

## **A relational perspective on knowledge integration and organizational decision making**

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**Abstract.** In the present research we study inter-unit coordination in situations in which employees from different departments do not have the possibility to frequently interact face-to-face and create mutual knowledge. While at the same time they have to respond timely and accurately in order to transfer relevant knowledge to focal points in the organization where coordination and decision making takes place. We performed an in-depth case study of a large public organization in the Netherlands (i.e., survey research, interviews, and observations) and found that the team's awareness of each other's expertise and their ability to integrate and externalize knowledge determines their success (achievement of goals) in coordination at the organizational level.

**Keywords.** Relational Coordination, knowledge integration, subgoal optimization, decision making.

### **1. Introduction**

Organizations typically differentiate their tasks, activities, work and knowledge among departments and teams. Differentiation allows organizational members to focus on work wherein their specialized knowledge best fits the requirements posed by its environment (Lawrence & Lorsch, 1967). Despite the usefulness of differentiation and specialization, organizational success also depends on the simultaneous efforts to re-integrate tasks, work, and knowledge in order to establish joint decision making and to achieve organizational goals (Heath & Staudenmayer, 2000). Organizations can coordinate work and integrate knowledge in many ways. The most important mechanisms are ongoing communication (e.g., Gittell, 2001; March & Simon, 1958; Thompson, 1967), creation of mutual knowledge (Cramton, 2001; Gittell, 2006), and the development of fit between individual/team goals and higher order organizational goals (March & Simon, 1958).

Coordination and integration of knowledge on an organizational level can be challenging due to a lack of communication, problems of knowledge translation across differentiated specialists (Carlile, 2004), and subgoal optimization (March & Simon, 1958). In organizational settings, such as teams with high task interdependence and many possibilities for face-to-face conversations, individuals have the means to overcome these difficulties (Heath & Staudenmayer, 2000). However, when intraorganizational coordination shifts to a much wider scale, most communication occurs in different time spans and feedback loops (Lawrence & Lorsch, 1967) between individuals who perform most of their routine work within the boundaries of their team. They do not have the possibility or time to regularly be involved in the work of other teams. Leading to situations in which individuals and groups lack the possibility to create mutual knowledge in the course of direct experience or interaction (Cramton, 2001). In the current research we want to study how teams can cope with these challenges and how they can be involved

successfully in organizational decision making, while they lack frequent communication with other units and insight in their work, knowledge, and goals.

The current research consists out of two studies. In the first study we performed an in-depth case study (i.e., survey research, semi-structured interviews, and participant observations) of a large governmental organization in the Netherlands. We investigate the coordination between organizational subunits which have to coordinate their work, activities, and knowledge in order to perform complicated infrastructure work (i.e., city infrastructure projects). Our purpose is to determine how inter-unit coordination and integration of knowledge unfolds, while most 'regular' and routine work takes place within the boundaries of teams and departments and employees have limited occasions to communicate with employees from other subunits. For the execution of shared projects, it is important that from all relevant parts of the organization, information and knowledge about alternatives for action, and the consequences attached to these alternatives (March & Simon, 1958) are represented in a timely and accurate manner.

Most knowledge is still primarily coordinated and integrated on a team level, before it is transferred to and integrated with (the knowledge of) other organizational subunits throughout the organizations (Huang & Newell, 2003). The challenges for individuals is to integrate and coordinate the available knowledge from different subunits that is often tacit (Polanyi, 1997), dependent (Hansen, 1999), and dispersed among individuals and teams in the organization (Becker, 2001).

Since most activities take place within the boundaries of teams, our aim is to investigate how the team's awareness of each other's expertise/knowledge and their ability to share and integrate their knowledge does influence the coordination between them and other units when they have to collaborate. We particularly focus on individuals with boundary spanner roles (Cross & Parker, 2004), because they have the relationships to coordinate and transfer knowledge across boundaries.

We expect that it is important for boundary spanners to have a comprehensible overview of the expertise and knowledge located within their team. We expect that the team members' ability to create knowledge that is codified and explicit (Hansen, 1999), will make it easier for boundary spanners to transfer and translate knowledge timely and accurately to points in the organization where decisions are made. This will determine the degree and quality of coordination with other teams. Teams with awareness of each other's expertise and the ability to integrate knowledge will be more successful in representing their knowledge and interests during collaboration and inter-unit decision making regarding collective action.

## **2. Methods**

Our research consists of two studies. In the first study we performed an in-depth case study (i.e., survey research, semi-structured interviews, and participant observations) of the coordination between teams and departments. The Relational Coordination questionnaire was used to get a representative as possible overview of the actual coordination between the teams and departments. Data was collected in five departments which were involved in the building and renovation of infrastructure work in the corresponding city. Based on the results of the RC survey (development of relational maps), we held semi-structured interviews with employees and supervisors. The data from the interviews provided insight into the context of the findings from the RC survey, which allowed us to comprehend how characteristics of the teams and departments influenced the coordination on the organizational level.

In the second study we are conducting a multiple case study to test the findings of the

first study. We developed a multi-level model to investigate how team level variables such as hierarchy, the transactive memory system, awareness of each other's expertise, and communication influence the way teams operate, coordinate, and share knowledge within organizational networks. Particularly we want to determine how these team level characteristics determine the relational coordination between teams and departments and how the knowledge of teams is shared with other units and affects the work and decisions of other teams. This survey is currently conducted in five organizations.

### 3.1 Results of first study

The results of the RC survey showed that there were a lot of coordination problems between teams and departments. In the interviews we elaborated on these problems. At the start of an interview the researcher asked interviewees to describe recent situations in which they experienced coordination problems/difficulties during collaborative episodes with other teams or departments. We subsequently asked respondents to elaborate on important causes and consequences of the coordination problems.

The main reasons for coordination problems were incidental communication, non-involvement in each other's work, differences in goals, lack of timely response, and problems in understanding each other's knowledge and information. Both the survey results and the interviews showed that one department in particular experienced the most problems regarding the coordination with other teams and departments. Obviously this department was not the only one causing coordination problems, but interviewees specifically addressed several characteristics of this department which shed an interesting light on the paths leading to coordination problems.

Employees within this particular department (department A) were generally described as specialists who knew a lot about specific fields of work and/or infrastructure objects (e.g., bridges, particular types of light installations, etc.). However, nearly all interviewees mentioned that their knowledge was too embedded in the minds and experience of these employees.

*'Knowledge is locked away in the minds of our employees. Everything is based on their experience and nothing is documented' (employee department A).*

*'Our department is organized very traditionally. Knowledge exists only in the heads of people and consequently you need more than one person to give high quality advices to other departments. We miss people who think on a strategic level and have an overview of all infrastructure assets' (supervisor department A).*

There also was a low degree of communication and knowledge sharing between individuals and teams within department A.

*'There is a lot of information within department A. I think it is somewhere. However, it seems this information and knowledge is not documented or shared' (senior policy advisor).*

*'Within our department there are numerous little "Kingdoms". (...) Everything is fragmented on the basis of specific city areas and technical objects. Employees practically all do the same work, but never communicate with each other' (supervisor from department A).*

Thus, knowledge was often not documented and communication within this department was low. It was therefore often challenging to have an overview of “who knows what”? Employees did not have the necessary awareness of each other’s expertise, which created problems in searching and accessing knowledge that was needed for the execution of larger projects and programs.

*‘I needed some information about a bridge. I had to go on our internal website to search for the particular team that was responsible for bridges. I could find that there were 20 potential people within our department who could know about this. But which employee do I need? At a certain point I started randomly calling people, and eventually the fourth person I called, could connect me with the responsible person (employee department A).*

Since knowledge was embedded in the work and experience of employees and was not documented and shared sufficiently, it was not always straightforwardly available in an accumulated or integrated form. Therefore multiple employees were needed to answer questions and problems regarding larger infrastructure issues.

*‘What we really want is that at very important meeting, where something is at stake, they will give the right information, independently of the person we send. Somebody who has an overview of all our assets and interests. Someone who can provide a clear framework regarding our demands. But unfortunately we have a shortage of such persons’ (supervisor department A).*

Thus, during coordination between department A and other departments, the latter had to deal with multiple persons from department A. As illustrated by multiple projectmanagers, it was therefore difficult to make reliable arrangements and appointments as a result of the lack of internal adjustment between employees from this department.

*‘Every [name function] has their well-known subjects. In the ideal situation information and demands about these subjects are uniform. But in practice it really depends on the person you speak to. (...) A lot of the content of knowledge depends on the person you speak to. This has to improve. You should document this kind of things. Then you can develop reliable agreements’ (projectmanager).*

This resulted in ambiguity and unclarity regarding the work, interests, and demands of the department A. In the coordination them and other departments (especially in relation to projects), quick decision making and timely communication were necessary for effective negotiation of different goals and interests. Due to the problems mentioned above, department A was not always able to display and transfer their knowledge quickly enough. In numerous cases they mislaid their position as a collaborative partner (i.e., negotiation partner), which in the long term generated problems for the maintenance of infrastructure assets.

*‘When employees of the projects department come to us, with specific questions, we need to be able to quickly and straightforwardly communicate what our demands are. And state: “this is what we want, and if you fix it in this particular way, we will approve and will eventually take over the project when it is finished. But we do not have this available in a clear way’ (employee department A).*

*'Because [name function] are sometimes not involved during the building process, they actually harm their own interests. And in the end, you have to deal with the non-involvement. You as an [name function] have your wishes and demands, but eventually, when you are not involved, you get something that is different from that. They [employees from department A] have to deal with this beforehand' (projectmanager).*

The few employees from department A, who work on a strategic level, often felt that with or without them, others would move on with their activities without using the knowledge of their department. Without an insight into the knowledge and interests of department A, it was difficult for other departments to take into account their interests. In this fashion it may be hard for department A to influence important decisions with consequences for the outcomes of their work.

*'...And projects just rumble through. They will answer questions themselves in a blink of an eye. (...) And we are often too late' (employee department A).*

The consequence was that in several infrastructure projects, the interests of department A were not covered. As illustrated by the example of the “red bridge” (see quote below), the consequences of project decisions for long term maintenance of infrastructure objects (which was the main interest of department A) were not always visible when decisions about the execution of infrastructure projects were made. Therefore employees from department A had to be present, but unfortunately they often were not able to respond timely and accurate.

*'You know the bridge to [name island]? (...) Yeah, that one. A beautiful bridge [laughing]. That bridge has a very ingenious lighting system. Light installations in the form of an arrow, which are suspended at the outside of the bridge above the water. To replace a bulb we developed a system in which these “arrows” could be moved in the direction of the bridge. However, at the end of the project, when the budgets were already exceeded, the project manager decided to get rid of the folding system. This was not what we agreed on and at this point in time there was no contact with our department about this. However, this bridge is nine meters in height. Because they deleted this coupling system from the design, we need a boat and we have to build a scaffold on the boat to replace a light. This costs us a couple of 1000 euro's every time (employee from department A).*

For employees from department A, who had a role in projects, the time to search and collect information from their own department frustrated the communication of their demands.

*'I am trying to be a bridge builder between department A and the project organizations. I think I understand both departments. Projects are going very fast. I was a project leader myself for a while. I know the game. When I quickly need some piece of information or knowledge I am often very frustrated about the time it takes to get it from my department' (employee department A).*

Because department A lacked a timely and accurate response in the coordination, they often felt that they were forced to take over an infrastructure object that did not meet their demands.

*'In the end a given object is finished, and we have to take over something we actually cannot take over. There is no budget for maintenance, and it is not built in a way in which we can successfully exploit it' (head of department A).*

Due to the fact that the interests of department A were insufficiently covered in infrastructure projects, employees from this department perceived a lack of status and respect within the organization (as showed by the RC survey). Here fore and due to the fact that they were afraid that their interests would not be covered within the organization, they were reticent to cooperate with and transfer work to other departments.

*'We see that departments, in particular department A, are more cautious in allocating the responsibility for their work to other departments. They want to keep control over their work and projects, because they are afraid of what they will get back' (head of department C).*

### 3.2 Results study 2

The multiple case study (i.e., survey research) is currently performed in five governmental and/or private organizations. The results of this study will be available by the end of May 2014, and will be presented at the conference.

## 4. Discussion and conclusion

Despite a large body of research on coordination and knowledge sharing, most research has lacked a multilevel perspective that focuses simultaneously on the social relations within a group and its members' relationships with the larger organization. Recently scholars started to address a multilevel perspective in their research on coordination and knowledge sharing. Gittel and Weiss (2004) argue that frameworks for analysing coordination must be responsive to the dynamic and complex characteristics of interrelationships between multiple levels of analysis. Coordination at one level may generate coordination at other levels of the organization. In the current study we connected multiple levels of coordination and showed that communication and knowledge integration/sharing within the boundaries of a team or department has a major influence on coordination at the organizational level.

Many studies have focused on coordination within teams that are characterized by a high task interdependence, tight coupled actions, and frequent opportunities for direct contact (e.g., flight departure teams: Gittel, 2001). In such situations the frequency of communication and the creation of mutual knowledge easily reinforce each other. In these kinds of settings, members more likely hold common information before discussions are held and decisions are made. Furthermore, organizational members have far more opportunities for establishing an insight in each others' input and preferences (Stasser & Titus, 1985), which will increase the chances that they are being interpreted accurately. On the contrary, when intraorganizational coordination shifts to a much wider scale (e.g., interdepartmental or interdivisional coordination), the possibilities to create shared knowledge in the course of direct experience or direct interaction are limited (Cramton, 2001). Infrequent communication, the limited opportunities for direct involvement, and a lack of face to face interaction generates challenges for employees in seeking, accessing, and transferring information throughout the organization. Our study shows that in such situations, the success that departments have in coordinating their activities with other teams and departments becomes dependent of the ability of groups to internally coordinate

and integrate knowledge before they are involved in cross-departmental coordination. Teams that lack an overview of their expertise and knowledge and experience difficulties in connecting and integrating different sets of dependent (Hansen, 1999) and tacit knowledge (Polanyi, 1997), are less influential within their organization.

### References

- Becker, M.C. (2001). Managing dispersed knowledge: Organizational problems, managerial strategies, and their effectiveness. *Journal of Management Studies*, 38, 1037-1051.
- Borgatti, S.P., & Cross, R. (2003). A relational view of information seeking and learning in social networks. *Management Science*, 49, 432-445.
- Carlile, P.R. (2004). Transferring, translating, and transforming: An integrative framework for managing knowledge across boundaries. *Organization Science*, 15(5), 555-568.
- Cramton, C.D. (2001). The mutual knowledge problem and its consequences for dispersed collaboration. *Organization science*, 12, 346-371.
- Cross, R. L., & Parker, A. (2004). *The hidden power of social networks: Understanding how work really gets done in organizations*: Boston, MA: Harvard Business Press.
- Gittell, J. H. (2001). Supervisory span, relational coordination, and flight departure performance: A reassessment of postbureaucracy theory. *Organization Science*, 12(4), 468-483.
- Gittel, J.H., & Weiss, L. (2004). Coordination networks within and across organization: a multilevel framework. *Journal of Management Studies*, 41, 127-153.
- Gittel, J. H.(2006). Relational coordination: Coordinating work through relationships of shared goals, shared knowledge and mutual respect. *Relational perspectives in organizational studies: A research companion*, 74-94.
- Hansen, M. T. (1999). The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly*, 44, 82-111.
- Heath, C., & Staudenmayer, N. (2000). Coordination neglect: How lay theories of organizing complicate coordination in organizations. *Research in organizational behavior*, 22, 153-191.
- Huang, J. C., & Newell, S. (2003). Knowledge integration processes and dynamics within the context of cross-functional projects. *International journal of project management*, 21, 167-176.
- Lawrence, P.R., & Lorsch, J.W. (1967). Differentiation and integration in complex organizations. *Administrative science quarterly*, 1-47.
- March, J.G., & Simon, H.A. (1958). *Organizations*. Oxford, UK: Wiley.
- Polanyi, M. (1997). The tacit dimension. *Knowledge in organizations*, 135-146.
- Stasser, G., & Titus, W. (1985). Pooling of unshared information in group decision making: Biased information sampling during discussion. *Journal of personality and social psychology*, 48, 14-67.
- Thompson, J.D. (1967). *Organizations in action: Social science bases of administrative theory*. New York, NY: McGraw-Hill.