

# Management of Distributed Project Teams in Networks



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## DISTRIBUTED PROJECTS

Today's global economy depends on intra- and inter-organizational distributed teams consisting of diversely specialized professionals for creating value in networks (DeSanctis & Fulk, 1999; Gerwin & Ferris, 2004), relying on accessible information and communication technologies (ICT) and infrastructures (Sobol & Apte, 1995). Distributed project teams represent a common organizational form for developing, connecting, and deploying diverse sources of expertise (Kotlarsky & Oshri, 2005). Resources in newly developed economies such as China and India are connected with those in developed countries in industries like software development, car manufacturing, electronics, transportation, pharmaceutical research, and business services. Non-commercial examples of distributed projects include education (Cramton, 2001), disaster response, global disease control, and (regional) policy development.

While the demand for competent managers of distributed teams increases, relevant insights about managing these networked teams remain scattered. Research on virtual teams (Bell & Kozlowski, 2002), distributed projects, and new media (Carlson & Zmud, 1999) have evolved in relative isolation. Organizations have limited resources to prepare their managers for distributed projects, assuming 'business as usual'. Most managers have mainly experience with co-located projects. The objective of this article is to clarify the unique qualities required for managing a distributed project, and the new set of themes that have to be considered. Managers and researchers will gain insight in the competencies relevant to the new era of distributed project management.

The next section briefly presents historic waves of project management approaches, and discusses the new global context of projects. We then explore how this context translates into new project management themes that determine managerial success in distributed environments. The article concludes with future trends and challenges for research and practice.

## BACKGROUND

Project management has traditionally been an engineering-oriented profession. Adopting a rational approach, work was broken down in packages that were to be completed in a sequential manner. Managers would focus on the predefined critical path activities that could jeopardize project success. Project team members worked in relative isolation except for limited interaction early and late in the project (Turner, 1993). This approach still influences current thinking in project management that emphasizes planning and control, scope management, and formal types of project manager roles. Uncertainty and scope creeping should be avoided in order to keep projects within the golden triangle of on time, on budget, and according to ex ante defined specifications. Gradually, this task-resource orientation was complemented by attention for personnel selection, knowledge management, and team and interpersonal processes. Integrative 'methods' emerged that covered task, financial, technical, organizational and people dimensions of projects (Lundin & Söderholm, 1998), such as the Project Management Institute Body of Knowledge and PRINCE2. Project methods for new product development (NPD) and information systems development (ISD) became more

iterative instead of linear (Glen, 1993). In the 1990s, packaged project management software entered the market, supporting task planning and resource management. Projects increasingly involved stakeholders and project members from different organizations at different sites (Pitsis et al., 2003) due to outsourcing and globalization strategies (Meadows, 1996; Kumar et al., 2005). Management of a distributed project community and its external boundaries became complex as experts with diverse backgrounds were contributing using advanced ICT (Malhotra et al., 2001; Gasson, 2005). Projects became, for many organizations and individuals, a routine mode of working rather than an exceptional, temporary organizational format.

The current and future context of projects is characterized by societal and business trends, commonly referred to as the network society and information age (Castells, 1996; McChesney et al., 1997). *Globalization* changes the context and scope of projects, with an increasing role for China and India (Friedman, 2005; 2006). Project teams become virtual in the dual sense of geographical dispersion and inter-organizational linkages (van Fenema & Go, 2006). Projects demand heightened levels of *flexibility* to cope with changing stakeholder expectations, technological progress, and changes in the broader industrial and societal environment. As product development cycle times decrease, project managers face pressure to meet rising *expectations* with respect to speed, quality, and financial costs. Projects become more *technology intense*, with teams using advanced software for design representation (CAD/CAM), business intelligence tools, and version control management (Kotlarsky & Oshri, 2005). Professionals—in particular the younger generations (<http://www.signsofthetime.nl>)—increasingly adopt a *dynamic lifestyle* enabled by mobile, converged technologies such as smart phones, WIFI, micro laptops, and satellite communications. Existing technologies relevant for project management are therefore migrating to Web-based, anywhere-anytime environments. Real-time information processing implies that potentially project leaders and participants know at any time who is working on what, and that work is passed on seamlessly. The implications of these societal and business trends for project managers are explored next.

## MANAGEMENT OF DISTRIBUTED PROJECT TEAMS

This section outlines project management areas we consider essential and challenging for managers of distributed project teams.

- **Small window:** Project members attempt to bridge a global mindset with their lives in different localities, characterized by local dynamics, interests, and concerns (Engeström et al., 1995; Leander, 2002). Distance and this diversity of project members make conflicts likely (Armstrong & Cole, 1995; Cramton, 2001; Hinds & Kiesler, 2002; Hinds & Bailey, 2003; Hinds & Mortensen, 2005) and enhance the hurdle to achieve and maintain collective meaning (Nemiro, 2000; Barinaga, 2002). Project management should try to find and exploit overlaps of interests and availability of distributed project participants. In addition, distributed projects tend demand extended working hours as project participants communicate irregularly due to time zone differences. Project managers need to develop elaborate skills for communicating with participants and stakeholders to sense their cultural sensitivities and expectations (Javidan et al., 2006), anticipate conflict and tension, and achieve common ground (Cramton, 2001). Communication should be frequent and patterned, not just ad hoc (Kurland & Egan, 1999).
- **Minimal relating:** Project participants are likely to have commitments to other projects and report to several managers in parallel. Turnover tends to be high, especially at project sites in developing countries. Opportunity for learning and developing professional collaboration patterns is limited. Instead of socialization processes common to co-located teams, only minimal relationships and trust seem feasible (Meyerson et al., 1996). Therefore, selection of mature, capable and socially skilled individuals is a key responsibility for a distributed project manager. As Siemens CEO Klaus Kleinfeld mentioned: “In today’s world, knowledge travels faster than ever before, so if you are talking about a sustainable competitive advantage, probably the only one is the quality of the people you have and the way they interact as a team” (2006).

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