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Managerial action and sensemaking in e-learning implementation in Brazilian business schools

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1. Introduction

ABSTRACT

The existing literature on e-learning implementation is either descriptive or normative and falls short on explaining how managers act in introducing and disseminating e-learning projects in school settings. In this paper, we follow a symbolic approach in order to offer a grounded model for explaining how managerial framing of the introduction of e-learning gives rise to different patterns of action and intended outcomes. Our model is grounded in the study of seven business schools in Brazil, where the competitive and institutional settings offer significant variety for formulating propositions through the grounded theory methodology. We conclude that managers act to integrate e-learning using cultural incongruity reduction strategies when they perceive e-learning as a way of improving existing teaching practices. They may also aim at insulating e-learning through incongruity avoidance when they perceive e-learning in economic terms. These results offer new empirical evidence and fresh explanations when the phenomenon of managerial action in e-learning implementation is looked at in symbolic terms.

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E-learning has become increasingly common in educational institutions worldwide. The existing literature considers e-learning as an advanced pedagogy that makes use of digital technology (Nichols, 2008), and involves the use of the Internet and other information-related communication technologies (ICT) to create experiences that foster and support the learning process (Bose, 2003). However, we argue here that the organization of the environment for e-learning applications goes beyond understanding the technology from a merely instrumental and objective perspective (Pollock & Cornford, 2003). In this sense, we align ourselves with Orlikowski's (1992) arguments about technology that:

"The concept of interpretative flexibility with respect to technology is particularly pertinent in the light of increased deployment of computerbased technologies in organizations (...). The ongoing interaction of technology with organizations must be understood dialectically, as involving reciprocal causation, where the specific institutional context and the actions of knowledgeable, reflexive humans always mediate the relationship. This view of technology encourages investigations of the interaction between technology and organizations that seek patterns across certain contexts and certain types of technology, rather than abstract, deterministic relationships that transcend settings, technologies, and intentions" (Orlikowski, 1992, p. 421 and p. 427).

From this symbolic perspective of technology, we learn that the local context and the individual experiences and perceptions about technology should be taken into consideration in e-learning technology implementation. We agree with Pollock and Cornford (2003) that e-learning technology implementation is a complex, socio-technical phenomenon, largely characterized by a high degree of uncertainty. As Heilesen and Josephsen (2008) argue, it involves not only rational and instrumental motives, or economic and technical aspects, but also the feelings and the framing of individuals interacting with the information technology systems. Additionally, managers are able to create a positive culture that will support others as they learn and adapt to new technologies (Robinson, 2000). Managers also have the potential to

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greatly affect the effectiveness of this type of project by influencing potential participants, securing resources (McAlister, Rivera, & Hallam, 2001), supporting the changes, and implementing processes that will overcome the barriers that affect instructors and students (Berge, 1998).

While the role of sensemaking in general (Maitllis, 2005; Weick, 1995; Weick, Sutcliffe, & Obstfeld, 2005) and the symbolic meanings of technology have been extensively studied in the broader information system literature (Bansler & Havn, 2004; Faraj, Kwon, & Watts, 2004; Gopal & Prasad, 2000; Henfridsson, 2000; Hsiao, Wu, & Hou, 2005; Hsieh, Rai, & Xu, 2011; Orlikowski & Gash, 1994; Prasad, 1993), explanations based on how managerial sensemaking affects managerial action within the domain of the implementation of ICT-based learning projects have not yet been addressed.

In order to fill this gap, we developed in-depth case studies of seven e-learning implementation projects. We aligned ourselves with the view that e-learning technology does not "stand alone", but can only be comprehended within its context of application, where it helps shaping interactions between individuals and their socially constructed reality. This epistemology indicates that the symbolic meanings individuals attribute to the role of technology and how they make sense of it, as well as their interaction with the world around them, must be brought to the fore in order to understand e-learning implementation and how it unfolds within organizations.

We aimed at answering how project managers' perceptions of e-learning influenced their actions and subsequently led to different patterns of e-learning being appropriated by the organization. To fulfill our objective, we chose the grounded theory methodology (Corbin & Strauss, 2008) to generate a conceptual framework to explain how managerial perception of technology drives managerial action. Following a social constructivist perspective (Griffith, 1999; Orlikowski, 1992), managers may have the flexibility to interpret, yet at the same time are tied and restricted by the objective aspects surrounding them. This symbolic approach goes beyond comprehending e-learning implementation in solely economic and rational terms and helps reveal the expressive world of organization members (Turner, 1986).

The seven case studies are all Brazilian business schools. Three reasons make this context important to our contribution. First, e-learning technology has been promoted by the government as a way of overcoming the country's continental distances and facilitating the population's access to higher education through distance education models. Second, e-learning is an important competitive strategy for both private and non-private schools. Third, since federal government agencies impose strong regulatory restrictions on e-learning applications in Brazil, the way they are implemented and internally appropriated by the organization are central to their success (Litto, 2002). Therefore, the context of Brazilian business schools offers a good opportunity to explain managerial action in e-learning implementation projects.

The rest of the paper is organized as follows. First, we discuss the importance of generating empirical explanations based on managerial sensemaking and on the shared meanings of technology in order to better grasp the phenomenon of e-learning implementation. Second, we describe in detail how we developed our grounded theory work. Third, we present our findings and an explanation of the phenomenon. Finally, we ask what we learn about this Brazilian experience that is theoretically relevant to other contexts.

2. Managerial sensemaking in e-learning implementation

Framing a situation helps individuals organize the world around them. This organizing process turns circumstances into a situation that is comprehended explicitly by individuals. It is an action response from individuals when they perceive the current state of the world to be different from their expected state of the world, or when there is no obvious way to comprehend it (Weick, 1995; Weick et al., 2005). Individuals use frames of reference as implicit guidelines that facilitate the process of shaping, attributing meaning, and organizing their interpretation of organizational events around them. The idea of frames comes from cognitive psychology research (Bartlett, 1995; Neisser, 1976). It can be described as shared cognitive structures or mental models that help individuals interpret their world when there is a significant overlap of cognitive categories and content confusing them (Moch & Bartunek, 1990; Weick, 1979). Gioia (1986, p. 56) describes frames as "a built-up repertoire of tacit knowledge that is used to impose structure upon, and impart meaning to, otherwise ambiguous social and situational information to facilitate understanding". Frames serve as a vehicle for understanding and acting upon organizing the perceived reality, allowing interpretation of ambiguous situations, reducing uncertainty in complex and changing conditions, and providing a basis for taking action (Gioia, 1986, pp. 49–74).

The use of frames triggers what Weick et al. (2005) describe as a sensemaking process. Individuals ask themselves whether "it is the same or different" when experiencing discrepancy and trying to interpret this discrepancy in a way that makes sense to them. Sensemaking is an action process of organizing the world around us, and "unfolds as a sequence in which people concerned with identity in the social context of other actors engage ongoing circumstances from which they extract cues and make plausible sense retrospectively, while enacting more or less order into those ongoing circumstances" (Weick et al., 2005, p. 409). The sensemaking process implies the interplay between interpretation and action that constantly redrafts an up-and-coming story that becomes more and more comprehensible as it incorporates more of the observed data. Individuals construct their stories from frames of reference such as organizational premises, institutional constraints, plans, expectations, personal beliefs, acceptable justifications, and traditions inherited from predecessors. Sensemaking is neither about truth, or getting the story right, nor is it an evaluation of choice, but rather how individuals make sense of equivocal inputs, enacting this sense back into the world to make it more logical to their assumptions. This is the central argument in both organizing and sensemaking. When action is the central focus, interpretation, not choice, is the core phenomenon (Laroche, 1995; Weick, 1993).

The idea of sensemaking has been extensively applied to research on information system technology. In order to understand how individuals deal with technology, Orlikowski and Gash (1994, p.178) developed the concept of the technological frame in order to ""identify that subset of members' organizational frames that concern the assumptions, expectations, and knowledge they use to understand technology in organizations. This includes not only the nature and role of technology itself, but the specific conditions, applications and consequences of that technology in particular contexts of use". In this sense, technological frames exert strong effects on beliefs, expectations and knowledge about the purpose, context and role of technology, influencing the choices made concerning the design, implementation, organizing and use of those technologies (Orlikowski, 1992).

Literature on technology sensemaking has emphasized the importance of shifting the analysis of technology away from a "technocentric" approach, in other words, to focus on how the interaction between technology, environment and individuals shapes the interpretation of technology in a broader sense, beyond its functional aspect. For example, Faraj et al. (2004) found that the internet browser technology development phenomenon he studied could only be explained by how actors negotiated power to pursue their interests and translated

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