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Relational competence in complex temporary organizations: The case of a French hospital construction project network

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Abstract

Large and complex project networks are characterized by the collaboration of heterogeneous organizations and individuals. In addition to project management techniques and complementary skills, relational competence, i.e. the ability to actively create and develop collaborative relationships is an essential asset for managing project networks. Networks represent structured role systems which may be a substitute for stable organizational structures and routines. This study investigates relational competence in the network of a large construction project of a French hospital. Based on network data and qualitative interviews, we compare the formal roles and positions of actors in the network to their actual roles and positions and analyze how relational competence promotes the coordination of project work. We find several actors whose network position and relational competence correspond to the formal organization and several actors with a mismatch between the formal organization and the actual role and position. In the latter cases, other network members step in and contribute to an effective coordination. The concept of relational competence in combination with network analysis contributes to a better understanding of the functioning of project networks. In particular, it reveals dysfunctions in the project network and allows for identifying the reasons for failure.

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1. Introduction

Temporary forms of cooperation and working constellations are becoming increasingly prevalent. Projects, programs, and temporary teams are used to generate innovations, to facilitate organizational change and to achieve goals which are new, unique, and require the collaboration of a large variety of heterogeneous partners (Schreyögg and Sydow, 2010; Sydow et al., 2004). The labels "projectification" and "programification" describe this trend which is taking place in almost every industry (Lundin and

Steinthórsson, 2003; Maylor et al., 2006; Midler, 1995). Temporary forms of organizing differ from permanent settings. Their main characteristics – temporariness, uniqueness, heterogeneity (disciplines involved, personal, work contents), short-term orientation, and lacking organizational routines - pose specific challenges to management (Hanisch and Wald, 2011) and most temporary organizations are inherently complex due to these characteristics (Geraldi et al., 2011). Complexity in a project results from an increase in the size, the number and the degree of interdependence of its elements (Sommer and Loch, 2004) and results in an increasing demand for information processing and coordination. Heterogeneity in the project teams and tasks creates structural complexity by inflating the number and the interdependence of the elements to be coordinated. Task complexity is caused by the uniqueness of the project and by lacking organizational routines. Finally, temporariness and short-term orientation are driving temporal complexity.

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Research on project management traditionally dealt with the planning and structuring of projects and project management methodology (Winter et al., 2006; Zwikael and Unger-Aviram, 2009). More recently, researchers increasingly turned from these "hard"-factors to the social and human aspects related to working in temporary organizations (Hanisch and Wald, 2011). Studies of leadership in projects (Müller and Turner, 2007), project culture (Wang, 2001), project knowledge management (Lindner and Wald, 2011) and career progression (Dahlander and O'Mahony, 2010) are examples for this development.

To a significant extent temporary organizations are governed through networks of relationships. These phenomenon can be conceptualized as project networks, which are sets of intra- and interorganizational relationships between individuals and organizations that interact within the scope of one or several projects (Manning, 2005). As a flexible form of organizing, they are relying less on formal structures and routines and more on interpersonal coordination by informal communication and social mechanisms (Bechky, 2006; Hodgson, 2004; Hossain, 2009).

Following the call for considering human aspects in the form of social networks, first steps have been undertaken to apply network analysis for studying the patterns of collaboration and communication among project members. Mead (2001) introduces fundamental network analytical concepts and applies network analysis to visualize the interaction and communication among project stakeholders. His research demonstrates the usefulness of social network analysis for studying communication structures in project networks. Likewise, Chung and Hossain (2009) provide an overview on network methods and network theory before they present their empirical study. They develop a research model which postulates effects of network structure, network positions, and tie properties on individual performance, and they find support for several hypothesis. Hossain (2009) and Hossain and Wu (2009) investigate the coherence between centrality in a communication network and organizational coordination. Using data from project-related e-mail communication they analyze the correlation between the network position and coordination and the correlation between the formal position and organizational coordination. They find the centrality of actors in the network to be positively associated with the ability to coordinate. In contrast, they observe no correlation between the individual's formal position and coordination. The importance of studying informal networks, i.e. the actual interaction that is taking place in a project, is underscored by the work of Kratzer et al. (2010). They study project teams composed of engineers involved in new product development and analyze the structure of interaction networks. As a result they find that informal ties positively affect the creativity of teams.

Based on a comparative case study of polar expeditions, Lecoutre and Lièvre (2010) analyze how project team members mobilize social networks to get access to external resources and to extend their networks. They particularly consider the interplay between strong ties and weak ties in finding new contacts outside the existing network. Alojairi and

Safayeni (2012) built on cybernetics theory and measure the quality of intergroup interaction in the project network of a pharmaceutical company. Di Vincenzo and Mascia (2012) investigate the effects of social capital on the performance of project-based organizations in several projects of an Italian company. They find that there are positive effects of social capital on performance but that a U-shaped curvilinear relationship exists between both variables.

Taken together, the network analytical studies discussed above provide strong evidence that studying projects from a network perspective generates useful insights into the functioning of projects. In particular, it allows for comparing the formally prescribed project organization with the actual organization and for identifying the different roles actors play depending on their network position.

Although temporary forms of organizing are constantly gaining importance, little is known about how work in complex projects is actually accomplished and coordinated (Bechky, 2006). However, the question of how project managers can lead and coordinate temporary forms of cooperation and working constellations is crucial for the effective and efficient management of projects. In our study, we therefore built on prior work on project networks and on the literature on organizational networks (Borgatti and Foster, 2003; Granovetter, 2005). Unlike many other network-analytical studies we do not focus on the effects of network structure on behavior. In contrast, we study how project members create, reproduce and develop their network and how this ability contributes to the coordination of heterogeneous partners in a project network (Lecoutre and Lièvre, 2010). Following Hanson et al. (1990) and Carpenter (1993), we call this ability "relational competence" (Pauget and Cabrol, forthcoming). In particular, we seek answer to the following questions:

- How do the different project members use their relational competence to develop their networks of information exchange?
- How are the formal positions and roles of the project members related to their (informal) positions and roles in the network?
- How does relational competence promote the coordination at an early stage of a complex project network?

We conduct a case study of a complex and voluminous construction project of a new hospital in France in order to obtain in-depth knowledge on the composition and on the functioning of the network. Based on data on ego-centered networks and on qualitative data, we compare the formal roles and positions of actors in the project to their actual roles and positions in the network.

The remainder of the article is structured as follows. In the next section, we identify and discuss the main elements of network structure and the effects of networks and we introduce the concept of relational competence. It follows the description of the case study and the discussion of the findings of our empirical investigation. We conclude by pointing out implications for future research on project networks.

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