Using Institutional Theory in Enterprise Systems Research:
Developing a Conceptual Model from a Literature Review

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ABSTRACT

This paper examines the use of institutional theory as a conceptually rich lens to study social issues of enterprise systems (ES) research. More precisely, the purpose is to categorize current ES research using institutional theory to develop a conceptual model that advances ES research. Key institutional features are presented such as isomorphism, rationalized myths, and bridging macro and micro structures, and institutional logics and their implications for ES research are discussed. Through a literature review of 181 articles, of which 18 papers are selected, the author's built a conceptual model that advocates multi-level and multi-theory approaches and applies newer institutional aspects such as institutional logics. The findings show that institutional theory in ES research is in its infancy and adopts mainly traditional institutional aspects like isomorphism, with the organization as the level of analysis, and in several cases it is complemented by structuration theory and other theories.

Keywords: Conceptual Model, Enterprise Resource Planning Systems (ERP), Enterprise Systems, Institutional Theory, Institutionalism, Literature Review, Multi-Level Analysis, Social Theory

INTRODUCTION

Enterprise systems (ES) have been a major trend in both the private and public sectors over the past decade. They have been on the market since the beginning of the 90s (Jacobs & Weston, 2007) as a solution to the growing tendency for globalization, mergers and acquisitions (Chang, Gold, & Kettinger, 2003) and as a way to optimize and improve business operation (Häkkinen & Hilmola, 2008). The implementation of ES is often complex due to

enterprise-wide integration and data standardization, adoption to "best-practice" business models with re-engineering of business processes, compressed schedules and, finally, the participation of a large number of stakeholders (Soh, Kien, & Tay-Yap, 2000, p. 47). ES often trigger major organizational changes and at the same time introduce high risk with a potential high reward (Chae & Lanzara, 2006, p. 100; Markus, 2004). Some companies have gained an important increase in productivity and speed (Häkkinen & Hilmola, 2008), while others have experienced failure-prone ES implementations (Grabski, Leech, & Lu, 2003; Sumner, 2003)

due to users' resistance (Grabski et al., 2003; Sumner, 2003), lack of senior management support (Sumner, 2003), misalignment between the ES and the organization (Sia & Soh, 2007) and many other reasons. Still others have highly overestimated the value of ES (Davenport, 1998; Robbins-Gioia, 2002) and realized that the benefits did not materialize (Lindley, Topping, & Lindley, 2008).

A major reason for failure-prone implementations and/or lack of benefits (Davenport, 1998) might be the focus on managerial and technical issues where instrumental solutions are considered superior and sufficient, ignoring implementation and integration problems (Dillard & Yuthas, 2006) with poor ability to manage change (see also Panorama Consulting Group, 2010). This might have severe consequences such as operational disruptions at go-live and hampered business operation afterwards (Markus, Axline, Petrie, & Tanis, 2000).

The widespread penetration of ES in organizations combined with the many challenges and problems associated with the management, implementation and use of ES implies that it is a highly important area of concern for both practice and academia. Much research has therefore been devoted to ES implementation and use in general as well as alignment between organizations and ES in particular, but, as argued by Pollock and Williams (2009) and others (Berente, 2009; Boudreau & Robey, 2005; Lamb & Kling, 2003), the research around "Enterprise Systems has been unevenly developed and unhelpfully fragmented between rather narrow (e.g. managerial or technical) perspectives" (Pollock & Williams, 2009, p. 5), which appears to simplify the social settings of modern enterprises, emphasize instrumental solutions and downplay social considerations.

However, one way to overcome managerial and technical understanding and address the social and organizational aspects is to use institutional theory with its ability to "develop a more structural and systemic understanding for how technologies [such as ES] are embedded in complex interdependent social, economic, and political networks, and how they are con-

sequently shaped by such broader institutional influences" (Orlikowski & Barley, 2001, p. 154) and with its capability to deal with the logics that ES imposes on organizations (Gosain, 2004). Despite the advantages hinted at by Orlikowski and Barley (2001), Information Systems (IS) researchers rarely adopt an institutional perspective (Berente, 2009; Orlikowski & Barley, 2001; Weerakkody, Dwivedi, & Irani, 2009), and when they do it is a narrow use that does not exploit the potential of institutional theory (Currie, 2009). The lack of comprehensive use of this promising theoretical lens hints that the gaps identified in ES literature and the problems experienced in practice may be filled by applying this theory systematically to the ES research area where a relevant starting point is to take stock by "analyzing the past to prepare for the future" (Webster & Watson, 2002, p. xiii), the research questions thus being: (1) how has institutional theory been used in the past in ES research? And (2) what requirements and elements can a conceptual model address to prepare for future use of institutional theory in ES research? The contribution of this paper lies in theorizing about ES using institutional theory, and this is a response to Weerakkody et al. (2009, p. 362), who stated in a recent paper " … that very few conceptual/theoretical studies are published for advancing the use of [institutional theory] in IS research."

Enterprise Systems

"Enterprise Systems is a meta-concept for all kinds of software systems that support the activities of a company" (Adisa, Schubert, & Sudzina, 2010, p. 34); they "have evolved from their roots as transactional systems supporting back office functions such as inventory management and sales order processing, to enterprise-wide systems that encompass a broad range of organizational and inter-organizational functions from customer service to supply chain optimization" (Elmes, Strong, & Volkoff, 2005, p. 2). We define ES as large-scale organizational systems, built around packaged enterprise systems software, enabling an organization to

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