can provide boards and executive management teams with practical guidance in making IT investment decisions and using IT to create enterprise value" was needed.

The development of an appropriate research-based instrument to guide and measure ITIG dimensions effectively is important in guiding boards of directors and top-level management when governing their IT investments. So that is the purpose of this paper: to use resource-based theory to empirically examine the association between ITIG as an organizational capability and corporate performance.