



# Understanding knowledge management software-organisation misalignments from an institutional perspective: A case study of a global IT-management consultancy firm

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## ABSTRACT

Inspired by the proposition that “Enterprise IS configurations chosen by the organisations will encode institutionalised principles into these systems” (Gosain, 2004, p. 169), this study seeks to draw attention to potential sources of misalignment between knowledge management (KM) software and the implementing organisation from an institutional theory perspective. Using a case of a global consultancy firm, the study elucidates such misalignments as the consequence of different institutional contexts where technology developers and adopters operate. This study demonstrates how institutional forces affect the implementation project and provides some lessons learned for organisations that are rich in high-value text-based knowledge for making decisions.

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## 1. Introduction

In recent years organisations worldwide have acquired and implemented knowledge management (KM) software, believing that such Commercial Off-The-Shelf packages can boost their innovation, creativity and responses to meet the ever-increasing market demands. An increasing number, however, have not gained the expected benefits from the technology and even worse, faced critical failures (Malhotra, 2005). For example in 2002, businesses spent US\$2.7 billion into new KM systems (Barrett & Walsham, 1999). As reflected by McDermott, “*The great trap in knowledge management is using information management tools and concepts to design knowledge management systems*” (McDermott, 2000, p. 27). Understandably if KM technology is not properly aligned with organisational needs and with people’s ways of working, or if it results in information overload, then even with the cutting-edge technology, organisations would end up right back at square one: they cannot have the knowledge they need.

In this study, the potential for misalignment can be explained as follows. Whilst KM software packages may be configured to meet a wide range of organisational requirements and even integrated with ‘best practices’, a poor record of implementation success (Malhotra, 2005) suggests that, in some instances, the misfit between the context of adoption environment and the context within which the software was developed may be significant. Put

another way, the privileging of commodification here is problematic for the organisations. To tackle this misfit, organisations could opt for software customisation or organisational adaptation. However, these ‘solutions’ may themselves be problematic by increasing implementation risks, promoting inefficient workarounds and bear serious implications for future support and maintenance (Besson & Rowe, 2001). In this regard, our reading of literature highlights a lack of research into the fundamental contextual differences between KM technology developer and the adopter. Here we explore the ‘black-box’ of KM software-organisation misalignment when the speed of software adoption gains greater momentum worldwide.

Using a case study of an IT-management consulting company ranked among the world’s top 20 companies and whose offices are located throughout the world, this paper focuses on the causes and types of misalignments identified from a knowledge portal implementation. Specifically, this paper attempts to address this question: *How do misalignments of KM software implementation impact on the adopter’s strategic responses?* Answering this question can help facilitate senior management to better control the KM project. To address this question, we draw upon institutional theory (DiMaggio & Powell, 1983; Oliver, 1991; Scott, 1987, 1995) and the extended theory on the structural properties of technology (Orlikowski, 1992, 2000) to develop a framework to analyse instances of misalignment. Orlikowski suggests that there is ‘*duality of structures*’: structures (as reflected by assumptions along with knowledge of the work being automated, resources to accomplish the work and rules that define the organisationally sanctioned way of executing that work) that are inherent to advanced

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technologies (and hence, anticipated by designers and sponsors) and the structures that emerge in human action as users interact with these technologies. Differences in terms of such structures are viewed from the perspective of institutional theory, which provides insights into how organisations, technology developers and adopters alike, deliberately acquire, or have imposed on them, certain structures to gain legitimacy in their environment and thus to help sustain their business in the long-term (Meyer & Rowan, 1977).

Though there are some studies employing the notion of structures to understand how technologies are implemented in organisational life, a lot of aspects remain uncovered (Orlikowski & Scott, 2008). For example, by using structures Majchrzak, Rice, Malhotra, King, and Ba (2000) explore the interaction between a virtual team and a collaborative technology, whilst Soh, Sia, Wai, and May (2003) Soh and Sia (2004) and Sia and Soh (2007) investigate the implementation of ERP systems in healthcare and defence industries. Most noteworthy, among numerous studies of KM technologies implementation in the literature, the fact that little is known of what and how institutional structures are embedded, appropriated and changed in KM technology implementation projects has also been an impetus for undertaking research on this issue.

The remainder of the paper is organised into four sections. Section 2 reviews the misalignments between the context of KM software and that of adopting organisations. Section 3 introduces research methodology and the research framework. Section 4 briefly introduces the case company and presents data analysis and findings. The last section discusses the issues related to findings and gives some conclusions and suggestions for future research.

## 2. Literature review

### 2.1. Understanding the structures embedded in the software and organisations

Typing in ‘technology’ in the Google search box conjures up a bewildering array of alternative definitions sometimes focusing on the physical reality of crafted equipment used in the production of goods and services, and at other times concentrating on the knowledge and skills inherent in the crafting of such equipment. A broad definition of technology would ideally acknowledge both the system of knowledge necessary for the manufacture of goods and services together with how technology mediates the environment around individuals and around organisations. In other words, ‘technology’ as such rarely arrives fully formed but requires mediation. Software for example typically requires appropriation and modification by end-users during operation because end-users are usually unaware of the developers’ context and their embedded assumptions and rules (Orlikowski, 1992, 2000). Technology developers engrave their assumption or understanding of the surrounding world in the technology configuration (Latour, 1992; see also Gosain, 2004). Such an assumption or understanding of the world is influenced by the institutional properties of their particular work setting and draws on certain components of their institutional context such as knowledge, resources, and norms to design technology products (Orlikowski, 1992; see also Besson & Rowe, 2001; Gosain, 2004; Sia & Soh, 2007; Soh & Sia, 2004; Soh et al., 2003). Notably, the spirit of technology, represented by appropriate behaviours in the context of technology, the understanding and interpreting of technology use, and making technology performance explicit and feasible, is affected by its developers’ institutional context and then reflected in the goals and values underlying the structural features of the technology. These ‘structural’ features then incorporate institutional structures such as reporting hierarchies, organisational knowledge and standard operating procedures as rules, resources, and capabilities in the technology (DeSanctis &

Poole, 1994). As such, it is understandable that the institutional contexts impinge upon the structures embedded in the technology or the implementing organisation. Consequently, most organisations face significant knowledge barriers in reflecting their context in their implementation (Robey, Ross, & Boudreau, 2002).

Many of these things hold true of KM software, which enables KM processes. For example, KM software developers draw on their existing sources of knowledge, resources, and norms including their own corporate vision, business strategies, and prevailing rules and norms about what constitutes good practices (Gosain, 2004; Markus & Tanis, 2000; Soh et al., 2003). In accordance with institutional theory, to design the software package technology, developers have to project the organisational requirements, and tend to learn from organisations in their home market with which they have relationships and other markets where they have official contacts or representation (Meyer, 1994; Nicolaou, 1999). Besides, the institutional perspective allows us to distinguish between country-level and industry-level differences.<sup>1</sup> For example, KM software firms in the UK need to understand both the UK’s laws and the industry’s standards of maintaining personal privacy and identity as well as company information. They may seek a short cut to this process by seeking out the experiences of pioneers in the marketplace. Eventually the structures embedded in the Commercial Off-The-Shelf product would reflect the context of the association or cluster of organisations with which the developers frequently interacted during the system design and development.

Due to active agency, organisations may respond differently to the institutional contexts surrounding their enterprise systems (Currie & Suhomlinova, 2006; Gosain, 2004). In the case of KM software packages, the developer’s institutional context could be different from that of many other potential adopters. Such a difference may be exacerbated where adopters are from different countries, industries, and sectors than the original association or cluster of exemplary organisations. KM software implementation is now expanding beyond the Western European or North American markets where many well-known and competent KM software developers are located. Alternatively, some organisations operating in a legal sector may purchase KM software that is more suitable for those in a financial services sector. From an institutional perspective, if we consider the coercive force (i.e., governmental regulations and legislation), legal firms are affected by a set of institutional structures (e.g., rules of collecting and storing information, rules of producing reports for clients, etc.) that may be different from that of financial services institutions (i.e., rules for sharing and transferring data, norms of maintaining the integrity of customers’ and company internal information). Interestingly, even organisations operating within the same industry in a country may not share the same vision and knowledge of KM systems and practices due to differences in a company’s history and profile (Powell & DiMaggio, 1991), differences in economic, social and cultural background (i.e., organisations locate nationwide), and differences in reacting to market forces (i.e., considering the five-force model of Porter (1996)) and, thus, as Farjoun (2002) suggests, possess different sets of institutional structures. Such a difference in the same organisational field is also due to the variations in the nature and strength of institutional forces exercised on different parts of an organisational field (Currie & Suhomlinova, 2006). The two giants in semi-conductor manufacturing, Intel and AMD, are good illustrations since they are in the same country and industry but do not seem to completely share the same institutional structures.

Empirical evidence suggests that critical differences between the rules, resources, and norms embedded in KM technology and in

<sup>1</sup> These issues will be further discussed in Section 2.2.

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