Changing Boundaries in Virtual (Open) Innovation Work

Completed Research Paper

Esbjörn Ebbesson
Halmstad University
esbjorn.ebbesson@hh.se

Magnus Bergquist
Halmstad University &
University of Gothenburg
magnus.bergquist@hh.se

Abstract

Co-creation and open innovation is changing the context for virtual work and the role of culture in boundary spanning. Organizations that are opening up to embrace a more open way of innovating often meet heterogeneous stakeholders. Culture in IS research is often analyzed on an organizational level, however, boundary spanning in innovation work calls for theorizing culture on several levels. This study addresses the role of culture in a boundary spanning innovation project within the newspaper industry where end-users and newspaper representatives collaborated to design a new e-service.

We apply grid-group theory to unfold the complexity of virtual open innovation and conclude that stakeholders from both inside and outside the organization need to cross cultural boundaries to align themselves with other actors in order to help facilitate collaboration. The findings indicate that boundary spanners move between cultural positions based on differing cultural values in relation to other involved stakeholders.

Keywords

Co-creation, Open Innovation, Boundary Spanning, Cultural Theory

Introduction

Co-creation and open innovation is often burdened by boundaries that must be managed for successful results (Chesbrough et al. 2008). Boundary spanning is important, especially in unstructured settings where diverse configurations of stakeholders meet to create new values.

Extant research on boundary spanning has focused on relatively well-structured organizational settings where boundary spanners are nominated and boundary spanning is a recognized role in the organization. The development of boundary spanners in practice has been proposed as an important factor for successful boundary spanning (Levina and Vaast 2005). However, previous research has not sufficiently analyzed organizational settings where co-creation emerges in a loosely coupled fashion with multiple professional and non-professional stakeholders interacting in distributed, flexible and complex configurations. Examples range from innovation communities to user-driven innovation (Bergvall-Kåreborn et al. 2009; West and Lakhani 2008; Von Hippel 2005).

Such open innovation contexts are characterized by new boundary properties that are cultural and complex rather than structured by organizations. This paper suggests the grid-group framework (Douglas 1970) as a way to understand the implications of boundary negotiation in co-creation. The empirical setting is a multi-stakeholder enterprise in the newspaper industry (the City District blogs), which was followed as a part of a larger two-year research project. The research question that guides the work is: What role does culture play for boundary spanning in virtual open innovation work?

The paper is organized as follows: First the research is positioned in relation to the boundary spanning literature which is followed by a presentation of the grid-group framework as a theoretical lens. Data

gathering and data analysis sections are followed by a presentation of the empirical case. After that, we apply grid-group analysis and identify emergent boundary negotiations in the studied co-creation project. Findings are related back to boundary spanning research. Finally, we present conclusions and further research.

Boundary Spanning

The role of organizational boundaries has been given significant attention in information systems research in attempts to theorize the role of technology in organizational innovation (Vashist et al. 2011). Boundaries demarcate an organization from the surroundings, protect it from external disturbances, reduce complexity and create foundations for common infrastructures and shared identities. However, boundaries can also be inhibitors to the innovation of an organization's assets. Boundaries not only buffer towards the external environment, they can also restrain the inflow and discharge of resources and capacities in the surroundings of the organization. Organizations therefore realize the importance of establishing channels to connect internal and external assets and become part of an innovation ecosystem. Here, boundary spanning becomes an important instrument, and dedicated boundary spanners are nominated to establish and facilitate connections between the focal organization and potential associates (Callahan and Salipante Jr. 1979; Friedman and Podolny 1992). Boundary spanners are professionals who are appointed the role of connecting competences and resources between organizations or organizational subunits and the outside (Tushman and Scanlan 1981).

Recently, the importance of non-professional boundary spanners outside the organization has gained attention. Examples are so-called lead users (Von Hippel 2005) and other individuals connecting communities and companies (Fleming and Waguespack 2007; West and Lakhani 2008). Here boundary spanning occurs in new configurations including actors with various backgrounds interacting with firms via network clusters such as open virtual communities (Dahlander and Wallin 2006) or users gathering to innovate firm developed software (Jeppesen and Frederiksen 2006). In such open and unstructured boundary spanning co-creation, culture becomes important (Gasson 2005). We know little of how distributed, flexible and complex co-creation configurations involving both professionals and non-professionals change boundary properties and boundary spanning. A challenge for research is therefore to further our understanding of how boundaries work as devices for dynamically ordering the relationships between actors (Hernes 2004), where the role of a boundary spanner is not defined beforehand as it is in firm-to-firm and intraorganizational boundary spanning. In open innovation, the permeability of boundaries is dynamic, more based on values and negotiated in practice. Information systems research has recognized how loosely coupled environments change boundaries, create new boundaries and increase boundary dynamics (e.g. Faraj et al. 2011; Lindgren et al. 2008). However, the research has largely overlooked the recent development of open cross-organizational boundary spanning including both professionals and non-professionals.

Boundaries are relational processes defined by the organizational and material structures in which activities take place (Heracleous 2004). Organizational agents are nominated to dedicated boundary spanning roles (Friedman and Podolny 1992). Research has identified the leap from appointed boundary spanner to boundary spanner in-practice as important for successful development of shared spaces for collaboration (Levina and Vaast 2005). When actors are *not* appointed a role they will instead negotiate both the role and the boundary that the role spans, leaving room for new boundary properties in the conceptualization of roles, boundaries and shared activities (Santos and Eisenhardt 2005). Here the role of culture becomes crucial for understanding how boundary malleability becomes a resource for complex teams of co-creators, such as open configurations involving both professionals and non-professionals.

A Cultural Lens on Boundary Spanning

Although culture is central to the boundary spanning literature it often presupposes a (national) homogenized unity of views and practices: the boundary creates a clear "we" and "them". However, as organizations become more global and complex, the degree of cultural complexity increases (Hatch 2012). Cultural studies emphasize dynamic structuring of culture with cross boundary connections: between the local and the global, micro and macro, formal and informal (Lamont and Molnár 2002). In order to

capture and investigate the complexity in co-creation or innovation activities, we therefore turn to cultural grid-group theory that can handle the issue of cultural complexity.

The Grid–Group Model

Grid-group analysis, developed by anthropologist Mary Douglas (1970) has been proposed as a model that can capture complex links between culture and practice. *Grid* refers to what extent an individual's life is influenced by external actors and their prescriptions (Jackson 2011; Thompson et al. 1990). Therefore, in a strong grid environment the individuals and their positions in the specific context are influenced by e.g. age, gender, title, and education. Large bureaucratic organizations with authority, chain of command and specific ranks and titles are common examples of a strong grid environment.
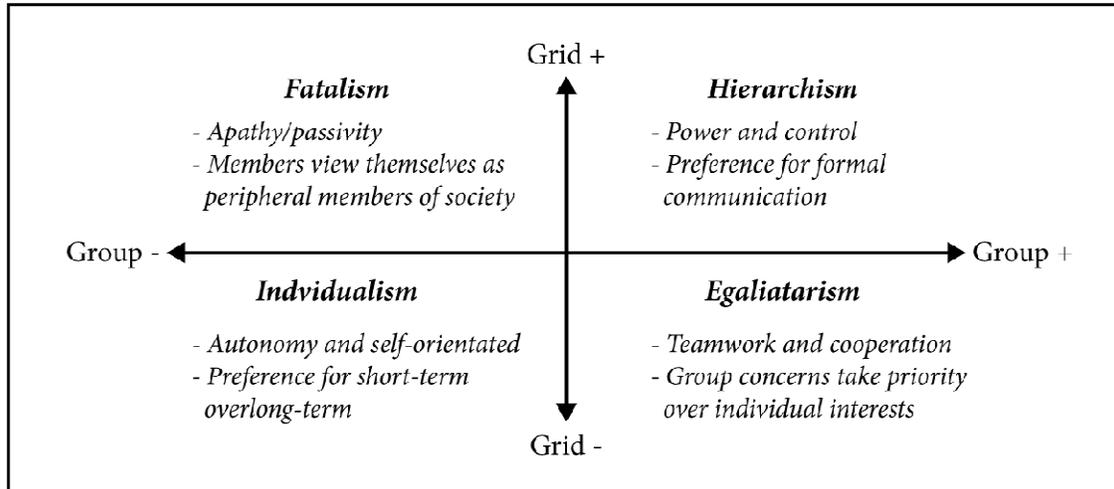
Grid +

Fatalism

- *Apathy/passivity*
- *Members view themselves as peripheral members of society*

Hierarchism

- *Power and control*
- *Preference for formal communication*

Group - ◄────────────────────────► Group +

Indvidualism

- *Autonomy and self-orientated*
- *Preference for short-term overlong-term*

Egaliatarism

- *Teamwork and cooperation*
- *Group concerns take priority over individual interests*

Grid -

Figure 1. Grid-Group matrix (Jackson 2011).

Group on the other hand refers to how the individual's life is absorbed and sustained by a group membership (Jackson 2011). The individual has the ability to choose which group they belong to in a more flexible way than in a grid context. Douglas (Douglas 1970) grid-group model is often represented as a two-axis table with four fields, each presenting a distinct approach to life; fatalism, hierarchism, individualism and egalitarianism (see fig. 1), these fields describe contrasting views on life which together covers a broad spectrum of different cultural perspectives.

Research Approach

To investigate the role of cultural boundaries and boundary spanning in open innovation with heterogeneous co-creations groups, we conducted an interpretative case study (Walsham 1995) of the City District Blogs project. The project was part of a larger two-year research project in which researchers, newspaper representatives (managerial, marketing and designer levels) and readers worked together in situated and virtual innovation projects to develop ideas for new User Generated Content (UGC) services, hosted by the newspapers.

Newspaper staff and readers alike were to play a major part by jointly contributing, sharing and experiencing content provided by all project members. In line with user innovation, all involved actors were appointed the role as boundary spanners and nominated to take part in the entire process, from idea generation to design, evaluation and implementation of the new services. The mix of involved stakeholders, the virtual setting and the facilitating role of the researchers created a complex, open innovation environment with both explicit and implicit boundaries.

The case study was longitudinal and the data collection was carried out during and after the innovation project was finalized. The case study consisted of workshop summaries, project reports, and data logs from the online platform used during the project and interviews with readers, newspaper staff and facilitators. The different datasets aided the process of understanding the emergent and changing cultural boundaries between stakeholders.

Online platform submissions (polls, posts)	335
Datasets from polls on the online platform	2
Interviews with readers	5
Interviews with newspaper staff	4
Interviews with facilitators	1
Group interviews with newspaper staff	1
Official Project Report	1

Table 1. Data sources used from the City District Blogs Case

The interviews with newspaper staff and readers were carried out by two researchers, lasted between 30 and 45 minutes, and were transcribed to enable coding of the material in the data analysis software tool HyperResearch. The researchers also screened the recordings from different workshops and relevant episodes were transcribed and coded. Additional datasets, such as official project reports and logs from the online platform were all retrieved in plain text format and imported into the analysis software. During data analysis the researchers iteratively explored different analytical approaches on the coded data. After several iterations of data analysis, themes related to the theoretical framework of cultural theory emerged as a fruitful way to structure and theorize the data (Saldaña 2012). During this process, episodes in the empirical material that could be used for theoretical elaboration was identified. Empirical findings that were deemed relevant, even though they did not fit the themes covered in the theoretical framework, were tagged separately to allow for an iterative process where further theoretical explanations were sought in additional reviews of literature. This allowed for an analytical practice where the researchers could alternate between the conceptual perspective of cultural theory provided by literature and emic perspectives identified in the findings. Gradually, processes of boundary emergence, as well as boundary management, were identified.

The City District Blogs Case

The City District Blogs project began in the end of October 2009 and spanned over four months. The purpose was to design and launch city district blogs in a city in Sweden to let the readers of the newspaper help out with coverage of the news.

Extant research has previously reported on the complexity that multi-contextuality, i.e. multiple use contexts, brings (Lindgren et al. 2008) in relation to boundary spanning. The proposed future user generated content service, i.e. the city blog portal, was multi-contextual in nature since the service could potentially enable heterogeneous groups of readers to both report and read user generated news. Concurrently, users from the newspaper saw potential in both producing content for the service as well as using the content generated by the readers for both printed and digital media in different forms. Since the proposed service platform and content could potentially be used by so many different types of users and for different types of purposes, the staff representing the newspaper and the readers interested in helping shape the service came from very different walks of life, which in turn created a very heterogeneous group of people with the task to co-create the platform.

The project group consisted of two groups of stakeholders: newspaper representatives and readers from different walks of life. Additionally, two researchers aided in the facilitation of boundary spanning activities between the two groups. The representatives from the newspaper had a mixed background and came from both different levels of the organization as well as from different sub-units. For example, there was both staff from the editorial side, i.e. journalists, and staff from the marketing and development side; units that do not traditionally work together in small and medium sized newspapers. The reader group was very diverse and consisted of potential future bloggers in a wide age group (20-75 years old) from different neighborhoods in the city. Some of the readers had previous experience with blogging, while some had none; the only thing they had in common was that they had expressed interest to help shape a future blog service.

Two major activities structured the interaction between the different stakeholders groups during the innovation project. The first activity was the initial meeting at the newspaper, which spanned into a workshop where 13 readers and 9 newspaper representatives worked together to come up with initial ideas. The second activity consisted of a longer process running over 4 months, taking place at an online platform over the Internet. The online platform consisted of a customized content management platform based on the open source project Drupal and provided basic access to online profiles, forums, surveys, etc.

The initial face-to-face workshop provided a foundation for the different stakeholders to get to know each other, talk about initial ideas, and acted as a springboard for the upcoming virtual online activities. During the workshop it became evident that everyone had very different opinions on what the proposed service should look like and what issues were key to discuss. To create some sort of structure, the workshop facilitators tried to channel the discussions into specific topics that the different groups had in common and could relate to, such as the topic of value and what value a service should add; a topic which everyone could provide their unique perspective on.

As the innovation project moved over to the virtual environment, consisting of the Drupal platform, the project group from the newspaper formed a small group of five people tasked with the assignment of interacting with readers to discuss and gather feedback on features, design directions and how and where the city blogs should be implemented and launched, these representatives therefore became appointed boundary spanners from the newspaper side. The readers, on the other hand, all having volunteered to participate in the project, could be interpreted to having assigned themselves to the role of being an end-user boundary spanner. The project was initially met by very high expectations from the newspaper staff who looked forward to meeting the readers and discussing their views on the upcoming city blogs. They explained that this was not a common way to work:

> *"I think it's going to be really interesting to learn more about what people [readers] think. Sometimes we know [what the readers think] but not always. We think we have a pretty good idea, so it's going to be interesting to hear." Mats, Newspaper*

The five man team at the newspaper site consisted of two project leaders and three journalists; the project leaders had different backgrounds, one from the marketing department and the other from the editorial.

This was supposed to create a bridge between the often-separated departments. The nature of the innovation project, where newspaper representatives were tasked to work alongside readers to create novel services, presented many challenges, especially regarding the type of process and pace of development. The newspaper representatives were used to fast paced, short projects with clear goals. One of the project leaders expressed frustration, both in his own role as project manager and on behalf of his journalists:

> *"It is a bit complicated and challenging. Journalists are very detail oriented and scrutinizing. I received a lot of questions and criticism because the journalists didn't feel that they had the full picture all the time and control. Sometimes it was because I didn't know myself all the time and had to tell them that I have to check with the researchers regarding that, or that we have to wait for the readers input." Anna, Newspaper*

Although all respondents at the newspaper commented on the slow moving process, they seemed to have different reasons for doing so. The different mode of working affected some of the newspaper representatives in different ways. Some journalists felt that work was more complex and less motivating. They had a hard time adapting to the change:

> *"We are used to going from idea to reality in a very short time span, additionally there was a lack of information, a slow process and lack of action [..] On top of that, we, the ones down at the shop floor have no responsibilities and an inability to change our situation [..] You noticed, or at least I noticed that it also affected the job motivation while working with other things, since the spirit was lowered." Robert, Newspaper*

The respondent was quick to add that there were also other contributing factors at the time that added to the decreasing level of job motivation, such as downsizing and staff that was fired, but that all these things together established a feeling of resignation.

While these newspaper representatives highlighted the need for increased formal structures to help during innovation processes, others saw the project as an opportunity to innovate the whole work process for the paper and move closer to the reader in order to build a different relation to the readers. A project leader at the newspaper summarized this as follow:

> *"I think it is important to build a relation to the reader in many different ways. I don't think it's enough with just a forum on a website, or reader questions online or in the printed newspaper [..] We have to pull them to us in many different ways and take them seriously. Absolutely, we are a newspaper, it's a product that we create for them, not for ourselves". – Anita, Newspaper*

Much of the discussions on the online platform were centered around values, and what type of content was suitable for a city district blog, such as who should be allowed to blog and what type of advertisement would be okay to display. Initially, the discussions online were guided by issues that had been raised at the face to face workshop, such discussions were often initiated by the facilitators. Discussions that were started by the readers or the newspaper staff were rare, but whenever a facilitator started a new thread it often got many replies from both readers and newspaper staff who then started discussing back and forth between readers and newspaper representatives.

Feelings varied between different reader groups regarding the pace of the project and how active all the participants were. Some readers were very annoyed at the slow pace; more specifically they demanded a faster pace and more action from the newspaper:

> *"It was a bit pale. During some periods the amount of submissions [to the virtual platform] was very low. I was checking the platform several times a week … There definitely should have been a higher pace" – Oscar, Reader*

Some readers also had a high expectation towards the involvement from the newspaper representatives and complained that they were too lenient:

> *"Well, you would have to assume that these people from the newspaper are professionals when it comes to this [media services], they could have thrown in a torch now and then to provoke us … If you provoke people, then you get reactions, something happens." Tony, Reader*

Everyone did not share these reactions. Some readers had a completely opposite view on the collaboration and were happy with both their own and the newspaper's degree of involvement. Instead of viewing the newspaper representatives as a part that should be provocative and enter a debate, they instead viewed the newspaper representative as a silent partner that should be available, but stay in the background:

> *"The newspaper staff should act as a partner that you can bring up ideas to, they shouldn't take up too much room, but always be there for discussions" Nils, Reader*

Regarding the newspaper and their own involvement, they also seemed to be pleased not only with their own level of engagement but also the newspaper's.

> *"No, I can't say that I think they should have been more active, I think it was at a pretty good level – also, we more or less worked for the newspaper in a way. There was a lot of talk about that the city district blogs would be something separated from the newspaper – still, it was within the boundaries of the newspaper, which was important to point out on their part". Ewa, Reader*

The readers noted that the engagement varied between the different representatives from the newspaper, stating that some of them were better at listening and being active than others. They also seemed to be pleased with the newspapers receptiveness towards their ideas in the end, claiming that they could clearly see that the majority of their feedback and ideas had made it to the final version of the city district blog that went live.

The majority of the members in the reader group preferred the online platform to the face to face workshop in the sense that they thought that it was easier to express themselves and get their point across to the collaborators. It was the more well-articulated and "verbal" participants who got to share their view on things during the face to face workshop, according to the reader community online. They also thought that the online discussions were open and provided a lot of room for them to share their views on things.

> *"During the workshop, only the more verbal participants got to talk, on the online platform the rest of us had more space to share, some of us need a bit more time to reflect on things" Anna, Reader*

The co-creation project finally ended with the launch of the city district blogs that the readers had helped shape: The newspaper staff formally invited the participating readers to become bloggers on the live portal. Some of the readers that participated in the co-creation process took the step to become bloggers, while the majority of the bloggers on the platform in its current state were recruited through advertisement for the blog portal after it went live and voluntary sign ups.

Discussion

The City District blogs project started a range of different boundary spanning processes between the stakeholders in the study. The point of departure for this discussion is an attempt to grasp the nuances of boundary spanning in the studied project's heterogeneous and complex innovation process. From a boundary and boundary spanning perspective, the case illustrates many of the common characteristics that are expected from a boundary crossing interchange. However, the project also extended boundary spanning, crossing over several types of boundaries. It is an example of a composite boundary spanning activity with several different categories of stakeholders spanning different forms of boundaries, namely the one between the newspaper as an organization and the group of readers. Where previous literature focused on a specific kind of boundary spanners, such as nominated boundary spanner and a boundary spanners in practice (Levina and Vaast 2005), this study includes heterogeneous forms of boundary spanning, between diverse user communities. The purpose of the discussion is to extend previous research on boundary spanning by identifying how different cultural boundaries were negotiated and also changed during the project. This took place not only by boundary spanners from the newspaper, but also from the users' perspective.

The newspaper representatives participated in the innovation activities with the reader group. From the perspective of boundary spanning they can be referred to as boundary spanners in practice (Levina and Vaast, 2005). However, at closer examination it is evident that they had very different perspectives on the innovation activities, and what roles they and the users should play in it. Some of the nominated

boundary spanners were very positive towards the inclusion of readers in the newspaper's innovation process, claiming that this was the only way to really work with the customer base, whereas others were more critical towards the readers, pointing out that it would have been better to innovate first, and ask questions later. The examination of findings such as these could have easily stopped by stating that people simply have different opinions. However, upon further analysis we discovered that cultural differences in the form of differing value systems emerged during the project. We discovered that users' attitudes corresponded to the grid-group structure and that the attitudes shifted during the project; a finding that was not apparent at the beginning of the project.

From a grid-group perspective (Douglas 1970; Thompson et al. 1990) the newspaper can be seen to belong to a culture with a strong grid and group, from which the role of the newspaper is influenced by external actors and their prescriptions e.g. title, education etc. Among newspaper representatives there was a strong sense of belonging to a group. In turn, it could be argued that most newspapers belong to a culture with a certain degree of hierarchism. The reader, however, in the role of being a private person, entered the innovation process with a weaker position in the grid-group structure. The weak group is reflected in the flexibility that the reader has in the involvement in the process. The reader has joined the innovation process on his or her own accord, and can leave whenever, however, the newspaper representatives does not have this flexibility.

When examining the newspaper representatives' actions and impressions during and after the innovation project, it became clear that they related differently to the project. While one group was positive towards joining readers and innovating new services, others were more reluctant to interact with readers. These two groups engaged in boundary spanning more closely related to either a fatalist or egalitarian boundary spanning, from the grid-group perspective. The shift towards a fatalist perspective is exemplified by boundary spanners who argued that readers are best involved at the later stages of news service development, if at all. In contrast, the egalitarian group expressed that readers need to be involved more and in more ways than during the innovation project. It is also interesting to point out that both groups had issues adapting to the role of boundary spanners, and the more open innovation process that characterized the project, than they were previously used to.

The findings suggest that several cultural processes were taking place simultaneously, which affected boundary spanning activities. While some developed from nominated boundary spanners to boundary spanners in practice, others moved in completely different directions. Nominated boundary spanners belonging to a hierarchic culture had a tendency to either guard boundaries, or move towards either a fatalist or egalitarian perspective when entering the open innovation process. The findings may have implications for whom to nominate to a boundary spanner. As highlighted by Levina and Vaast (2005) not all nominated boundary spanners turn into boundary spanners in practice. The findings suggest that different approaches to cultural values alongside the grid-group might be an indicator of which boundary spanners develop a perspective that align themselves with an open innovation process and through this process become boundary spanners in practice. The egalitarian thinking lies closer to an open innovation paradigm than the perspectives of a fatalism or hierarchism, therefore it is reasonable to suggest that nominated boundary spanners either belonging to an egalitarian thinking, or moving towards it, are more likely to develop into boundary spanners in practice.

Similar patterns were identified among the readers. Although many readers seemed to enter the innovation process as individualists, and leave it without a changed perspective, there were also readers who appropriated an egalitarian culture. However, the engagement from these readers could sometimes express a concern that the innovation process was too slow and lacked dialogue and interaction from the newspaper representatives. In contrast to these, the readers who expressed values identified in the individualistic culture expressed content with the pace, their own efforts and the newspaper representatives' effort. The findings indicate implications for how to facilitate open innovation activities involving end-users or consumers, as they illustrate that some users are satisfied with a lower tempo and a low degree of involvement, and that the contrasting group of users are very demanding when it comes to pace and involvement from the organizations boundary spanners.
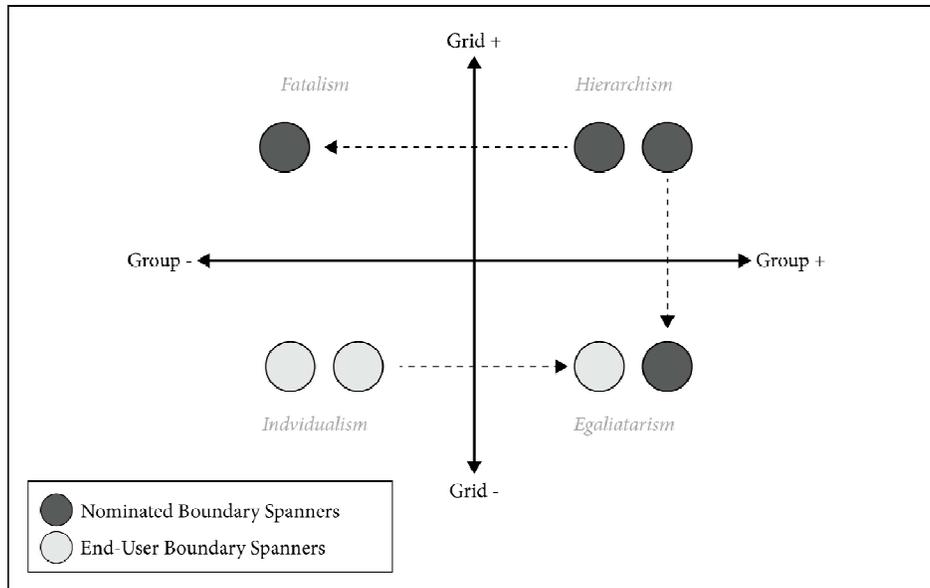
Figure 2. Boundary spanning from a cultural theory perspective

From a boundary spanning perspective the case illustrates how boundary spanners in innovation projects not only cross organizational borders that demarcate the organization from the environment, but that they also move between cultural positions based on differing cultural values in relation to the other stakeholders (see fig. 2). By doing so, they can either span and dissolve boundaries or create new boundaries. As a result, an actor belonging to a hierarchic culture could move towards an egalitarian culture in regard to innovation and perspective of the reader By doing so, this actor would also align himself with readers, who either moved to, or already had an egalitarian perspective on innovation and collaboration. However, through his change of perspective, the journalist has also potentially distanced himself from other journalists who remain hierarchic or developed a fatalist approach to innovation.

Conclusion

This paper set out to investigate the question of what role culture plays for boundary spanning in virtual (open) innovation work. Based on the findings, we conclude that culture plays an important role when spanning boundaries in innovation work from several points of view.

Spanning cultural boundaries in innovation projects is a complex affair; stakeholders from both inside and outside the organization need to cross cultural boundaries to align themselves to help facilitate collaboration. The findings indicate that 1.) boundary spanners gradually move between cultural positions based on differing cultural values in relation to the other stakeholders, and 2.) when doing so, they can either span and dissolve boundaries, or create new boundaries.

Furthermore, the findings indicate that organizational boundary spanners belong to a hierarchic culture, but have the potential to move to either a fatalist or egalitarian culture in relation to innovation activities. These findings have implications for who to nominate to boundary spanners for innovation work, since boundary spanners that align themselves towards an egalitarian grid-group relation must be open towards innovative collaborations. From the perspective of the involved readers, the findings suggest that invited collaborators either belong to an individualistic or egalitarian culture and that these two groups have very different perspectives on both their own and the organizations' boundary spanner involvement.

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