



Accounting logics, reconfiguration of ERP systems and the emergence of new accounting practices: A sociomaterial perspective

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ABSTRACT

This paper extends our knowledge on how software-based accounting tools might work effectively within an organization. The empirical data that we focus on are events that unfolded following the introduction of a new ERP system at an Ivy League University. We describe a negotiation process that occurred after roll-out that resulted in a reconfiguration of the ERP to integrate some of the legacy functionalities that were familiar to organizational participants and which were considered by them to provide a more effective way to manage their finances. Our contribution to the literature is not only to show the importance of such post-roll-out modifications for creating a working information system, but also to extend previous accounts of non-linear accounting change processes by emphasizing how these modifications are dependent on the particular entanglement of users and technology (the sociomaterial assemblage) rather than either features of the technology or the agency of the humans involved. Moreover, our analysis of the case data suggests that management accounting in particular may not be easily captured in ERP packages, even where the technology architectures are supposedly designed for a particular industry. The case data also points to issues of affordability and the power of communities of practice as mediating the extent to which these familiar accounting logics may become integrated within the ERP system.

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1. Introduction

In the face of competitive global markets and constant innovations in technology and business models, changes to accounting information systems are often implemented. In particular, many organizations adopt accounting software packages (as variants of Enterprise Resource Planning [ERP] systems) to improve the transaction processing capabilities (Booth et al., 2000; Dechow and Mouritsen, 2005), co-ordinate record keeping (Chapman and Kihn, 2009),

reduce costly duplications of data (Dillard and Yuthas, 2006; Scapens and Jazayeri, 2003), enable centrally stored information, making it easier to create different types of financial reports (Chapman and Chua, 2003) and improve fiduciary control (Wagner and Newell, 2006).

Much of the literature in accounting has assumed such technology to be an 'exogenous' force of change for accounting work routines (Granlund and Malmi, 2002; Rom and Rohde, 2006, 2007; Scapens and Jazayeri, 2003). From this view, the functionality of the system is set when the adopting organization "flips the switches" of thousands of embedded templates. These templates provide the organization with a catalogue of standard work practices – the so-called 'best practice' logic purportedly embedded within the product (O'Leary, 2000; Wagner and Newell,

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2004; Wagner et al., 2006; Sia and Soh, 2007). Once the configuration options are selected this will supposedly determine how accounting will be practiced. However, technology alone cannot force practice change, especially when the 'best practice' design logic is misaligned with the legacy practice logics. Where such incompatibility exists resistance is often encountered (Berente et al., 2007). These kinds of problems are prominent in relation to the implementation of ERP systems because their integrated nature means that the work processes of different groups and departments become more tightly coupled than was often the case in the legacy system environment when each department/function had its own stand-alone IT system.

Research shows that often organizations only realize the incompatibility in practice logics once the configured system is rolled-out and users find that they can no longer carry out their legacy work practices and so begin to resist (Wagner et al., 2010; Leonardi and Barley, 2008). This leads many organizations into a prolonged period of negotiation and may result in substantial customizations to the ERP (Wagner and Newell, 2006) or other adaptations, despite this practice being discouraged by vendors and traditional systems development theories (Boudreau and Robey, 2005; Berente et al., 2007, 2008; van Fenema et al., 2007). For instance, prior field studies (Malmi, 2001; Granlund and Malmi, 2002) have demonstrated that as ERP implementation projects unfold, and there is realization that the system is unable to cope with the accounting demands, organizations are prone to developing separate spreadsheet solutions or specialised software such as Cognos that can provide more flexible analysis of the accounts. These studies have shown that specialized software used to capture the specifications required of advanced management accounting techniques, such as the balanced scorecard and activity based costing, may over time be added to ERP-type technologies. That ERP systems might require such modification has led several scholars to be critical of using them for management accounting purposes arguing they are too complex for this type of architecture (see Rom and Rohde, 2007, p. 50). They suggest that ERP systems be viewed as transactional management systems that are not designed for strategic level management. Furthermore, stand-alone software systems, which can provide a more user-friendly and flexible basis for analysis and reporting and more ad hoc management accounting practices, may provide a less risky and more cost effective alternative (Rom and Rohde, 2006; Hyvönen, 2003). But, evidence from scholars such as Chapman and Kihn (2009) suggest that managers can be satisfied with systems that possess high levels of integration even where they do not lead directly to improvements in performance. In keeping with the later cadre of research, we extend knowledge related to how ERP technologies are made to work as systems (Chapman, 2005) through a non-linear process of change (Quattrone and Hopper, 2001). We provide an analysis of a case that shows how ERP systems can be reconfigured to incorporate legacy practices and satisfy the flexibility (i.e. precision and frequency) demanded of managerial accounting. In doing this, we demonstrate not only the importance of post-roll-out modifications for creating a working information system, but also emphasize how these modifications are dependent on the particular

entanglement of users and technology (the sociomaterial assemblage). In adopting this perspective, we seek to go beyond realist accounts that focus on the features of the technology determining structures or social constructionist accounts that emphasize the agency of the humans involved (Leonardi and Barley, 2010). We identify how contexts of use will differ in terms of the types and scope of modification that are made in the post-roll-out phase and thereby extend the literature on accounting change as non-linear and relational in nature (in particular, Andon et al., 2007; Dechow and Mouritsen, 2005; Quattrone and Hopper, 2006).

In this paper then, we do not reject the potential usefulness of an ERP system for management accounting but rather argue that the value of any information system, whether it be integrated or standalone, can only be understood by focusing on how accounting, IT and its users are entangled to produce managerial accounting practice. With this in mind we focus on two research questions: (1) what and how are accounting logics encoded within ERP systems? and (2) how, in the process of users interacting with the ERP and retrieving information, do new accounting practices emerge and does the system become reconfigured to support them? These questions allow us to consider how the logics underpinning practice are sensitive to local circumstances and cannot be fully specified in any "strongly determinant way" (Suchman, 2007, p. 53) even though ERP-architectures inscribe, in their vanilla-state, particular ideals about practice, i.e., particular practice logics.

We explore the questions by examining the post-implementation negotiations of a troubled ERP project in an Ivy League university. The project was at risk of being abandoned because of the practice logics that were initially configured into its grant accounting module. The ERP was configured to support the financial accounting needs of the central administrative function composed of professional accountants. However, the integrated nature of ERP meant that these system architectures were not sufficiently flexible for enabling faculty to manage their research project budgets in their preferred ways. We thus identify how the ERP-system was customized to enable the university (hereafter 'Ivy') to accommodate the practices of both the financial accounting centre and the faculty managing their project budgets.

The remainder of the paper is structured in 4 sections. In Section 2 we discuss the key concepts which inform the sociomateriality lens, enabling us to "see in the data" the process of negotiation that occurred within the case of a university in the post-implementation phase of their ERP project, ultimately resulting in that system drifting to eventually support some legacy-type practices even though initially these were explicitly excluded. Section 3 outlines our research methods. Section 4 presents the case description and analyzes two grant accounting practices and the negotiation process that ensued at go-live. In Section 5 we discuss the meaning and implications of our analysis for implementing enterprise-wide accounting functionality within organizations. The paper concludes with suggestions for future research.

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