

Relational leadership in multi-actor governance networks

Towards a framework based on Complexity Leadership Theory

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Abstract

Multi-actor governance networks, involving a broad mix of actors aiming at collaboration, are becoming widespread to find innovative solutions to major societal problems. But the complexity of the task, the network configurations and the dynamic interdependencies between the actors present specific leadership challenges. This article argues that these challenges require a relational approach to leadership, focusing on social processes and interactional practices instead of on individuals and positions. For that purpose we present a relational analytic framework, relying on Complexity Leadership Theory (CLT); a theory that addresses emergent leadership and network dynamics in organizations. In this paper, we extend CLT to multi-actor governance initiatives, operationalize CLT's distinction between administrative, adaptive and enabling leadership, using the concept of leadership practices and we develop the theoretical notion of relational logics as an alternative for leadership styles. A case study of a multi-actor governance network for Enhanced Landfill Mining illustrates the core concepts.

Keywords: Relational leadership, inter-organizational networks, multi-actor networks, multi-actor governance, complexity leadership theory, leadership practices, relational logics, enhanced landfill mining, sustainable materials management

Introduction

Due to increased societal complexity (Castells, 1996) and the erosion of existing institutions (Koppenjan & Klijn, 2004), major public issues benefit from being addressed with a multi-actor approach (Gray, 1989; Huxham, 2000; Crosby & Bryson, 2010). Actors can be individuals, government agencies, businesses, non-profit organizations, knowledge institutions and communities or other informal groups. To advance innovative solutions, they need to think in terms of systemic changes in the interplay between state and civil society, transformed lifestyles and novel consumption patterns. Steering such larger, complex societal innovation processes requires a 'governance beyond government' approach to governing and to policy making (Hovelynck et al., 2011). Although we often come across the term multi-actor governance (Van der Zouwen, 2006; Agh, 2010; Schouten & Glasbergen, 2011) where it has different connotations, such as reflexive governance, network governance and horizontal governance, we understand a multi-actor governance approach as based on the notions and guidelines of multi-actor collaboration (Gray, 1989; Prins, 2010). It allows diverse steering initiatives of governmental and non-governmental actors, who deploy such initiatives in an iterative process through formal and informal interactions in purposefully convened or

spontaneously developing networks and collaborative initiatives. The main idea is that the actors, through intensive interaction, negotiation, conflict management and reflective learning, build on emerging insights about individual and shared goals, on different and similar perspectives, and on conflicting and common values to co-create innovative solutions.

Multi-actor governance processes have a non-linear character. We use the term 'multi-actor governance network' here rather evocative than normative. An intention to collaborate among a diverse group of actors is a condition to consider a process a multi-actor governance initiative. Some multi-actor governance initiatives take the first steps into collaboration without a network structure, while others develop out of well-established networks that were not necessarily collaborative. In any case, the complexity of the task, the network configurations and the dynamic interdependencies between actors present specific challenges for leadership, classically defined as 'influencing and persuading followers to work towards the completion of objectives and to act in a shared direction' (Winston & Patterson, 2006, p. 11). Multi-actor governance networks typically address 'wicked problems' (Rittel & Webber, 1973): unique challenges, linked with several problem domains, yielding a large set of potential solutions, yet lacking a true-or-false solution or of a definite solution test. Defining objectives and setting a direction in this context is extremely hard. In addition, multi-actor governance networks bring together various stakeholders with often opposing interests and objectives. The stakeholders depend on each other to accomplish the task, without any hierarchical interconnection and each connected to their own leader. Moreover, each problem domain that is connected to the task is represented by its leader as well, inside or outside the governance network.

Multi-actor governance networks thus involve multiple leaders, who cannot lead by themselves, but need to engage in relationships in order to guide and steer the initiative. Consequently, the leadership challenges require a relational approach to leadership, focusing on joint processes and practices instead of on individuals and positions. While the field of leadership research has traditionally been leader-centric, focusing on individuals, their activities, characteristics and competences (Dachler & Hosking, 1995), relational perspectives on leadership (Uhl-Bien, 2006 and Cunliffe & Eriksen, 2011 for overviews) are primarily concerned about where, how and why leadership work is being organized and accomplished rather than about who is offering visions for others to do the work (Raelin, 2011).

Leadership in multi-actor governance networks: in need of a 'relational turn'

Although there is a huge volume of research on leadership in management and organization studies focusing on individual, hierarchical leadership in single organizations, research on leadership in multi-actor settings or in governance networks is less developed. The very idea of collaborative processes, in which stakeholders jointly take key decisions in much less hierarchically organized network structures (Wood & Gray, 1991; Huxham & Vangen, 2005), seems to have side-tracked leadership as a topic in the multi-actor collaboration research literature. Those multi-actor researchers who did

study leadership have emphasized the need for horizontal or distributed leadership (Feyerherm, 1994; Chrislip & Larson, 1994; Alexander, Comfort, Weiner & Bogue, 2001; Huxham & Vangen, 2005); an interactive influence process among individuals to lead one another for goal achievement (Pearce & Conger, 2002). This stance on leadership is in line with that of network governance researchers (Bryson & Crosby, 1992; Agranoff & McGuire, 2001; Ansell & Gash, 2007; Torfing, Peters, Pierre & Sørensen, 2012). It is impossible for a single leader to oversee or control all events in complex inter-organizational settings, or to have formal authority over all the societal domains that are part of the complex problems that governance networks address (Sørensen & Torfing, 2007; Teisman, van Buuren & Gerrits, 2009). Research of Currie et al. (2011) concludes however that, in practice, only a relatively parsimonious form of distributed leadership is enacted in governance networks. A strong performance management culture attributes leadership to a limited number of people who are perceived accountable for outcomes and results. Inherent bureaucracy and substantial power differences between network participants lead to formalized structures and processes, turning the networks into 'managed partnerships'. These conclusions reflect the analysis of Gosling, Bolden and Petrov (2009) of distributed leadership in the higher education sector. Their research indicates that the term does not describe the actual leadership experiences of either leaders or followers. Distributed leadership is not simply a replacement for individual leadership and can be understood instead as an 'essential complement that both facilitates and is facilitated by the leadership of specific individuals' (p. 300).

Mandell and Keast (2009) propose a new look at leadership in collaborative governance networks that shifts the focus from individual leaders to processes that inspire, nurture and support leadership relationships between network members (p.174). Relational perspectives on leadership advance such a look. The unit of analysis in relational leadership research is not the individual leader or his or her behavior, but the leadership relation between or within sets of people. The empirical focus is on social processes and interactions, on relations between dyads, triads, in groups, networks or organizations. Relational leadership research investigates not what individual leaders do, but how leadership is enacted in emergent or existing leadership relations. The term 'relational' refers to a view on leadership as a social construction, "that emanates from the rich connections and interdependencies of organizations and their members" (Hosking, 2006). Although many traditional leadership paradigms, such as the leader-member exchange theory (Graen & Schiemann, 1978) or the transformational leadership paradigm (Bass, 1991), apply a relationship-based approach to leadership (Uhl-Bien, 2006), they still consider relationships from the viewpoint of independent, individual agents. Our view on relational leadership, in contrast, gravitates towards the notion of 'post-heroic leadership' (Cunliffe, 2011) that radically abandons a functional and hierarchical approach and understands leadership as collective social practices. A practice epistemology considers a practice as 'an ongoing recursive encounter among parties to a social interaction' (Realin,

2011, p.197). In this perspective, leadership as practice or *leadership practices* are concerted and collective activities, rather than an assembly of individual acts. The relational practices of interacting participants in leadership relations become the unit of analysis.

If single, hierarchical leadership is not suited for steering the complex systems that governance networks turn out to be, if distributed leadership in practice does not adequately portray leadership in governance networks, if the presence of multiple leaders and the interdependency of actors in collaborative networks suggests a relational perspective, we need new leadership paradigms to investigate leadership in multi-actor governance networks. As a paradigm for relational leadership in multi-actor governance networks has not yet been conceptualized, our aim in this article is to do this. We build on the framework of Complexity Leadership Theory (CLT) (Uhl-Bien, Marion & McKelvey, 2007) which we consider as interesting point of departure because it underscores the relational aspects of leadership and views leadership as an emergent dynamic and interplay between several actors that can enhance the adaptive capacity of organizations. We recognize the post-heroic relational leadership perspective in CLT's proposition that leadership occurs anywhere in the organization and that it exceeds the direct leadership attempts of an individual position holder. More so than relationship-based leadership paradigms, CLT focuses on informal connections and on dynamic interactions that resonate with the notion of leadership practices. Consequently, we define relational leadership in multi-actor governance networks as the concerted and collective activities of sets of network members who actively strive for innovative solutions. We understand such leadership as a complex interplay that elicits "a collective impetus for action and change" (Uhl-Bien et al., 2007, p. 299) and that produces new behavioral patterns. It is not concentrated within one person, but enacted by many – but not by all as distributed leadership would have it - in different sets of network members. These sets can be linked to different functions of leadership. CLT posits three functions: administrative leadership (relying on power and hierarchy), adaptive leadership (developing innovation and change) and enabling leadership (supporting adaptive proposals).

Our objective in this article is to present a relational leadership framework for multi-actor governance networks. To develop the framework, we first establish the potential of Complexity Leadership Theory (CLT) as a leadership paradigm for multi-actor governance networks and then extend CLT 1) by linking it to a DAC ontology (Crevani, Lindgren & Packendorff, 2010) to define complexity leadership practices and 2) by developing a relational perspective on leadership style. The conceptual development is clarified by illustrations from a real life multi-actor governance network for Enhanced Landfill Mining in Belgium because this case study portrays an interesting example of current challenges for leadership and governance in the domain of sustainable materials management. We conclude the article with reflections and implications for further research, for method and theory and for practice.

From leadership in organizations to leadership in multi-actor governance networks

CLT is not developed with inter-organizational networks in mind. The framework is rooted in complexity science, searching for a leadership paradigm that would better fit today's post-industrial knowledge-creating organizations. Today's organizations must learn, innovate and adapt quickly to remain competitive. The Law of Requisite Complexity (adapted by McKelvey & Boisot (2003) from complexity science's Law of Requisite Variety) demands that organizations themselves become more and more complex to increase their information processing, learning, innovative and adaptive capacities. Over the past few decades, organizations have progressively done so by adopting network-like formations, characterized by rather loose and informal relations. Such 'loosely coupled' network structures defy the logic of formal, hierarchical leaders and models of leadership based on centralized planning and control. However, research suggests that if they lack sufficient coordination, such informal dynamics jeopardize organizational goal achievement (Uhl-Bien et al., 2007). Consequently, CLT offers a leadership model for complex networks of informally linked agents within the organizational context of hierarchical or bureaucratic coordination. CLT focuses on leadership strategies that enable informal network dynamics and that foster learning, innovation and adaptability, while simultaneously enabling central structures for coordination and for producing outcomes in line with their mission and vision.

Multi-actor governance networks, however, are not merely complex organizations. Focusing on large societal issues, multi-actor governance cannot be guided by a single mission because society, as the system that embeds multi-actor governance networks, is characterized by a plurality of missions. In democratic societies, policies or proposed solutions ideally meet the goals of many different groups. Nevertheless, there are several reasons to consider CLT as a suitable leadership paradigm for multi-actor governance networks. In the remainder of this section, we present an overview of CLT's underlying assumptions and main propositions (based on Uhl-Bien et al., 2007) in subsections that each substantiate an argument for using CLT as a foundation to develop a framework for analyzing relational leadership in multi-actor governance networks. We clarify the core concepts with illustrations from a case study on Enhanced Landfill Mining (ELFM). The combination of technological, legal, environmental and social demands turns the case into a complex, interdisciplinary puzzle and a multi-actor challenge. Multiple leaders are involved, such as research managers, project leaders, business owners, a department head of the regional waste agency, a mayor and a neighborhood representative. In addition, the case reaches across different government levels. The original case study examined multi-actor governance in general (Craps & Sips, 2010; Sips, Craps & Dewulf, 2013). In order to illuminate our conceptual notions of complexity leadership in multi-actor governance networks, we additionally interviewed two key actors in this case, analyzed the transcripts of these semi-structured interviews and discussed our analysis with a third actor as 'member check' (Erlandson, Harris, Skipper & Allen (1993).

We give a short general case description before continuing the analysis of CLT as a leadership paradigm for multi-actor governance networks.

The term Enhanced Landfill Mining (ELFM) refers to the safe conditioning, excavation and integrated valorization of landfilled waste streams as both materials and energy, using innovative transformation technologies and respecting the most stringent social and ecological criteria (Jones et al., 2013). Behind this idea lies a complex reality that asks for the involvement of many actors from government, civil society, business and academia. We describe the start-up phase of a specific ELFM initiative, situated close to a residential area in Flanders. It raises questions on environmental economy, on material, heat and energy technologies, on social acceptability and on legal and policy issues.

The studied network was initially brought together by a medium sized, family run company. The company started out in 1941 as building contractors and switched to gravel extraction and landfilling in the 80's. After acquiring the landfill site, the company focused on waste treatment and environmental management with a recent redirection towards 'green energy' activities. The landfill site contains 16 mio tons of landfilled municipal and industrial waste that the company seeks to mine and preheat to selectively extract minerals and critical metals. Applying the best available technologies should allow them to convert more than half of the remaining waste into Syngas for the production of electricity. The other part will be recycled into a novel 'plasma' material and a residual fraction will eventually be stored again in wait for later available treatment technologies. However, all the operations need to be environmentally and scientifically sound, and safe for the health of the surrounding communities, while based on a profitable business model.

Multi-actor governance networks as Complex Adaptive Systems

CLT's units of analysis are intra-organizational networks, understood as Complex Adaptive Systems or CAS, a concept derived from complexity science. CAS are labeled as complex because the system as a whole cannot be understood by analyzing its components. Random, unpredictable, unexpected or unusual interactions occur and relations exist between the CAS components and between the system and other systems. That makes CAS complex and not merely complicated. CAS arise because interactive adaptive agents tend to bond and form more or less cooperative groups or networks. When several networks focus on different adaptive initiatives, they overlap and become interdependent in their adaptive attempts. Such overlapping, interdependent networks form CAS.

A first argument to build on CLT is that multi-actor governance networks exhibit these CAS features. Multi-actor governance networks as well can be described as neural-like, changeable networks and open, evolutionary systems of interacting, interdependent agents bonded in a cooperative dynamic. They are also complex, rather than complicated. According to Huxham &

Vangen (2005), it is often unclear in multi-actor networks who is in or out at a given moment, who is linked to whom and in which capacity, or who is dependent of whom for other goals than those pursued by the network. And like in CAS, order is emergent instead of pre-determined and its future unpredictable. Similar to CAS, multi-actor governance networks are capable of solving problems creatively and able to learn and to adapt quickly. Multi-actor governance networks don't always achieve that problem solving potential and that is where they differ from CAS. Adaptation is the constitutive element of CAS; they collapse when they fail to adapt. Multi-actor governance networks have relatively open boundaries, so actors can leave the network without endangering its continuation when they are dissatisfied with a lack of progress. Network activities can change to a lower pace for a while and pick up speed again when new actors join. Another difference is that multi-actor governance networks don't always emerge naturally in social systems. Although their formation often mirrors that of CAS as described earlier, multi-actor governance networks are just as frequently installed or convened. In the case of ELM, it were the director of the company and an engineering scientist with an outspoken sustainability profile who teamed up and formed a research consortium, funded by the company. The engineering scientist became the consortium coordinator and gathered researchers from many disciplines: chemical and materials engineering, geology and environmental sciences, economics and social sciences. They came from various research institutes and were selected based on their expertise, their possible access to funding channels and their open-mindedness to consider the business interests of the company. Because of the complexity of the project, both conveners also activated their many contacts to invite additional members to the ELM Consortium; such as the regional waste agency and a long established investment fund for the development of the province. After a few Consortium meetings, a local city council member, who is also a longtime green activist, was invited to join as member and to act as representative of the surrounding residents. The social scientists advised to include this representative to enhance a bilateral communication with the local residents and to help induce the social acceptance of the project. The locals in the neighborhood were wary of the company's negative reputation as waste treatment company. In their landfilling years, the surrounding communities had been confronted with the soil pollution and stench nuisance at the site. In general, they were happy to see the landfilling operations come to an end and the site covered up. By consequence, this project triggered a lot of questions, worries, distrust and resistance. However, it was backed by the mayor and provincial governors, who wanted to promote their region and their own political mandate with innovative projects. They associated themselves with the newly formed network in their external communications, although they were not an official Consortium member. We recognize in the Consortium some CAS characteristics: it is clearly a neural-like network with open boundaries. After being convened by the company and scientist, emergent dynamics resulted in new members.

In a CAS context as described above, leadership influence occurs through indirect mechanisms and through interaction. Consequently, CLT discards the model of direct leadership acts performed by a single hierarchical and central leader. It proposes instead a framework to enable network-based problem solving and to integrate the interactive network dynamics of CAS with the bureaucracy of hierarchy and top-down control. Central to this framework are three entangled leadership functions: administrative leadership, adaptive leadership and enabling leadership.

The bureaucratic context of multi-actor governance networks

Administrative leadership holds the power to make decisions for the organization and refers to the traditional top-down function, based on authority and position. It includes the actions of members in formal managerial positions, who plan and coordinate activities to effectively and efficiently achieve set goals. Although this form of leadership is not intuitively associated with networks, CLT's acknowledgement of administrative leadership offers another argument for building a CLT-based framework: CLT focuses on enabling the adaptive capacities of CAS *within a context of bureaucracy*. Similar antagonizing elements exist in multi-actor governance networks. Such context of bureaucracy is in our illustrating case evoked by the fact that ELFM is presented as a contributing element in the transition to sustainable materials management; it is about policy. Hence the Consortium has to deal with many rigid procedures, as it strives to introduce an innovative technique in the realm of common practice. CLT aims to reconcile informal, generative network dynamics with antagonizing hierarchical controlling and coordinating structures. Because the implementation of innovative solutions is often hampered by a risk-averse or outdated regulation, such situations require some 'bureaucratic entrepreneurship' (Termeer & Kranendonk, 2010) of government actors as the traditional steering agents in societal issues. Moreover, formal leaders can sometimes guarantee necessary resources or useful political alliances to clear the path for innovative ideas. At the start of the ELFM process, for example, the Waste Agency felt uncomfortable as member of the Consortium because it risked conflicting interests in a 'party and judge' position. Because OVAM is still responsible for the control and follow-up of hundreds of closed landfills, it also has to monitor, judge and possibly fine the company that owns and manages the landfill site. For the Consortium however, OVAM is a particularly interesting member because it has a lot of information on landfills and on material streams in Flanders. Moreover, introducing ELFM requires judicial and legal modifications that will have to be prepared with OVAM representatives.

Facing adaptive challenges, rather than technical problems

Adaptive leadership is an interactive and generative dynamic that takes place throughout the organization and that emerges out of the clash of discordant ideas, knowledge and initiatives of CAS agents. To adjust to the resulting tension, adaptive leadership produces complex outcomes, such as alliances of people, new ideas or technologies and cooperative efforts. Its primary outputs are

learning, creativity and adaptability. In the ELM case, adaptive activities are mainly engaged in by the Consortium researchers who exchange knowledge and expertise between many scientific disciplines. Even though the research coordinator has many broadly extended networks around him, he kept the Consortium limited to 15 members. The structure is small and informal, which keeps the exchange and elaboration of ideas and information manageable. CLT labels this exchange dynamic as 'leadership' because it is a fundamental source of change. The limited scale of the Consortium made it possible for the research team to unite around a common vision, which they developed by jointly making sense of the project's adaptive challenge. The local residents and their representative in the Consortium, together with a few city council members, also expanded the technical perspective of the Consortium by asking critical questions and introducing public health and safety aspects into the project. Adaptive leadership offers a third argument: complexity leadership occurs in the face of adaptive challenges, rather than technical problems. Adaptive challenges require problem solving groups to 'learn their way out' (Day, 2000 in Uhl-Bien et al., 2007), while technical problems can make do with applying proven solutions to known problems. The larger societal issues that multi-actor governance networks focus on, often demand third order change, where solutions remain unknown until they manifest themselves as a result of paradigmatic shifts in thought or behavior patterns.

Linking administrative and adaptive leadership

Enabling leadership, CLT's third leadership form, has two important roles: catalyzing adaptive leadership and managing the entanglement of administrative and adaptive leadership. Enabling leadership catalyzes adaptive leadership when the actors involved take up brokering and boundary spanning positions to encourage the necessary interaction and information exchange. In the ELM case, the research coordinator had, long before the conception of the project, already built up many different and broad networks linked to his different roles: scientist, research director, green activist, writer, lecturer,... As he is member of many networks, he could easily take up the role of broker and boundary spanner. This also allowed him to link different levels through his personal relationships in university circles, city councils, political organizations and even at regional government level. However, exchanging information is by itself not enough to elicit adaptive initiatives. Acting on the information requires adaptive tension that is generated by interdependency. Enabling leadership creates a stimulating level of interdependency between CAS agents or organizational units by allowing room for autonomous action. The entangling role of enabling leadership involves discretely managing a productive administrative-adaptive interface and taking care of the dissemination of innovation in the organization. By operating close to power holders and behind the scenes, it protects the CAS from external politics and top-down preferences of the organization's hierarchy, but also has to manage conditions consistent with the overall strategy and mission. Enabling leadership can achieve this by influencing top-level decisions to accommodate the needs of the adaptive

structures and by articulating the mission of a particular project in such a way that it does not stifle creative thinking. Because this influencing is done “in the shadow”, it is often unclear who takes up such enabling leadership task in networks. In the ELM case, we have indications that a high level university official and another engaged professor were also members of the enabling leadership network. The university official, who seated in the board of directors of the university, stimulated the research coordinator at the start of the project to promote it and to get it adopted in the university’s portfolio of research projects. He later on became advisor to the Company when the project director had resigned and his role was taken over by two junior project managers. Another university professor (also a Consortium member) publicly endorsed ELM whenever he saw an opportunity. OVAM’s turnaround from a rather hesitating Consortium member to ELM advocate in governmental circles is seen by one of our respondents as a result of such frequent endorsements.

In summary, CLT proposes three forms of leadership working in unison across hierarchical levels to create resilient, learning organizations, apt to operate in a complex and rapidly changing environment. Adaptive leadership provides innovation and change, while administrative leadership offers a necessary orienting and coordinating structure. Enabling leadership has a central role in the framework: it enables the conditions for CAS to function appropriately and manages the administrative-adaptive interface to enhance the overall flexibility and effectiveness of the system as a whole. Our arguments to apply CLT for analyzing leadership in multi-actor governance networks are supported by research on public leadership by Termeer and Nootboom (2012). They recognized the three CLT functions in governance networks and situated them in separate leadership networks: administrative leadership in formal networks, adaptive leadership in change alliances and enabling leadership in shadow networks.

To conclude this section, we point to the particular position of administrative leadership in this relational leadership paradigm. While adaptive leadership thrives on relationships and enabling leadership establishes and stimulates relationships, the administrative form continues to rely more on bureaucratic structures and managerial control. It seems paradoxical that administrative leadership, which is based on more formal and hierarchic relationships, has a place in CLT as a relational leadership paradigm. This does however not weaken CLT as a relational leadership paradigm, but to the contrary confirms its relational strength. By including administrative leadership as an essential element of complexity leadership, CLT rejects a normative position on a relational leadership perspective. Adaptive and enabling leadership are not better or more developed forms of leadership. They can only enhance a network’s innovative capacity through their connection with a more bureaucratic form of leadership. In the end, it is the interplay between the three leadership forms that accentuates the relational character of the framework.

In the following sections we will enrich CLT as a relational leadership paradigm for multi-actor governance networks. We first elaborate the concept of leadership practices to make relational

leadership in multi-actor governance networks more tangible. We then propose the notion of relational logic as a relational perspective on leadership style and proceed with the discussion.

From a focus on leaders to a focus on leadership practices

Investigating leadership from a relational perspective requires a processual inquiry (Uhl-Bien, 2006), looking into leadership practices as operationalization of often vaguely formulated and immaterial processes that lack a distinct beginning or end. Although CLT explicitly advances the importance of looking at leadership dynamics, it explains the complexity leadership functions in general terms without providing concrete examples of complexity leadership practices as concerted and collective actions. If we want to use our framework for analyzing and understanding relational leadership in multi-actor governance networks, we need to discern leadership practices from general organizing processes. In their work on relational leadership, Crevani et al. (2010) propose to apply a 'DAC ontology' that focuses on the outcomes of leadership. They label only interactions that result in direction, action-spacing or co-orientation as 'leadership'. In this ontology, *direction* refers to constructing direction in organizing processes, e.g. by agreeing on goals. *Action-spacing* refers to creating possibilities, opportunities and limitations for individual and collective action within the local-cultural context. *Co-orientation* refers to enhancing the understanding of possibly diverging arguments, interpretations and decisions of all involved parties. Research of Ospina and Foldy (2010) on the antecedents of collaboration in multi-actor governance processes and of Nootboom and Termeer (2013) on complexity leadership strategies yields an interesting set of observed leadership practices: 'prompting cognitive shifts', 'naming and shaping identity', 'engaging in dialogue about difference', 'organizing minimal structures', 'connecting', 'sensemaking', 'reflecting on cross-organizational relationships' and 'integrating', to name some examples. Such practices highlight important aspects of CLT's enabling and adaptive leadership: fostering the conditions to bring the involved actors together and exploring differences to enhance the collaborative and adaptive potential. The DAC ontology fits well with the framework of CLT because each of the three CLT leadership forms seems to resonate with one of the three elements of the DAC ontology. We therefore connect the DAC ontology with complexity leadership and assume administrative leadership activities to mainly effect direction, enabling leadership practices to mainly yield action spacing, while we expect adaptive leadership to mainly result in co-orientation. Another reason to adopt this DAC ontology is that Huxham and Vangen (2005) identified 'manipulation', 'empowerment' and 'thinking creatively' as three constitutive aspects of leadership in collaborative networks. Again, these aspects strongly resonate with direction, action spacing and co-creation and respectively the administrative, enabling and adaptive leadership functions.

From leadership style to relational logic

Leadership style is an important aspect of implementing a leadership paradigm in actual leadership behavior. Recent reviews (Osborn & Marion, 2009; Sydow et al, 2011; DeRue, 2011; Meijerink & Stiller, 2013) show that research on leadership in networks has only peripherally considered leadership style. An interesting question is that on the suitability of different leadership styles for complex network leadership, as CLT itself does not discuss the topic of leadership style.

In traditional leadership literature, the well-known leadership paradigm of Bass (1991) distinguishes between a transactional and a transformational leadership style. Transactional leadership makes people fulfill requirements in return for material or immaterial recognition. When exercising transformational leadership, leaders stimulate their followers by raising awareness and acceptance of the purpose and mission 'to look beyond their own self-interest for the good of the group' (p.21). However, for developing a relational framework on leadership in multi-actor governance, we need a relational approach to such a distinction. In order to integrate leadership style in our relational leadership framework, we build on the notion of action logic (Argyris & Schön, 1978) as a set of ideas, beliefs and assumptions that guide interactions and behavior.

The distinction that Gudeman (2001) makes between market based interactions and community based interactions is very useful for our purpose. Market based interactions are guided by a *market action logic*: anonymous, short-term exchanges for the sake of achieving a project or securing a good. On the other hand, community based interactions are guided by a *community action logic*: interactions motivated by salient social relationships in real small groups or inspired by (imagined) solidarities. Activities that are supported by a community action logic are undertaken for their own sake or to maintain the community. Interestingly, Gudeman adds that both are ever-present and complementary to one another, but that 'we bring now one, now the other onto the foreground in practice and ideology' (p. 1). These action logics resonate strongly with respectively transactional and transformational leadership (Bass, 1991).

In the area of sustainability research, transformational leadership is considered necessary in order to reach long-term innovations (Folke, Hahn, Olsson, & Norberg, 2005; Meijerink & Stiller, 2013). However, to be able to progress, multi-actor networks need to combine a short-term focused transactional logic with a long-term focused transformational logic (Craps & Sips, 2010). Too much focus on the long term vision does not stimulate the necessary short term action and can paralyze the network. Only paying attention to short term actions, on the other hand, ties the actors to current interests and inhibits them to act in favor of the 'common good' (Sharma & Kearins, 2011). This double interaction logic raises questions on the combination of transactional and transformational leadership styles (Bass, 1999) in multi-actor governance networks. As a relational perspective on leadership makes the concept of leadership style as an individual trait obsolete, we propose the concept of 'relational logic' as an alternative. The concept of 'relational logic' stems from

our relational perspective on leadership and refers to relational style, in the sense that leadership style is enacted in the relation between the leadership participants. The leadership function determines the content of the leadership relations that network members engage in. A relational logic determines the style of the leadership relations that support a particular leadership function. Differently stated, we understand a relational logic as the relational component of an action logic. To enhance the analysis of leadership and the understanding of different leadership functions in multi-actor governance networks, we conceptualize in this section a characterizing relational logic for each complexity leadership form and discuss the impact of these relational logics on the network dynamics.

Craps & Sips (2010) observed in their case study of ELM that the multi-actor governance network simultaneously manages transactional and transformational relations. The former support short-term goals for each of its members, the latter underwrite overarching long term interests beyond the interests of the individual members. Without setting and realizing short term goals, the network remains focused on a long term vision, lacking the necessary actions and support from its members to truly activate them or to introduce change. On the other hand, without the transformational inspiration of a long term vision, the harness of a project management philosophy limits the network activities to actions based on vested interests. In the ELM case, for example, the appealing sustainability discourse of the engineering scientist drew the selected researchers into a series of very 'visionary' conversations about the long term possibilities of ELM for sustainable materials management. These exchanges resulted in a broadly accepted and respected research proposal. But once the funding had been granted and the proposal was shaped into a research project with short-term and mid-term milestones and expected outputs, the dynamics in the Consortium shifted. Many researchers now focused on their own work, and on how this project could help them attract other research projects, instead on what they could accomplish together. Based on our conceptualization, we propose the transactional, '*convincing-and-bargaining*' relational logic as characteristic for administrative leadership and the transformational relational logic for adaptive leadership. The term 'transformational' however, again refers to a relation in which one party holds the transforming privilege. Moreover, Osborn and Marion (2009) argue that a transformational focus on charismatically transmitting a dominant future-oriented vision inhibits network actors to creatively co-construct innovative ideas. It thus limits the out-of-the-box thinking and experimentation that multi-actor governance networks need. We therefore advance the term '*co-creational logic*' for adaptive leadership instead. Enabling leadership is based on close, personal, relationships that resemble friendships. Such relations require a relational logic that embodies the kind of trust people need for arranging things 'behind the scenes'. Hence the term '*orchestrating logic*'. Following ELM case examples illustrate the three relational logics. Administrative leadership gives direction to multi-actor governance by a convincing-and-bargaining logic of mutual benefits while staying in control of

the initiative. The company wanted to control the project process (and even the research activities) because of their substantial financial investment in the case. Moreover, their position and reputation as innovative and trustworthy waste treatment company was at stake. The managerial actions of the research coordinator and OVAM likewise supported their position and sense of control; either as prevailing scientist and EFLM expert, or as the government actor as architect of new policy initiatives. Their actions were part of a mutual goal-achieving transaction. The business partner provided funding in return for research contributions to their project. In return for the offered research, the coordinator got access to a real life industrial project and could set up a consortium that helped him secure other related research projects and affirm his own academic position. The OVAM official offered a strategic partnership that offered access to extensive data and information on landfills. In return, he had a front row seat in the discussions about innovative waste management solutions. Adaptive leadership activities are characterized by a co-creational logic. The original presentation, prepared jointly by the company project director and by research coordinator, focused on the potential of EFLM from a sustainability perspective to recruit the right people for the adaptive network. This idealistic proposal stimulated a co-creational logic. Something similar holds true for the group of local residents: they became involved not only to get information, but because they identified with and engaged in the well-being of the broader local community as well. The informal contacts, the shared activities and sense-making conversations helped them adopt and support long term general interests and sustainability values. Enabling leadership is supported by a personal commitment to an innovative idea or project. For individuals with highly visible positions, this can become risky when the power holders do not agree with the course that the change alliance wants to take. The relational logic in the shadow network is thus one of orchestrating in a context of trust and personal investment. Having personally invested in all these relationships, the research coordinator is surrounded by contacts he can trust and can ask to pull some strings in their formal networks when the need arises.

A relational perspective on leadership does not link leadership, nor leadership styles to individual leaders. Not individual traits, but the leadership task guides the leadership function and the corresponding relational logic. In other words, depending on what the context requires of the network actors, they will engage in adequate leadership practices and adopt a corresponding relational logic. The pragmatic and businesslike convincing-and-bargaining logic supports the task-oriented dynamic of administrative leadership to secure resources and to 'get things done', while the co-creational logic supports adaptive leadership's dynamic of 'doing innovation'. The orchestrating logic of enabling leadership eventually enables innovation by pulling everything together with a connecting or 'deal making' dynamic.

Similar to complex network leadership needing all three leadership forms to be effective, we assume that each of the leadership forms needs all three relational logics – albeit to a different

extent. In our framework, each leadership form is linked with its dominant relational logic: administrative leadership is mostly based on a convincing-and-bargaining logic, enabling leadership on an orchestrating logic and adaptive leadership on a co-creational logic. Each form needs to combine its dominant logic with the two others to be effective. Administrative leadership, for example, will not be able to secure resources through transactional relations alone. A supporting orchestrating logic to create the necessary credibility and goodwill will substantially facilitate this task. In their efforts to define innovative solutions, adaptive leadership also needs a supporting convincing-and-bargaining logic to reach a negotiated agreement on the final proposal.

CLT Leadership form	ADMINISTRATIVE LEADERSHIP <i>focus on control, stability and positional power</i>	ENABLING LEADERSHIP <i>fostering and supporting adaptive proposals, managing the administrative-adaptive interface</i>	ADAPTIVE LEADERSHIP <i>generative dynamic with focus on learning, creativity and adaptability</i>
<i>LS network</i>	Formal network Relations based on formal authority and hierarchical position	Shadow network Relations based on personal contacts and trust	Change Alliance Relations based on sharing visionary, innovative ideas
<i>LS practices</i>	Leadership practices mainly effecting Direction through planning and structuring activities	Leadership practices mainly effecting Action Spacing through creating new and enriching ways of connecting different people, perspectives, skills and structures	Leadership practices mainly effecting Co-orientation through sense-making processes and exploring knowledge and content
<i>Relational logic</i>	Dominant logic: Convincing-and-bargaining Supporting relational logics: Orchestrating logic Co-creational logic	Dominant logic: Orchestrating Supporting relational logics: Co-creational logic Convincing-and-bargaining logic	Dominant logic: Co-creational Supporting relational logics: Orchestrating logic Convincing-and-bargaining logic

Table 1: analytical framework for relational leadership in MAG networks

Discussion

This article develops a framework for the analysis of leadership in multi-actor governance networks from a relational perspective. Multi-actor approaches to governing bring about more horizontal relations between the involved private and public actors, requiring new roles and new forms of leadership that are worth investigating. A relational perspective on leadership, with leadership practices as unit of analysis, receives a central position because interactions, relations and connections matter more in networks than individuals and positions.

Complexity leadership practices and relational logics as contributions

We conceptualize relational leadership in multi-actor governance networks with Complexity Leadership Theory as the foundation. Although CLT was not developed with inter-organizational networks in mind, our analysis presents several arguments for considering the framework suitable to study leadership in multi-actor governance networks. The contribution of our relational framework is

twofold: 1) it combines CLT's distinction between administrative, adaptive and enabling leadership functions with the DAC ontology to operationalize otherwise vague and intangible complexity leadership processes: relational leadership becomes more perceptible and 2) the conceptualization of relational logics complements CLT and provides an enriched understanding of CLT's administrative, adaptive and enabling leadership. As the relational perspective on leadership renders the concept of individual leadership style expendable, our contribution theorizes leadership style as a relational concept. We advance the term 'relational logic' in the sense that leadership style is enacted in the relation between the multi-actor governance network actors. We characterize each of CLT's three leadership forms by its own dominant relational logic.

We thus operationalize administrative leadership as leadership practices resulting in direction. It's characterizing convincing-and-bargaining relational logic triggers and supports framing and reasoning processes that are focused on short term task execution. To enhance the adaptive and innovative capacity of the network, power holders build and maintain relations with 'the right people in the right places' and remain receptive for the innovative ideas of adaptive leaders. This requires their engagement in relations inspired by an orchestrating and co-creational logic.

Adaptive leadership is enacted in leadership practices effecting co-orientation. It emerges when network members participate in joint activities to develop inspiring ideas and in sense-making processes to produce a shared vision. While their relations are mainly motivated by a co-creational logic that facilitates this explore-and-exchange dynamic, supporting convincing-and-bargaining and orchestrating logics help them achieve results and join forces with enabling leaders to develop initial ideas into tangible projects.

The double role of fostering catalyzing conditions for adaptive leadership and managing the administrative-adaptive interface gives enabling leadership a key position in complexity leadership. Network members close to the power holders enact enabling leadership in brokering and boundary spanning activities that create generative interactions. Their connecting dynamic is facilitated by an orchestrating logic that helps them to create opportunities by activating 'behind the scenes' and close personal network relations. With the supporting convincing-and-bargaining and co-creational logics, they maintain relationships to connect with both administrative and adaptive leadership activities.

The framework as presented in Table 1 leads to a few conclusions. First, the combination of administrative, enabling and adaptive leadership with convincing-and-bargaining, orchestrating and co-creational logics dilutes the normative question about the most suitable form of leadership or relational logic for multi-actor governance networks. The framework indicates that different forms of leadership and relational logics may not only co-exist in multi-actor governance networks, but that they even need each other and that they cooperate in synergy to enhance the network's adaptive and innovative capacities. Second, it is this combination of different leadership forms and logics that

makes the framework a profoundly relational one. All three leadership forms are necessary to enact complexity leadership in multi-actor governance networks and the decision of which one to use in which situation requires actors to develop a relational and contextual sensitivity. And third, as the leadership processes develop out of and through the network relations and interactions, the framework shows leadership as a process that emerges *within* the multi-actor governance process and not as a top-down or outside-in facilitating force.

Implications for further research

The value of the framework consists in generating various important questions for future empirical research, which should focus on relational logics, on leadership development, on the interplay between the different leadership forms and on power in relational leadership. With regards to the relational logics in complexity leadership, we conceptualize a specific relational logic for each of the three leadership forms. Empirical research should ground and enrich these concepts; maybe modify or discard one, or identify other important relational logics, either linked to one of the three leadership forms or a more general, overarching logic that is relevant for complexity leadership as a whole. Because CLT does not discuss how leadership emerges or how leadership relations develop, complexity leadership development is another interesting research topic. According to Gray (1989), actors become increasingly aware of their different perspectives, values, goals and of their interdependencies as a multi-actor governance process unfolds. The interpersonal relationships in the network gradually develop as a result of group development (Bouwen & Fry, 1996) and social learning processes (Bouwen & Taillieu, 2004) and this relational development will influence the emergence and development of leadership relationships. Indeed, following the DAC ontology reasoning we cannot automatically label the examples on pg.15 of this article as 'leadership practices' because relationships may not be developed enough in earlier phases of the multi-actor governance process for these practices to effect direction, action-spacing or co-creation. The description of these leadership practices demonstrates that relational development and trust building is required before participants can engage in e.g. recognizing and exploring the diversity of values and opinions, in identity work or in cultivating transboundary relationships. Moreover, we expect that the types of practices in which the actors engage, change as relationships deepen. We use the process of 'naming and shaping identity' (Ospina & Foldy, 2010) as an example. Here, actors in the multi-actor governance process aim to answer questions like 'who am I (is my organization) in relation to the other actors?', 'which are my (my organization's) core values, what do I (does my organization) stand for and how does that relate to the other actors?' Engaging in this mutual exploration demands a deeper, more reciprocal relationship that goes beyond merely examining differences. Relational scholars center conversation and dialogue as essential relationship building and sense-making tools (Dachler & Hosking, 1995; Hosking, 2010). Work of Uhl-Bien (2003), Hornstrup et al. (2012) and Hersted and Gergen (2012) specifically focuses on the importance of

dialogical and process skills for relational leadership development. Organizational scholars have stressed dialogue (Argyris, 1982; Senge, 1990) in the development of relations to support learning and organizing processes. Relationships that thus mature and develop play an important role in group development processes (Srivastva et al., 1977; Bouwen & Fry, 1996) and vice versa. In well-developed task groups, leadership practices as described above can eventually be observed. However, multi-actor governance networks are more complex than the task groups in group development research. They are more open, with frequent new members and more ambiguity about who is representing which organization, and so their opportunities to go through a group development process are more limited and demanding. Further empirical research should therefore focus on the processes and mechanisms involved in relational and leadership development in complex multi-actor governance networks. Another important question is whether and how the relational logics influence the emergence and development of administrative, adaptive and enabling leadership in multi-actor governance networks.

Concerning the interplay between CLT's leadership forms, CLT states that one person can alternately engage in several leadership forms. An interesting question for further research is if the interplay also takes place in another configuration that equally fits a relational perspective on leadership: between a set of individuals who effectively work together as a well-oiled machine, with each component exercising a specific complexity leadership function. What are necessary conditions for such an integrated leadership set? And can it occur in combination with an interplay between different functions, enacted by the same individual. Or does that combination make the leadership networks too complex to function effectively?

Implications for method

Addressing these research questions requires careful consideration of some methodological issues concerning multi-actor governance networks and complexity leadership. How can one, for example, delineate a CAS or multi-actor governance network? Which delineation criteria are to be used and more importantly, who defines these criteria? Other methodological problems arise when investigating enabling leadership. As it takes place in shadow networks, enabling leadership is considerably less visible than administrative or adaptive leadership. Relying on personal reflections of network members on their enabling leadership practices will not suffice because theories-in-use are often confused with espoused theories in such personal reports. Moreover, our own interviewing experiences to identify complexity leadership activities in the ELFM case study for this article showed that it was hard for respondents to recount their own leadership practices. Research on complexity leadership therefore has to be complemented with the time consuming method of participant observation.

Implications for theory

Further theoretical development on multi-actor governance leadership should conceptualize the role of power in complexity leadership because leadership and power are two interrelated concepts and because power is a central theme in multi-actor networks. Power, although somewhat neglected in scholarly studies of interactive governance (Torfing et al., 2012), is omnipresent in multi-actor governance networks because they are riddled with conflicting and often opposing interests and because of the interfaces between different administrations which each have their own jurisdictions. We therefore suggest to conceptualize relational power not as the ability of actors, but as a dynamic between actors to mobilize, through engaging in relations with others, the resources they need to achieve certain goals. Such a relational perspective on power would then allow to investigate the power aspects of leadership and to explore how power is enacted in the different complexity leadership relations in multi-actor governance networks.

Practical implications for multi-actor governance networks

Although this article primarily presents a theoretical conceptualization of a relational framework for leadership in multi-actor governance networks, we can already deduct some practical implications. As the ELFM case illustrations show, a relational framework offers a broader perspective of what goes on between actors in multi-actor governance networks. A traditional leadership framework describes and analyses the actions of a single leader and the reactions of his/her followers. A relational perspective such as ours uncovers how actors team up and engage in leadership practices together to steer the network. Moreover, our framework provides the multi-actor governance practitioner or process facilitator with an enlarged action and intervention repertoire. First of all, it allows for a leadership assessment that indicates if or to what extent all three complexity leadership functions are taken up by actors in or close to the multi-actor governance network. If not, facilitators or practitioners can raise the question who could perform the missing or underdeveloped functions. Second, practitioners and facilitators can use the framework as a guide to look for missing or counterproductive connections between complexity leadership functions and design interventions to correct these. And assuming each complexity leadership function has a dominant relational logic, once the power network, change alliance and shadow network have been identified, our framework can also help identify and correct possible relational logics mismatches.

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