Chapter I
“Boundary-Spanning” Practices and Paradoxes Related to Trust Among People and Machines in a High-Tech Oil and Gas Environment

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ABSTRACT
This chapter follows subsea engineering coordinators (SEC) at Statoil, a major Norwegian oil company, and their collaboration with subsea engineering/operational support personnel and external vendors. This is a high-tech business that tends to be described by formal procedures and a strict division of labor, or in other words, strict hierarchy and market coordination mechanisms. Still, engineers in this setting perform substantial informal boundary work to be able to do their work efficiently. Their self-definition and devotion is realized through boundary-spanning interaction with various material resources and through extensive management of trust. The consequence of this knowledge intensive operational practice is that the engineers have to live continuously with paradoxes. In the light of the situation of these engineers, we address some of the dynamics of collaboration and control that such professionals must cope with in today’s high-tech environments.
BOUNDARY-SPANNING AND TRUST IN INTERORGANIZATIONAL COORDINATION AND COLLABORATION

Over the years, boundary-spanning has attracted substantial attention in organization studies (i.e., Aldrich & Herker, 1977; Caldwell & O’Reilly, 1982; Friedman & Polodny, 1982). Furthermore, the increasing focus on knowledge management in organizations has given the concept renewed popularity. While much focus has been on how to build competences within a particular community of practice (Wenger, 2002), more recent work has focused on the competence and ability of agents to span multiple boundaries in practice (Carlile, 2002, 2004; Cross & Parker 2004; Levina & Vaast, 2005; Orlikowski, 2002; Pawlowski & Robey 2004). Orlikowski (2002) demonstrates how organizational competence in spanning boundaries is embedded in the everyday practices of its members. Levina et al. (2005) focus on a new joint field where such everyday practices are produced or enacted. This chapter builds on this thinking but focuses on how the management of trust is important in boundary-spanning in such settings. If we are to understand how high-tech formal organizations actually work and how these mechanisms fill the space between formal organizational requirements and day-to-day practices, we must address these informal mechanisms.

How can we describe the work boundary-spanners do in high-tech environments? Cross et al. (2004) define them as key individuals who facilitate the sharing of expertise by linking two or more groups of people separated by location, hierarchy, or function. Levina et al. (2005) argue that much attention in research on boundary-spanners has been on identifying and classifying the role such boundary-spanners should have, but that such roles often come into conflict and that it is more interesting to look at how the ideal roles function in practice. They make a distinction between nominated boundary-spanners and boundary-spanners-in-practice (Levina et al., 2005, p. 339-342). The first category of boundary-spanners is defined as agents assigned by the empowered agents, such as managers, in a field to perform certain roles in spanning boundaries of diverse fields. Boundary-spanners-in-practice are agents who, with or without nomination, engage in spanning (navigating and negotiating the meaning and terms of the relationships) boundaries of diverse fields. The present chapter describes boundary-spanners-in-practice.

Boundary-spanners are formally and informally integrated in organizations that have institutionalized certain ways to coordinate activities. Groups develop coordination mechanisms to manage interdependence among individuals, groups, organizational units, and activities when confronted by behavioral uncertainty. They are the ways to represent information, guide appropriate types of behaviour, and sketch routines for coordinating actions (Adler, 2001; Kramer & Cook, 2004; Lane, 1998; McEvily, 2003; Powell, 1990; Williamson, 1993). Coordination mechanisms are ways of working with the problem of interdependence and uncertainty, and represent a logic in which work can be coordinated and information handled.

Recent research (Adler, 2001; Kramer & Cook, 2004; Lane, 1998; McEvily, 2003) shows that the coming of more knowledge-intensive corporations increase the importance of trust as a coordination mechanism and that trust becomes an increasingly attractive mechanism to economic agents. It is therefore relevant to the study of management practices in high-tech environments. If trust exists in the relationships it means that much of the work a boundary-spanner invests in monitoring and controlling others becomes of less importance (McEvily, 2003, p. 92-93) and this reduces the transaction costs associated with boundary-spanning. The large increase in the
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