Chapter 6
Capturing the Appropriation Dynamics of Web-Based Collaboration Support in Project Team’s Work Context

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ABSTRACT

This research applies contributions from the social sciences to examine how organizations adapt information systems in a project team setting. Its main concern is to study the set of events and actions implicated in the institutionalization of an information system. The motivation for this research has been to address the following questions: why well designed information systems are so often not successfully adapted or used by organizations? How the adaptation process affects and is affected by work context characteristics? In our research we are focusing on analyzing the adaptation process of a collaborative platform in a project team, in the context of the construction industry by applying adaptive structuration theory.

INTRODUCTION

Technological adoption has been researched from various perspectives within Information Systems research comprising a pervasive topic in IS research (Lin et al. 2005). Core frameworks exploring the topic as an innovation adoption or innovation diffusion phenomenon, featuring in the literature are: the Diffusion of Innovations (Rogers 1983), the Theory of Reasoned Action (Ajzen & Fishbein, 1975) and the Theory of Planned Behavior (Ajzen, 1985; Taylor & Todd, 1995) which provide the theoretical basis for the Technology Acceptance Model (Davis, Bagozzi & Warshaw, 1989). However, increasing evidence suggests that these “rational” frameworks neglect the realities of implementing technology innovations within organizations, especially when adoption decisions are made at the organizational, division, or workgroup levels (Fichman & Kemerer, 1997;
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Orlikowski, 1993; Wynekoop, 1992). Thus rather than fitting the conditions under which traditional models of innovation diffusion (Rogers, 1983) or technology acceptance (Davis et al, 1989) were created, the reality of IT innovation adoption and implementation within organizational settings may require alternative views to examine how people adapt advanced information technologies in the context of their work place (Orlikowski, 2000).

Feldman and March (1981) note that technology plays a distinctive and interpersonal role in organizations. Susman et al. (2003) contend that the introduction of collaborative technology in the workplace does not necessarily enhance intensive collaboration among project participants. In this line of reasoning it is important to investigate the changes that the introduction of collaborative technologies brings to the workplace and how these technologies are actually used by people. Social theory has a substantial part to play in the development of the discipline of IS, in helping to understand and interact with the societal, organizational and personal contexts without which the technology is meaningless. Anthony Giddens has made a substantial contribution to that theory, and his work has been taken up by a number of IS researchers. Sahay (1997) suggests that the increasing use of structuration theory results from two evolutionary and convergent trends in IS. On one hand, there is an emphasis toward the use of more integrative approaches in which understanding how IT gets integrated into work and organizational systems is key. Nevertheless, we adopt structurational theoretical concepts in order to reveal the technology-organization relationship and to better understand how the social structures embedded within the collaboration technology affect and are getting affected by work context characteristics. Several authors note that teamwork cannot be understood apart from the organizational context in which it is embedded (Ancona 1990; Mohran et al, 1995). For this purpose we need to understand how humans act, view, reflect, accept or neglect the entrance of a new technology in the social context of their workplace.

By adopting a structuration approach it is assumed that the adoption and use of a novel technology are not deterministic; technologies are structured by users in their context of use (Contractor & Eisenberg, 1990; DeSanctis & Poole, 1994; Orlikowski, 1992). In our research the context of use is distributed project teams which are defined as groups of people who interact through independent tasks guided by a common purpose, and who collaborate across space, time and organizational boundaries primarily through electronic means (Maznevski & Chudoba, 2000). In line with other authors (Ekstedt et al, 1999; Clark et al, 1997) we define project teams as structures of independently managed individuals, often geographically distributed, that possess complementary capabilities and who cooperate temporarily to meet predefined objectives within predetermined deadlines through a non-repetitious string of complex activities.

Specifically, we aim to investigate how the contextual dimensions of the collaborative context of a project team influence the adaptation process of a collaborative technology. In this context we apply adaptive structuration theory as proposed by DeSanctis and Poole (1994), which expounds the nature of social structures within advanced information technologies and the key interaction processes that feature in their use.

A STRUCTURATIONAL APPROACH IN IS CONTEXT

Giddens suggests that structuration theory is dealing with the science dilemma between deterministic and voluntaristic approaches of human action, concerned with the following issues: a) the nature of human action and the acting self, b) how interpretations should be conceptualized in relation to institutions, and c) with gras-
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