Trends in Information Technology Governance

Ryan R. Peterson
Information Management Research Center, Spain

INTRODUCTION

Information technology (IT) *governance* has been a perennial item on the corporate agenda of many organizations. Ever since IT proved to be more than an administrative tool, researchers and practitioners have pondered its governance. Defined as the locus of IT decision-making authority (Brown & Magill, 1994; Sambamurthy & Zmud, 1999), discussions concerning IT governance have flourished for more than four decades across research communities and boardrooms. Posed as a question of *centralization* during the 70s, IT governance drifted towards *decentralization* in the 80s, and the recentralization of IT decision-making was a 90s trend.

Today, IT governance is experiencing yet another transformation, and persists as a complex and evolving phenomenon (Grembergen, 2003). As business environments continuously change and new technologies evolve rapidly, how to govern IT effectively remains an enduring and challenging question. This chapter discusses past developments and the present status quo of IT governance, and outlines several critical questions, which are pending future investigation.

BACKGROUND

Traditionally, three IT governance models have been distinguished (Brown & Magill, 1998; Sambamurthy & Zmud, 1999). In each model, stakeholder constituencies take different lead roles and responsibilities for IT decision-making across the *IT portfolio*. In the centralized model, corporate IT management has decision-making authority concerning *IT infrastructure* and *IT applications*. In the decentralized model, division IT management and business management have authority for IT infrastructure and IT applications. In the *federal* model, corporate IT has authority over IT infrastructure, and (either or both) division IT and business-units have authority over IT applications.

In general, it is argued that centralization provides greater efficiency, control, and standardization, while decentralization improves business ownership, flexibility, and responsiveness (Brown, 1997; Rockart, Earl, & Ross, 1996). Literature suggests that the federal model provides the benefits of both centralization and decentralization (see Table 1). Research indicates that organizations adopt a federal model when pursuing multiple competing objectives involving a simultaneous focus on cost-efficiency and business-flexibility

Table 1. Drivers and design of IT governance (Adapted from Hodgkinson, 1996; Peterson, O'Callaghan, & Ribbers, 2000; Sambamurthy & Zmud, 1999)

Model / Drivers	Centralized IT Governance	Decentralized IT Governance	Federal IT Governance
Synergy	+	-	+
Standardization	+	-	+
Specialization	+	-	+
Customer responsiveness	-	+	+
Business ownership	-	+	+
Flexibility	-	+	+

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(Peterson, O'Callaghan, & Ribbers, 2000; Sambamurthy & Zmud, 1999).

MAIN THRUST

While the federal model seems to be the dominant configuration in contemporary firms (Peterson, O'Callaghan, & Ribbers, 2000; Sambamurthy & Zmud, 1999), empirical studies regarding the complexity of this configuration are sparse. Specifically, *allocation of IT decision-making authority does not resolve the need for effective coordination between corporate IT, division IT and business-unit management*. Continuous differentiation leads to fragmentation, unless a corresponding process of integration complements it. The problems reported in practice and research regarding the lack of, for example, IT prioritization, top management IT commitment, IT management business understanding, business management IT responsibility, and IT value generation, are symptomatic of this fragmentation and are typically encountered in the federal IT governance model (Peterson, 2001; Weill & Broadbent, 1998).

In order to provide direction and achieve organizational effectiveness, differentiation begets integration (Daft, 1998; Galbraith, 1994; Lawrence & Lorsch, 1967). Designing effective IT governance is dependent on both the *differentiation* and *integration* of decision-making for IT across the portfolio of business IT investments and processes (see Figure 1).

Whereas differentiation focuses on the distribution of IT decision-making rights and responsibilities among different stakeholders in the organization (i.e., the locus of IT decision-making), integration focuses on the coordination of IT decision-making/-monitoring processes and structures across stakeholder constituencies. Organizations thus need to consider and implement integration mechanisms for the effective governance of IT.

FUTURE TRENDS

Integration mechanisms for IT governance can be classified according to two dimensions (Peterson, 2003). Vertically, integration mechanisms focus either on integration structures or integration processes; whereas horizontally, a division is made between formal positions and processes, and relational networks and capabilities. Collectively, this provides four types of generic integration mechanisms for IT governance (see Figure 2).

Formal integration structures involve appointing IT executives (e.g., CIO) and IT functions (e.g., client-account and user relationship managers), and institutionalizing special and standing IT committees and councils. Committees and/or

Figure 1. Differentiation and integration IT decision-making (Adapted from Weill & Broadbent, 1998)