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Role of boundary objects in negotiations of project contracts

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Abstract

A boundary object is a concept for referring to objects that serve as an interface between different individuals and/or organizations. From this it follows that the aim of this article is to address the question of what sort of role boundary objects play in negotiations of contracts in the project business context. The beginning of the article deals with the notion of the boundary object in general. And after that follows the main content of the article – namely a study of the role of boundary objects in the context of project contract negotiations (technological delivery). The article includes three case examples, and it ends with the conclusion according to which the boundary objects (both institutionalised and non-institutionalised) may play an important role in the courses of complex project contract negotiations.

Keywords: Knowledge visualization; Shared understanding; Boundary object; Project contract negotiation

1. Introduction

A greater part of the deliveries provided by project business companies is supplied in the quest for a solution to customers' 'wicked problems' ([1,2]), problems for which there are no clear and agreed definition of the problem. 'Wicked problem' solving is characterized by making assumptions and decisions under conditions of risk and uncertainty. This means that wicked problems require a heavy dose of social interaction: conversations, meetings, phone calls, email, etc. The ever-present element of risk and uncertainty means that the events and tasks leading up to the completion of a project can never be foretold with absolute accuracy. For some very complex or advanced projects even the possibility of successful completion might be in serious doubt (cf. [3]).

Practices for hedging or handling these risks and uncertainties are project contracts. In project businesses containing independent companies, the contracts negotiated are typically 'arm's length', short-term agreements. Each is viewed as involving a transaction in which the "the standard strategy is to drive the hardest possible bargain in the immediate exchange" ([4], p. 300). With the more cooperative systems, companies employ relational contracting in which suppliers "are not selected on the basis of bids, but rather on the basis of past relationships and a proven record of performance" ([5], p. 146).

Negotiations of project contracts need members of distinct organizations to solve a particular (wicked) problem of common concern. These people can expect to face considerable communication problems. Fundamental challenges facing the participating organizations are found in the building of a shared understanding of the task at hand, which often does not exist upfront, but is evolved incrementally and collaboratively during long-termed and complex negotiations. Participants need to learn to communicate with and learn from others who have different perspectives and perhaps a different vocabulary for describing their ideas. They need to establish a common ground and a shared understanding.

The management literature often deals the learning taking place in the negotiations of contracts with the

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help of transaction costs theory [6]. However, in this article the focus is on the boundary objects which can help to reach shared understanding between the project contract negotiators. In other words, the idea is that the better the negotiators understand the nature of the existing boundary objects, the better they can take actions that will help to overcome the existing (wicked) problems. Therefore the goal of this article is to highlight those boundary objects that advance knowledge visualization and the reaching of shared understanding in negotiations of project contracts. In the pursuit of this goal, the following discussion first describes the notion of boundary objects in general. Then the discussion goes on to describe the different phases of a project contract negotiation. And after that, due to the need to concretize the boundary objects in negotiations of project contracts, the results of three empirical case examples are described in detail.

2. Boundary objects as a means to achieve a shared understanding among project contract negotiators

A process automation delivery project is, for example, a community of interest [7] that draws people from several different communities of practice ([8,9]). A community of practice is a group of people who do a certain type of work, talk to each other about their work, and derive some measure of their identity from that work. Automation- and process engineers of both requesting and supplying companies are examples of different communities of practice in a process automation project.

A community of interest involves members of distinct communities of practice coming together to solve a particular problem of common concern. Automation- and process engineers of both the requesting and supplying companies who negotiate together a project contract for a process automation delivery is an example of a community of interest.

A community of interest can expect to face more communication problems than a community of practice. As Arias et al. [7] argue fundamental challenges facing communities of interest are found in building a shared understanding of the task at hand. This means that members of communities of interest need a means for visualizing knowledge to establish a shared understanding (i.e., in this case knowledge visualization focuses on the transfer or creation of knowledge among project contract negotiators).

Thus, shared understanding refers to mutual knowledge, mutual beliefs, and mutual assumptions [10]. Without shared understanding, no success in negotiations of project contracts can be achieved. This means that in order for negotiators (i.e., people of both requesting and supplying companies) to become contract striving teams it is vital that they develop a shared understanding of the underlying beliefs, values, and principles that will guide their work together. This shared understanding evolves throughout the negotiations as the people learn about each other.

However, the people working for a project contract, often lack time to understand their environments, and act under pressure, overloaded with new knowledge, reports and environmental stimuli [11]. This means that they make sense of their environment within the constraints of time and a bounded rationality [12], and so frequently perceive only a reflection of their own beliefs [13]. According to Simon [14], the people only rarely act on the basis of having perfect understanding. What is more, they may ignore the knowledge that they do have, or use knowledge that is irrelevant to a decision. This is to say that the people are bounded by their own subjective rationality, which is limited in all sorts of ways. However, in essence, the project contract negotiators do the best they can with what they have available to them. In addition to being thinking contract negotiators, people are emotional ones. Emotions have a bearing on how people think and act (cf. [15]).

Boundary object (e.g., [16–19]) is a concept to refer to objects that serve as an interface between different communities of practice – project delivery negotiators, in our case. A boundary object is an entity shared by several different communities of practice but viewed or used differently by each of them. As Star [16] points out, boundary object in an organization works because it necessarily contains sufficient detail to be understandable by the different parties, however, neither party is required to understand the full context of use by the other. Boundary object serves as a point of mediation and negotiation around intent.

For example, Star and Griesemer [17] originally wrote about Berkeley's Museum of Vertebrate Biology in the period 1907–1939. The museum's collection was enabled by conservationists who saw the flora and fauna of California disappearing and felt that it needed to be preserved while there was still time. They provided both funding and amateur collecting services. To amateur collectors, the goal meant quite a different thing than that of the curator whose goal was defining how change in the environment drove natural selection. However, the curator was able to use the boundary object to motivate collectors and guide their collecting, i.e., he could use it to explain things in their terms while using the specimen for his own purposes (e.g., to decide what data should be collected along with a specimen).

For another example, Koskinen [26] describes how differently oriented managers utilize a metaphoric boundary object in describing their company's current state. By the 'river' metaphor they defined their company as an organization that moved at a fairly slow pace, but, however it was consistent and got things done.

Indeed, boundary objects are flexible in adapting to local needs and constraints of several communities of practice sharing them. These objects are robust enough to maintain a common identity across different stakeholders and they can be abstract or concrete. Furthermore, they are often weakly structured in common use (i.e., boundary object is interpreted differently by different communities of practice because the contexts in which these communities