# Linking Communities of Practice and Project Teams in the Construction Industry

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## INTRODUCTION AND BACKGROUND

Continuing from Ragsdell's (Article, *The Contribution of Communities of Practice to Project Management*) discussion highlighting potential synergy between project teams and CoPs, Remington and Ragsdell move into the practical arena. This article interrogates the usefulness of CoP in the construction industry and the challenges they pose for project management practice therein. Emphasis is on the role of CoPs in addressing the problem of project knowledge transfer within and between project teams.

The concept of community of practice (CoP), defined initially by Lave and Wenger (1991) and later developed by Wenger (1998) and others (Barab & Duffy, 2000; Gherardi & Nicolini, 2002; Skyrme, 1999), has only recently received attention in the project management professional literature (Galarneau & Rose, 2002; Love, Huang, Edards, & Irani, 2005; Morris, 2002). This is perhaps a little surprising since, on initial analysis, the project environment would appear to comply with all three of Wenger's three dimensions of a CoP (Wenger, 1998, pp. 72-85). There exists a level of *mutual engagement* in practice between parties who are involved in projects. A project is certainly a *joint enterprise* between a number of individuals who might come from a variety of organizations and backgrounds to achieve agreed goals. At the wider level, within the project management professional community, there is a shared interest in improving practice. At least among project management professionals, there is a *shared repertoire* of language, routines, stories, and cultural artifacts. However, the peculiar nature of the range of initiatives that are referred to under the generic name *projects* suggests a number of structural and organizational barriers to free exchange and development of knowledge within the CoP model described by Wenger and others. This article goes on to explore a number of characteristics, peculiar to construction projects, which might influence effective application of the CoP concept.

## THE PROJECT TEAM AS A SPECIAL CASE OF CoP

Discussion of the project team as a special case of CoP was undertaken in Ragsdell's article. Building on that discussion, the extended project team might be seen as a special case of CoP with a lifespan limited to the duration of the project. Although Huang and Newell (2003) concluded that "only limited strong ties can be developed purely by the project team members" (p. 173), they also note that through a process of referral (Burt, 1992), the strong ties were extended, allowing teams to expand their social networks to a broader network. Such boundary spanning into knowledge networks is critical (Ancona & Caldwell, 1990), particularly as small project teams often cannot include all the expertise needed for a particular project. Similarly, individuals with a certain technical expertise may often need to serve various projects simultaneously, thus prohibiting organizations from assigning them full-time to a single project. Furthermore, research into the groupthink phenomenon has shown that integrating external knowledge and experience is an important component of effective decision making, particularly in teams with complex and innovative tasks (Janis, 1995 as cited in Hoegl et al., 2003; Neck & Moorhead, 1995).

## Distributed Teams as CoP

Project teams may or may not be collocated. In large construction and engineering projects, it is now common practice to have a centrally located project room, as a meeting room and repository for all documents, greatly assisting with version control, especially when projects are fast-tracked. However, with multinational projects and ever-increasing globalization of design and construction, teams are having to work across time and space, assisted by computer-mediated communications. As designers often work in isolation from team members, some researchers are suggesting that less formal social practices found in CoP facilitate the sharing of experience and knowledge more effectively than conventional teams (Pemberton-Billing et al., 2003). Nevertheless, for online CoPs in other disciplines, such as education, trust has been shown to be an issue (Kling & Courtright, 2003).

# THE PECULIAR NATURE OF CONSTRUCTION PROJECTS

In contrast to the current fashion for describing any cooperative venture as a project, projects from traditional project disciplines, such as construction and engineering, tend to be conducted within highly formalized contractual conditions. In government and community sectors, more and more large-scale projects are also subject to increasingly high levels of public scrutiny. Most research into the efficacy of the CoP model has been done with projects in professional communities for which the risk of litigation is very low such as education (Hirst et al., 2004). It follows therefore that the terms of operation of a CoP for a multinational, politically sensitive construction or engineering project would need to be radically different from those governing projects which are not so constrained.

## Size

Research about KM has tended to focus on large organizations; however, in the construction industry, the vast majority of organizations employ less than five people (Constructing Excellence, 2004). Interviews conducted within the construction sector in the UK (Cushman et al., 2002) revealed differences between organizations in their ability to create and use knowledge, large firms demonstrating commitment to R&D, small firms seeing themselves as consumers of knowledge. SMEs reported feeling isolated from knowledge networks, and although they reported the need for knowledge networks, these networks had not been established. Recently, government initiatives have endeavored to improve access to industry knowledge through cross-industry knowledge portals (see, for example, Constructing Excellence, 2004, funded by the UK Department of Trade and Industry). However, as the following discussion suggests, knowledge transfer using the CoP model might be inhibited by the peculiar characteristics of the construction industry.

## Trust and Security of Information

Trust (or, rather, lack of trust) has been recognized as a potential barrier to effective project delivery in the construction industry (Zahgloul & Hartman, 2002, 2003). Examples exist of alliances and partnerships which have successfully bridged the trust issue, parties working collaboratively to deliver the project (Cushman et al., 2002; Pitsis et al., 2003), but these are rare in an industry which is highly risk averse and contract driven. Project management contracts that force transfer of risk also inhibit free exchange of knowledge, and there exists an adversarial, rather than a problem solving, relationship between stakeholders. Additionally, networking that necessarily involves information transfer may result in critical breaches of confidentiality (Bouty, 2000). In these circumstances, project team members would be unable to participate in fully honest discussions in a CoP, particularly before the project has been completed and handed over. Ongoing litigation can even prevent free exchange of information until many years after project completion.

Another consequence of lack of trust is a reluctance to talk about project failures. Successes are communicated reasonably as effectively as "war stories", but failures are underreported except where public investigations demand. As research in progress is demonstrating, the "conspiracy of silence" becomes compounded within the higher echelons of project governance (Remington & Helm, 2004).