CONCEPTUALIZING ACCOUNTING IN NETWORKS: THE PERFORMATIVE ROLE OF ACCOUNTING AS A BOUNDARY OBJECT

ABSTRACT

The purpose of this paper is to develop our understanding of the relationship between accounting and delineated entities of inter-dependent activities and resources in networks. Specifically we aim at an increased understanding of the role of accounting in the creation of boundaries, but also as a tool that enables transcendence across boundaries. Such an understanding includes an ability to map out how something plays out in various empirical settings by explaining the mechanisms behind it. In this paper we seek to identify and deconstruct the social mechanisms that control the relationship between accounting and the creation of boundaries around certain sets of activities and resources – the performative role of accounting. We review the literature on accounting and on boundary objects, which is then used to conceptualize the boundary creating and transcending capacity of accounting in networks. We show how the concept of boundary objects can be used to develop an understanding of the performative role of accounting in networks. We end with the formulation of a set of propositions, which can be used to inform further empirical investigations into the matter.

Keywords: Accounting, Boundaries, Boundary Objects, Network Interfaces, Performativity
INTRODUCTION

In the traditional accounting and organizational control literature, the economic object is pre-given in terms of the legal entity of the company. Boundaries are assumed unproblematic and taken for granted. Accounting is used to coordinate activities, resources and actors within the company and any coordination with other companies is done via the market mechanism (Chandler & Daems, 1979). Voices have been raised from the field of accounting urging research to expand the horizon beyond the established legal entity of the company (Hopwood, 1996; Otley, Broadbent, & Berry, 1995). The development of the modern business landscape to become increasingly networked also indicates a need to look beyond traditional company boundaries. Strategic alliances, outsourcing, supply chains and R&D cooperation is part of everyday activities in many of today’s companies (Castells, 1996; Håkansson, Ford, Gadde, Snehota, & Waluszewski, 2009; Håkansson & Olsen, 2012; Malerba, 2006; Miller & O’Leary, 2007; Zeitz, 1980). This development leads to new questions about the meaning and importance of boundaries and the relationship between accounting and boundaries (Ford & Håkansson, 2010; Håkansson, Kraus, & Lind, 2010a). The company as a bounded entity becomes no longer the only, perhaps not even the obvious, object of interest. More important, the boundaries of where a company begins and ends are no longer evident.

One important issue which have been identified in the growing field of research on accounting in networks (Håkansson, Kraus, & Lind, 2010b) is the one concerning boundaries. What alternative boundaries can be relevant? Some research focus on accounting in inter-organizational relations where the boundary have been drawn around two organizations and their relationship (Neumann, 2010; Dekker, 2004; Berry, Coad, Harris, Otley, & Stringer, 2009) or around a joint venture and its owners (Groot & Merchant, 2000; Kamminga & Van der Meer-Kooistra, 2007). But why draw the boundary there? A network is by definition without boundaries; stretching out in all directions and without any center (Prenkert & Hallén, 2006), and it is possible to think of alternative boundaries around certain specific activities and resources (Håkansson et al., 2010a: 344). For example, Lind and Thrane (2010) identify five different ways to understand and analyze inter-organizational relations, ranging from a dyad to complex networks through chains, many counterparts up- or down-stream and various customers and suppliers. How and where the boundary is set is arbitrary, always making any given network partial, under construction and dependent on who draws the boundary and by which tools (Prenkert, 2012). Furthermore, networks have no hierarchy (Håkansson, et al., 2009) and no strategic center (Mouritsen & Thrane, 2006: 242). From an accounting perspective this poses great challenges.

PURPOSE AND CONTRIBUTION

The purpose of this paper is to develop our understanding of the relationship between accounting and delineated entities of inter-dependent activities and resources in networks. Specifically we
aim at an increased understanding of the role of accounting in the creation of boundaries, but also as a tool that enables transcendence across boundaries.

Such an understanding includes an ability to map out how something plays out in various empirical settings, but also to be able to explain the mechanisms behind these developments. This paper focus on the latter and in so doing we seek to identify and deconstruct the social mechanisms (Gross, 2009; Mason, Easton, & Lenney, 2011) that control the relationship between accounting and the creation of boundaries around certain sets of activities and resources – the performative role of accounting.

In order to develop a better understanding of the relationship between accounting and boundaries in networks, we review the literature on accounting and on boundary objects, which will be used to conceptualize the boundary creating and transcending capacity of accounting in networks. This literature review will provide the basis for a conceptual analysis of the relationship and what the concept of boundary objects can contribute with to enhance our understanding of this issue. We end with the formulation of a set of propositions, which can be used to inform further empirical investigations into the matter.

In this paper we show how the concept of boundary objects (Hendersen, 1991; Star & Griesemer, 1989) is helpful to develop an understanding of the role of accounting in networks. Boundary objects have been used to understand the role of private labels as resources in industrial networks (Prenkert, forthcoming) and to explain power dynamics in networks (Harrison, Hoholm, Olsen, & Prenkert, 2011).

This paper contributes with an understanding of the performative role of accounting in networks explaining how it creates effects in terms of specifically delineated and bounded sets of interconnected activities and resources with the purpose to economize on certain contexts and situations. We also contribute with conceptualizations of these effects and their underlying mechanisms, which lead up to a set of propositions.

THE PERFORMATIVE ROLE OF ACCOUNTING IN NETWORKS

A common point of departure in inter-organizational accounting literature is that the boundary setting is a result of management decisions on minimizing costs and that accounting control is wielded within these set boundaries (Anderson & Dekker, 2010; Kulp, 2002). In an inter-organizational context this focus have spurred investigations of accounting control in relationships between two parties and only a few exceptional investigations of formal networks (Håkansson & Lind, 2007; Håkansson & Lind, 2004; Kajüter & Kulmala, 2005; Mouritsen & Thrane, 2006). A recurrent theme in the extant research has been on how to design accounting control systems so as to minimize opportunistic behavior (Baiman & Rajan, 2002; Neumann, 2010). Some studies have directed attention on how accounting control is used to coordinate
activities across company boundaries (Agndal & Nilsson, 2009; Dekker, 2004). The common trait in these studies is that the company boundary and the role of accounting for the creation and function of boundaries are not problematized.

In this study we emphasize the performative role of accounting in networks. This means that we focus on the role of accounting for the creation, use and function of boundaries in inter-organizational contexts. We address the overall issue of how accounting is used to both break up and uphold existing boundaries. How a given actor use accounting in a network affects how boundaries are drawn (Håkansson et al., 2010a) and how what ends up inside these boundaries are organized (Mouritsen & Thrane, 2006). We are concerned with how accounting is used as a tool to perform the task of defining boundaries and in this circumstance it is fruitful to draw on the concept of boundary objects (Hendersen, 1991; Star & Griesemer, 1989). Seeing accounting as a boundary object allows us to problematize how and why accounting can be used as a tool for boundary setting while providing a conceptualization of the performative nature of accounting.

**Accounting and Boundary Objects**

Drawing on the notion of boundary objects to cast light on the performative nature and character of accounting in networks requires us to first clarify what we mean with boundary objects.

A boundary object is defined as an object that is “...plastic enough to adapt to local needs and the constraints of several parties employing them, yet robust enough to maintain a common identity across sites” (Star & Griesemer, 1989: 393). This means that it is something that can adapt to various contexts yet retain a unique and stable identity, or perform a stable role irrespective of varying contexts. The main feature of a boundary object (as opposed to, for example epistemic objects (Knorr Cetina, 1997)) is its specific ability to enable actors to “...specify and learn about differences and dependencies...” (Nicolini, Mengis, & Swan, 2011: 5) across various contexts and boundaries. It also provides “...a form of reification around which the practices of the various actors [...] can be coordinated” (Nicolini et al., 2011: 5).

Boundary objects functions as important tools to create common frames of reference among actors in dynamic contexts characterized by such network features such as a lack of hierarchy and a strategic centre and where resources and knowledge are distributed (Oswick & Robertson, 2009). The concept has been used to understand the role of private labels in networks (Prenkert, forthcoming) and to understand power dynamics in networks (Harrison et al., 2011). Empirical studies have shown that power is an important aspect of boundary objects (Bechky, 2003; Kim & King, 2004) because they can both induce change and be used to draw new boundaries by acting as ‘bridges’ and ‘anchors’ (Star & Griesemer, 1989: 414. In addition, boundary objects can act as ‘barricades’ and ‘mazes’ meaning that they can function as hinders for change and as smoke and mirrors to confuse actors (Oswick & Robertson, 2009: 190. In the former case, boundary objects are used to connect things, whereas in the latter they are used to disconnect things. This duality is
an important feature of boundary objects for our purposes of discussing the connecting and disconnecting of things in networks. This is because connecting two specific things always imply not connecting to other things and sometimes even disconnecting some other things before the new connecting can be done. This is because very seldom in networks are there any free resources floating around ready to be connected and utilized. Rather, resources are usually already ‘taken’ and already connected to other resources, actors and activities. The conceptualization of boundary objects comprising not only bridging and anchoring capacities, but also barricading (or hindering) and mazing (or confusing) capacities as well, is important and useful when applying it on accounting in networks.

The Capacities of Boundary Objects in Networks: Discussion and Propositions

Viewing the use of accounting in networks as a type of boundary object with four core capacities allows us to systematically discuss the implications in a networked context. In this way we can explore the performative role of accounting in networks. In this section we shall detail what we mean by this and substantiate our claims. If the use of accounting in networks follows the capacities of boundary objects, then we can begin with acknowledging its bridging features.

Following from this it seems plausible that accounting can be used to bridge across boundaries. This is probably the most straightforward understanding of boundary objects and stem from the now classic work of Star and Griesemer (1989). From a network perspective this means that an actor using accounting in this capacity deploys a connecting process to connect to other activities, resources and actors. Such complex multiple connections between activities, resources and actors in networks have been defined as business relationships (Håkansson & Johanson, 1992; Håkansson & Snehota, 1995), but for our purposes it is conducive to re-conceptualize such connections as network interfaces. The reason is that business relationships often connotes to thin links connecting between fat nodes, and this is an imagery that is very far from our conceptualization here of accounting in its performative role as a boundary object in networks. Rather, this conceptualization of the role of accounting in networks produces a business landscape made up of complex, multilinked, multimodal, multidimensional interfaces between sets of activities, resources and actors. In addition, such interfaces can be created and bound around any given set of activities, resources and actors, independently of the legal status of any entity that relate to these network elements. Therefore our use of the term network interface rather than business relationship.

Now, returning to the bridging capacity of accounting, this means that an existing boundary is being transcended in a process of opening up to explore the partly unknown. This induces truly novel connections and changes the current network forming new connections and network patterns. The motive behind this use of accounting is an ambition to reach out into the network and to discover and explore alternative novel connections – to explore network interfaces. This
type of use of accounting in its bridging capacity seem plausible to find in empirical accounts of, for example, new ventures, market development, and innovation and technological development during the explorative phases where this connecting mechanism is utilized.

An example of this is the cooperation in buyer-seller relationships where open-book accounting can be used to improve efficiency and to bridge and connect the two entities tighter to each other.

Accounting can also be used to anchor something in an existing structure in the network. In network terminology this equals mobilisation of support for a certain set of connections between activities, resources and actors – what we here have called network interfaces. Such network interfaces are continuously challenged and contested by alternative constellations and anchoring a certain interface in the network by the use of accounting in its anchoring capacity creates stability and predictability to it. This use of accounting functions as a way to set, or to establish firmly a suggested novel network interface that may have been discovered during a transcending process utilizing the first boundary object capacity of accounting. In this case, the motive behind this use of accounting is to bring in and to bind the previously unbound and to set a boundary around a given constellation of activities, resources and actors – to define a certain network interface. Examples of this type of use of accounting in its anchoring capacity seem plausible to find in empirical accounts of in technological development and cooperative arrangements around product and process-development where a novel boundary is set by this reinforcing mechanism so as to withheld change attempts from other actors. Accounts of cooperative agreements, contracts and joint ventures can all be empirical manifestations of this anchoring capacity used to define network interfaces and to give them a shared identity.

In both these capacities discussed above, accounting is used to connect network interfaces to each other. But accounting can also have the performati role of disconnecting network interfaces, or prevent attempts at exploring and defining network interfaces. This is the network process involved in the use of accounting in its barricading and mazing boundary object capacity.

Accounting can be used to barricade a certain network interface preventing it from being accessed by others and disconnecting it from other interfaces, thus having an isolating effect. In this capacity it seem plausible that accounting can be used to uphold a certain boundary set around a certain network interface in order to protect it and to buffer it from change attempts. This type of network process and interface effect is crucial to any actor seeking to stabilize and to economize in networks, as it enables predictability and stability so as to create economic returns. Without this isolating effect, it is very difficult to accomplish anything in a network where interfaces are continuously challenged and subjected to change attempts. It seem therefore highly plausible that this type of use of accounting in its barricading capacity can be found in empirical examples of accounting in networks as a way to stabilize and economize in networks. The motive behind this use of accounting is to protect a given pre-defined constellation of activities, resources and actors – to isolate a network interface. This type of use of accounting in its barricading capacity seem plausible to find in empirical accounts of, for example, technological
cores (Thompson, 1967) where the core is buffered from the surrounding network through the isolating mechanism of the barricading capacity of accounting in networks. This is probably one of the most common empirical accounts of the performative role of a boundary object in business networks.

Finally, drawing on the conceptualization of accounting as a type of boundary object with a mazing capacity, it can be used to hide a boundary by attempting to confuse other actors. In this way, an actor can attempt to hide the specifics of a network interface from discovery by others, or disguise it to look like something it is not, etc. By applying the old and well-known smoke-and-mirror trick, actors can cloak the appearance of interfaces in order to confuse other actors. The motive behind this use of accounting is to confuse others about the specifics of a given pre-defined constellation of activities, resources and actors— to cloak a network interface. This type of use of accounting in its mazing capacity seems plausible to find in empirical accounts of, for example, innovation, R&D, and product-development projects, where the disclosure of certain details concerning some interfaces is reduced by this mechanism.

An example of the mazing capacity of boundary objects in networks can be found in some modern retail organizations where certain boundary objects are used to cloud matters and to create opaqueness and non-transparency (Harrison et al., 2011). In another sector of our economy, the creative use of various types of financial instruments and accounting techniques in relation to the reporting of the standings among banking institutions during the most recent financial crisis is yet another example of the same use of boundary objects in accounting.

Table 1 summarizes the discussion of the performative role of accounting in networks conceptualized as a type of boundary object so far. It depicts the four boundary object-capacities to the far left and details the related network processes, boundary issues, motives and effects on the network interfaces, respectively.

<table>
<thead>
<tr>
<th>BO-capacity</th>
<th>Network process</th>
<th>Boundary issue</th>
<th>Motive</th>
<th>Network interface effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridge</td>
<td>Connecting</td>
<td>Transcend boundary</td>
<td>Reach out</td>
<td>Explore</td>
</tr>
<tr>
<td>Anchor</td>
<td>Connecting</td>
<td>Set boundary</td>
<td>Bring in</td>
<td>Define</td>
</tr>
<tr>
<td>Barricade</td>
<td>Disconnecting</td>
<td>Uphold boundary</td>
<td>Protect</td>
<td>Isolate</td>
</tr>
<tr>
<td>Maze</td>
<td>Disconnecting</td>
<td>Hide boundary</td>
<td>Delude</td>
<td>Cloak</td>
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</tbody>
</table>
Relying on the discussion above we suggest the following four propositions for the performative role of accounting in networks.

PROPOSITION 1: Accounting can be used to bridge across network interfaces in networks to make novel connections. In this way, *accounting can be used to explore network interfaces.*

PROPOSITION 2: Accounting can be used to anchor a given network interface in other interfaces in order to stabilize novel connections. In this way, *accounting can be used to define network interfaces.*

PROPOSITION 3: Accounting can be used to barricade a network interface in order to protect it from novel connections. In this way, *accounting can be used to protect network interfaces.*

PROPOSITION 4: Accounting can be used to hide network interfaces from others in order to delude novel connections. In this way, *accounting can be used to cloak network interfaces.*

From this, it seem as if the creation of new network interfaces comprise the utilization of all four capacities of accounting in its performative role, starting with the first and ending with the fourth. In the earlier stages of network interface creation the bridging and anchoring capacities enabling the exploration of interfaces and the subsequent definition is crucial. Once this is accomplished, it becomes important to protect and sometimes even to cloak interfaces in order to prevent them from being hi-jacked, and changed in some other actor’s favour.

In this way, the dynamics of networks can be conceptualized as processes of wielding the powers of boundary objects in its four capacities. As already recognized, power is an important aspect of boundary objects (Bechky, 2003; Kim & King, 2004), and the conceptualization of the use of accounting in networks as a type of boundary object emphasize this in its performative role. Our discussion here is in line with the findings of Mouritsen and Thrane (2006) discussing the obtrusive and non-obtrusive effects of accounting. Based on our discussion above, we can show a detailed, systematic and nuanced conceptualization of the way in which accounting is obtrusive respectively un-obtrusive, by what mechanisms, and in what likely circumstances.

CONCLUDING COMMENTS

In this paper we have conceptualized accounting in networks in a way that comes close to Mouritsen and Thrane (2006) discussing accounting as obtrusive and un-obtrusive. But while
drawing on the work of Mouritsen and Thrane (2006), we have extended the analysis to include a refined understanding of the role of accounting in transcending and setting boundaries in a networked context, not only in a dyad. Furthermore, while not drawing on Actor-Network Theory (ANT) as Mouritsen, Mahama and Chua (2010) do, we have developed a similar understanding of accounting as fulfilling a performative role in defining and drawing boundaries around certain collections of activities and resources, in addition to Mouritsen and Thrane (2006) that discusses the structural role of accounting in a pre-given dyadic context. Overall, our main findings emphasize the performative role and importance of accounting to draw boundaries around certain collections of interdependent activities and resources in networks – what we term network interfaces.

If we assume that one can see accounting as a type of boundary object that is used to transcend boundaries as well as with the power to protect old boundaries and to create new ones, an interesting array of questions emerges that are worthy of further inquiry. First, are accounting (as a boundary object) robust enough to perform these roles irrespective of different contexts? For example, can one find situations where accounting becomes too ‘weak’ to be able to transcend, protect and create boundaries? Can we find empirical examples of when the accounting withers and disintegrate due to contextual pressures? Second, are accounting (as an object) plastic enough to be adaptable to different contexts? When are accounting too ‘strong’ to have an important role in setting boundaries? Can we find empirical examples of when the accounting dominates over contextual pressures? These are all questions requiring empirical investigations and such research efforts are probably a natural extension if this study. We hope that such research efforts are presented in the future.

REFERENCES


