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In search of identity leadership:

An ethnographic study of emergent influence in an interorganizational R&D team

Pernille Smith
S. Alexander Haslam
Jørn Flohr Nielsen

Abstract

Recent trends in the leadership literature have advanced a relational and processual perspective that sheds light on the way leadership emerges and evolves in dynamic and flexible organizations. However, very few empirical studies have explored these processes over an extended period. To address this lacuna, we report findings from a three-year ethnographic study that explored the emergence and development of leadership in a self-managed interorganizational R&D team. Findings show that in the context of various events that impacted on the team, leadership emerged through interactions, processes, and practices that were perceived by team members to develop and advance shared goals and shared identity. Leadership responses to uncertainty surrounding the project were generally legitimated by team members' background and expertise in relation to this shared identity, while a lack of perceived legitimacy also compromised leadership. These observations are consistent with arguments that leadership revolves around the creation and enactment of shared social identity. However, they also suggest that the form and nature of leadership is hard to predict because it is heavily structured by specific identity-relevant practices and perceptions that arise in the context of unforeseeable events.

Keywords

Relational leadership; identity leadership; interorganizational R&D; legitimacy; sensemaking; ethnography.

Today's organizations are dynamic and complex systems in which roles, responsibilities, and boundaries have become increasingly blurred (Uhl-Bien, Marion & McKelvey, 2007). For example, many organizations engage in inter-organizational collaborations because they need to respond to a changing operating environment that requires them to leverage new forms of knowledge (Dooley & O'Sullivan, 2007). People bring different resources, capabilities and motivations to these collaborations, and also have different bases of legitimacy (Denis, Langley, & Sergi, 2012; Yammarino, Salas, Serban, Shirreffs, & Shuffler, 2012). These factors in turn have important ongoing implications for leadership (Drori & Honig, 2013; Raelin, 2011).

Nevertheless, hitherto there has only been limited empirical analysis of the emergence of leadership in such contexts. This is a lacuna that the present paper seeks to address. It does this by elaborating upon recent social identity theorizing (e.g., DeRue & Ashford, 2010; Haslam, Reicher & Platow, 2011) to argue that the emergence of leadership in self-managed inter-organizational teams can be understood as a process of making sense of, and managing, complex and uncertain social identities.

Contemporary leadership research

Over the course of the last century leadership studies have evolved through a number of different paradigms that have focused on personal traits, behavioral styles, contextual contingencies, and more recently, relational and group-based factors (Dinh, Lord, Gardner, Meuser, Liden & Hu, 2014). So whereas once researchers and commentators asserted that leadership is simply a reflection of a person's inherent traits and abilities, today it is widely acknowledged that it is a joint product of leaders, followers, and the context in which they are embedded — with modern leadership studies typically focused on understanding the inter-relationships between these elements (DeRue & Ashford, 2010; Collinson & Tourish, 2015; Haslam et al., 2011). It remains the case, however, that mainstream leadership theorizing is

largely conceptualized in leader-centric terms — implying that it is primarily formally appointed leaders who exert influence over others in ways that motivate them to achieve shared goals (Drath, McCauley, Paulus, van Velsor, O'Connor & McGuire, 2008).

In these formulations followers continue to be understood as more or less passive beneficiaries of the leaders' wisdom. This means that leadership is generally seen as a distinct, robust, and formal process that emanates from those who have specific leadership qualities (DeRue & Ashford, 2010, Drath et al., 2008). Accordingly, the greater part of leadership research remains stubbornly framed by traditions of leadership psychology and a focus on the study of formal leaders in static contexts (Kelly, 2008). One reason for this is that empirical leadership scholarship is typically concerned to test causal models in which predefined variables are understood to affect, or be affected by, the character and aptitude of a particular person (Fairhurst, 2008).

Relational, identity, and group process perspectives on leadership

In recent years, however, an alternative approach to leadership studies has emerged that centers on a more social and dynamic understanding of this process (Fairhurst, 2008). Here researchers have argued that because leadership is the process of influencing people in a way that motivates them to contribute to the achievement of group goals (e.g., Haslam et al., 2011), it is important to attend to the situational and relational understandings of all group members (Alvesson & Sveningsson, 2003; Cunliffe & Eriksen, 2011; Fairhurst & Connaughton, 2014; Grint, 2010). Indeed advocates of this approach suggest that leadership is a distributed, shared, and a collective process that involves effort on the part of all group members — not just those in leadership roles but, critically, also other team members who engage in followership (Bennis, 2003; Carte, Chidambaram, & Becker, 2006; DeRue & Ashford, 2010; Drath et al., 2008; Fraher, 2011; Uhl-Bien, Riggio, Lowe & Carsten, 2014).

In these terms, DeRue and Ashford (2010) have proposed a theoretical model which highlight how leadership centres on a recursive dyadic process in which individuals negotiate and ultimately settle upon a stable definition of themselves as leader and followers (p. 631). This model, however, does not address the ways in which leadership is shaped by group (rather than just interpersonal) dynamics. In particular, it does not fully explain the motivations that lead followers to accept another person's claims to leadership and influence or account for the ways in which these might change in response to features of the prevailing context in which a group finds itself.

In this regard it has been suggested that within the group itself, the roles of 'leader' and 'follower' are not fixed but rather their meanings are continuously reframed and renegotiated in response to changes in group circumstances (Drath et al., 2008; Fairhurst, 2016; Huxham & Vangen, 2000; Wood, 2005). In these terms too, leadership is not so much about the thoughts and actions of one person, but rather about the coordinated cognitions of all group members that dictate what they want, and are able to accomplish together (Fairhurst, 2016). From this perspective "leadership is exercised when ideas expressed in talk or action are recognized by others as capable of progressing tasks or problems which are important to them" (Robinson, 2001, p.93), implying that the influence process at the heart of leadership relates to a process of legitimation in which ideas, beliefs, and behaviors are understood to be a valid reflection of a group's shared purpose (Chrobot-Mason et al., 2016; Drori & Honig, 2013; Hogg & van Knippenberg, 2003; Johnson, Dowd, & Ridgeway, 2006). In this sense, leadership centers on common, meaningful images of the future (Parry & Bryman, 2006) that create and enact a sense of collective value and shared identity (Chrobot-Mason, Gerbasi & Cullen-Lester, 2016; Haslam et al., 2011; Ospina & Sorensen, 2006; Reicher, Haslam & Hopkins, 2005; Stam, Lord, Knippenberg & Wisse, 2014) and which ultimately organize and determine a group's experience of social reality and experience of itself (Kelly, 2014).

This focus on a shared group identity suggests that individuals who are seen as representative or prototypical of a group (e.g., of its values and norms) are more likely to be seen by other group members as being in a position both to advance group interests and to inform them about matters pertaining to their shared identity (e.g., appropriate behavior and goals; Chrobot-Mason et al., 2016; Haslam et al., 2011; Hogg & van Knippenberg, 2003; Rast, Gaffney, Hogg, & Crisp, 2012). In this way leadership is seen to center on the construction and enactment of a shared identity which provides a platform for concerted group effort (Chrobot-Mason et al., 2016; Drath et al., 2008; Ellemers, de Gilder & Haslam, 2004). At the same time, it is recognized that this often takes the form of relatively mundane actions which serve to embody and embed particular understandings of ‘who we are’ and ‘what we are about’ (Alvesson & Spicer, 2012; Driver, 2013; Haslam & Reicher, 2007; Kelly, 2014).

The present research

Despite the plausibility of the forgoing analysis, it is clear that, to date, the projects that group process and relational perspectives have inspired have tended to be theoretical rather than empirical. Indeed, although there are many prescriptions about how leadership should be examined in terms of this ontology, only a very small number of empirical studies have examined the evolution of leadership within dynamic organizational contexts (Alvesson & Svenningsson, 2003; Denis, Langley & Rouleau, 2010; Haslam & Reicher, 2007; Koivunen & Wennes, 2011). Moreover, there is a dearth of substantive real-world data either (a) to support the key points of process and relational leadership theories or (b) to bring them to life. Why and how exactly do certain beliefs and behaviors gain legitimacy (DeRue & Ashford, 2010; Drori & Honig, 2013; Johnson et al., 2006)? How is group action and the co-construction of direction facilitated (Collinson, 2006; Crevani et al., 2010)? How are ideas expressed and why do they get accepted (or not) (Johnson et al. 2006; Robinson, 2001)? What practices and interactions result in a shift in trajectory and leadership roles and why

(Fairhurst 2016)? How are meanings actually reframed and what brings this about (Drath et al., 2008; Huxham & Vangen, 2000; Wood, 2005)? Although many researchers have suggested that these questions are critical to the leadership process, little in the way of integrated empirical research is available to provide answers.

The present research seeks to address this gap in the literature by means of a longitudinal, in-depth ethnographic study of emergent leadership in an interorganizational Research and Development (R&D) team. Our analytic frame is informed by previous work that has advanced group process and relational perspectives on leadership — in particular, in ways suggested by social identity theorizing (after Tajfel & Turner, 1979; Turner & Haslam, 2001).

Although previous research suggests that leadership often involves building clear structures, making sense of complexity, and reducing uncertainty (Marion & Uhl-Bien, 2001; O'Mahony & Ferraro, 2007; Weick, Sutcliffe & Obstfeld, 2005) this body of theorizing suggests that this will not necessarily take the form of a predetermined path from ambiguity to clarity, pursued by individuals with well-defined leadership roles. Instead, we anticipate that the process is likely to include unanticipated and surprising actions (in response to unpredicted and unpredictable 'events'; Haslam et al., 2011; Reicher et al., 2005) that are not self-evidently about leadership at all. More specifically, we expect that the leadership process will center on the role that individuals play at particular points in a group's life-cycle in developing systems, practices, objects, structures, and spaces that help group members navigate their way through these events, and that it is those who are best able to articulate and embody a shared sense of identity who will exert the most influence over a group and prove most capable of steering it in a particular direction (Steffens, Haslam et al., 2014).

Method

We gained access to a R&D team and closely followed its activities over a three-year period. Here we focused on observing and analyzing practices, routines, and interactions as well as exploring the way in which positions are constructed during identifiable incidents (Crevani et al., 2010, Drori & Honig, 2013; Paquin & Howard-Grenville, 2013). The original purpose of our study was to understand the micro-foundations of coordination in a self-managed interorganizational team. It was only after a few months of observation that our interest alighted on the topic of leadership.

Our ethnomethodological approach follows Kelly's (2008) suggestions for observing leadership in action — not only actions that are widely heralded (e.g., chairing meetings, giving speeches) but also micro-actions that are not traditionally considered acts of leadership (e.g., informal exchanges and participating in routine work activities). This reflected our sense that a full appreciation of leadership needs to engage with its open-ended, collective, and material character (Haslam & Reicher, 2007; Kelly, 2015; Lord, Gatti & Chui, 2016).

Data were collected between April 2008 and May 2011 in the course of a longitudinal field study involving nonparticipant observation, interviews, and document collation. The first author followed the team for the entire period.

Research setting

We collected data relating to an interorganizational innovation project — here referred to as EuroSat — that centered on the development of a software platform for applications capitalizing on a European satellite system. This system is planned to become operative in 2019 and to provide a new global positioning satellite system. This was an advanced high-tech project involving basic research in mathematics and computer science as well as applied research. It ran as a research consortium and included three firms and a university.

At the start of the project, the participating organizations signed a contract in which they committed to several work packages with specific cases containing both academic research and commercially applicable solutions. They also committed to working on a toolbox, that would “contain an assortment of useful tools to assist developers of positioning technology in quick and reliable development of products and services.” [source: project application]. However, the project was mired in uncertainty and ambiguity from the outset. In particular, the objectives were vague and open to a range of interpretations and did not provide clear direction (e.g., predefined milestones). In addition to this, team members arrived at the project from different organizational settings and backgrounds, and they were used to different project management cultures and traditions. The three firms were an agricultural technology consultancy group (Agrofirm), a software firm in the safety and healthcare industry (SoftSafe), and an independent research institution (ResearchFirm). The university participants were computer scientists.

The project was formally headed by a consultant from ResearchFirm, who became the administrative project manager and a university professor, who became research director. They were responsible for reporting back to a steering committee, a governing body for the project, which consisted of one senior manager from each organization and an auditor from the sponsoring research foundation.

Daily project management was supposed to be led by two associate professors. They were experts in central aspects of positioning technology and also the supervisors of the project’s three PhD students and two postdoctoral researchers. However, one month after the project officially started, both professors quit the project. This was seen as a dramatic event by most team members — not least because they felt the project had lost a sense of direction before it had even started.

The team studied in this paper (see Table 1) was physically co-located two to three days a week and consisted of between 9 and 12 team members, 8 of whom worked on the project for its entire duration.

Table 1. *The EuroSat Team (in order of seniority)*

Team members	Organization	Role	Background
Paul	University	Research director/ Professor/ Member of the steering committee	Computer scientist
Jasper	ResearchFirm	Administrative project manager/ Member of the steering committee	Civil engineer
Jack	University	Postdoctoral researcher	Computer scientist
Anne	University	Postdoctoral researcher	Computer scientist/ Psychology/Philosophy
Martin	SoftSafe	Industrial PhD student	Computer scientist/ Developer
Andrew	ResearchFirm	Industrial PhD student	Computer scientist/ Developer
George	Agrofirm	Industrial PhD student	Software Engineer/ Developer
Peter	ResearchFirm	Software specialist	Software engineer/ Developer
Walter	ResearchFirm	Software specialist	Software engineer/ Developer

The authors of this paper are not technically qualified to evaluate whether the outputs from the project were successful or not. Nevertheless, at its conclusion, the steering committee expressed their satisfaction with the results. Some of these were presented at leading academic conferences and in multiple papers that were published in leading journals and have had considerable impact (e.g., Google Scholar indicates that since 2010 there have been over 500 citations to the three most cited papers arising from the project).

Methodology

Our research methodology was informed by grounded theory techniques that focus on the production of meanings used by social actors in real settings (Glaser & Strauss, 1967). This methodology was deemed appropriate given its focus on temporal processes in the context of dynamic organizational phenomena (Langley et al., 2013; Tsoukas & Chia, 2002; Weick,

1979). Moreover, it accords with a leadership ontology of social processes, as it entails observations not only of formal leaders, but of processes of influence in a variety of contexts — including group events, interactions and productions (Crevani, et al., 2010; Fairhurst, 2016; Husenot & Missonier, 2016; Oborn, Barrett & Dawson, 2013; Tsoukas & Chia, 2002; Wood, 2005).

Ontologically, we followed a flow-like approach to organization studies (Hernes, 2014) which focuses on ongoing processes of social connection (Tsoukas & Chia, 2002). To understand and map the ways in which organizational members' perceptions were connected to the group's past and future, we adopted an events-based approach which focuses on the way in which specific collective experiences anchor group members' perceptions and also lend structure to ongoing contextual flow (Husenot & Messionier, 2016).

In the course of the study we logged 144 hours of observations relating to 50 events. We also carried out 37 semi-structured interviews, each lasting 60 to 90 minutes. Interviewees were selected on the basis of their level of activity in the project and interviews were conducted in four rounds at approximate intervals of seven to nine months. We extracted monthly logs from the software repository and the project's wiki pages and had access to e-mail correspondence at the mailing-list level, attended biannual steering committee meetings, and collected other accessible documentation over the course of the project (for an overview see Table 2).

Table 2. *Summary of empirical observations*

Empirical data	Units
Observation	144 hours (50 incidents in the team) + 11 hours (5 steering committee meetings)
Interviews	37 interviews (60-90 minutes/interview)
E-mails	380 emails
Project wiki logs	30 log files
Repository logs	11 log files
Other material	Project application, PowerPoint presentations, articles, demos and prototypes, project contract, meeting minutes, photos.

Coding and analysis

In line with the principles of grounded theory, data coding was carried out through five cycles following the principles of theoretical sampling to explore emergent themes, collect additional data, and maximize observation opportunities (Fernandez, 2004).

In the first cycle we carried out open coding — analyzing data to extract thematic categories and their characteristics. Here we observed team members engaged in a constant struggle to make sense of the project, including their work and the work of the other team members. In a second cycle we therefore coded for instances of sensemaking (Weick, 1979) and saw that successful sensemaking was followed by actions that led others to share that sense (Crevani et al., 2010). This led us to a third cycle, in which we coded more systematically for influencing actions and interactions (Crevani et al., 2010) and influence on organization, process, content, technology, and goals. We also recorded instances of resistance to influence and manifestations of diverging interests and goals within the team (Alvesson & Spicer, 2012).

At this point we developed memos theorizing about the codes and their interrelationship (Glaser & Strauss, 1967). However, we also realized that analyzing influences based simply on what people expressed in words did not provide full insight into leadership-relevant issues and processes. Accordingly, we started a fourth cycle to code more specifically for practices. Here we observed that the team had a tendency to use a number of tools and approaches to organize its work, and we therefore coded for organizing artifacts, interaction practices, and discussion tools. As well as this, inspired by Schatzki's (1996) 'dispersed practices', we coded for specific work practices including: organizing, developing, article writing, discussing, presenting, examining, working alone, and working in

groups. We also simultaneously coded for indications of change in these work practices or processes.

Furthermore, We coded more deeply for manifestations of interests and identification and found that there was a division between interest in basic research and applied research which led us to realize that this was rooted in team members' diverse social identities (Tajfel & Turner, 1979). We therefore (a) analyzed the relationship between the codes for "interest" and "influence" or "resistance to influence", (b) noted the relevance of power differentials and legitimacy and coded for changes in these, and (c) observed the manifestations of identity (expressions of shared values, shared goals, shared perceptions of needs, and the emergence of shared practices). Finally, in a fifth cycle of coding we returned to validate and confirm our findings regarding social identity and leadership emergence (Glaser & Strauss, 1967). Based on this analysis, at this point we were able to identify a number of "events" that precipitated, or else undermined, leadership (Hussenot & Missionier, 2016).

Findings

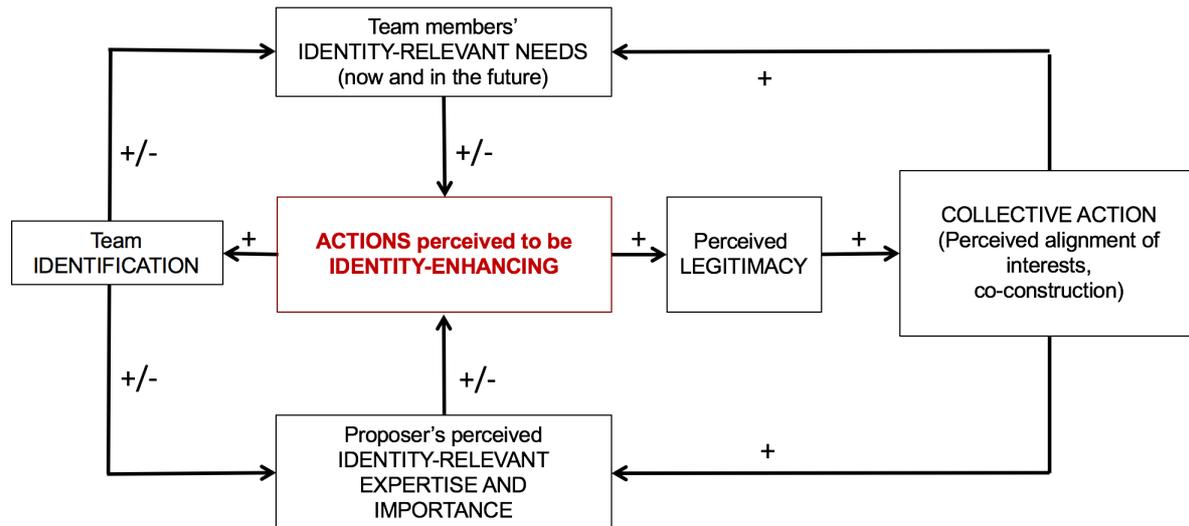
The EuroSat team worked jointly as it navigated its way through a complex, uncertain, ever-changing landscape in which each individual had to balance his or her own interests with those of their employing organization and the project as a whole. The team completed this journey through ongoing interactions that facilitated their sensemaking, reduced uncertainty, and led to emergent practices and processes (Weick, 1979). They did not always agree on the project's direction, and although there were not always alignments or shared meanings (Alvesson & Spicer, 2012), they were able to co-construct and agree on many of the project's central features and directions (Ospina & Sorensen, 2006; Crevani et al., 2010). The findings presented below focus on a series of interrelated events that illustrate the flow of leadership activities within these interactions and over time (Langley et al., 2013).

After the two individuals who were supposed to lead the project left, Paul, the research director, and Jasper, the administrative project manager took over daily project management. However, both Paul and Jasper were involved in a number of other projects and they were therefore often absent. Their absence was keenly felt by all the team members. Desire for formalized leadership was clearly expressed at the beginning of the project and the team was left struggling to define their work and the project's goals.

Overview of findings pertaining to identity leadership

Our analysis suggested that in the context of this uncertainty, leadership was rooted in the emergence, confirmation, and development of team members' social identities. In particular, due to its enduring, extreme uncertainty and complexity, team members struggled to make sense of the project and their role in it. Accordingly, they sought (consciously or not) to mitigate this uncertainty through efforts to seek out and affirm a sense of identity that they shared with one or more other team members (Rast et al., 2012). In this light, leadership was shaped by the perceived capacity of particular individuals (and their various actions and proposals) to cultivate and advance a sense of shared identity (and hence group purpose). As a corollary, however, if events or actions served to undermine the sense that shared identity was being advanced, this tended to undermine a person's leadership effectiveness (Haslam et al., 2011; Steffens et al, 2014). These various observations are summarized in the conceptual map presented in Figure 1.

Figure 1. *A conceptual map of observed identity leadership*



Note: The key observation here is that the capacity for team members to shape collective action was grounded in other team members' sense that their leadership was legitimate because it embodied identity-relevant values and was identity enhancing. This sense was shaped by (a) team members' identity-relevant needs and (b) the perceived identity-relevant expertise and importance of the proposer, and these two things were in turn both shaped by the nature of collective action and team members' identification with the team. The model is not intended to be causal, but rather to show how leadership centers on group members' perceptions of the meaning of various proposals for shared social identity.

We also observed that banal and mundane activities served to underline the existence of shared identity as a “natural” group feature without this need to be forced (Steffens, Mols, Haslam & Okimoto, 2016). Moreover, behavior was accepted as valid and authentic by team members — and also served to direct their work-related energies — to the extent that it was seen to reflect shared identity and identity-related aspirations (Steffens et al., 2014; Turner & Haslam, 2001). Team members were thus motivated to work towards group goals by appeals to shared identity from team members who represented that identity (Haslam & Platow, 2001; Steffens, Schuh, Haslam, Perez, & Dick, 2015). This alignment could be achieved either deliberately (e.g., following strategic action on the part of an individual) or accidentally (e.g., by events that had implications for the definition and meaning of the group; Platow, Hoar, Reid, Harley, & Morrison, 1997).

Reframing of roles, and thereby leadership, was also determined by changes in identity content. These changes could be internally or externally driven, but as identity content changed so too did the meaning of the group and hence the roles that allowed for the achievement of its collective goals. In this way, the capacity for leadership (i.e., being able to influence other group members) was not concentrated in any particular individual (or individuals) but rather was realized by those who, at any given point in time, were representative of shared identity. At different times, this involved all or no group members, and hence leadership could either be completely distributed or not in evidence at all.

Illustrative evidence of identity leadership dynamics

To flesh out the foregoing analysis, and illustrate the empirical evidence on which it is based, in this section we show how certain behaviors, ideas, and beliefs gained legitimacy and were accepted while other did not; how action and the co-construction of direction was facilitated or not; how meanings and roles were reframed and renegotiated over time and what caused this; and finally how all this is closely related to and explained by dynamics of social identity.

More specifically, we present three representative case examples of leadership emergence. The first case describes how and why one person was accepted as leader in the group in the project's initial stages as a consequence of specific events and emergent practices, as well as why this person's legitimacy and influence eventually waned. The second and third cases relate to a number of different episodes that ultimately led individuals who had previously been peripheral to the group to gain legitimacy and hence influence in shaping the project. All three examples shed light on the way in which the practices enacted by different people and accepted and adopted by other team members lead to the development of a sense of shared identity which is in turn the driver of influence, coordinated group action, and the

achievement of shared goals (e.g., in ways discussed by Reicher et al., 2005; Turner & Haslam, 2001).

Case 1: Shaping and representing the group

Initial progress on the project was slow. It was generally accepted that this was because the team had no specific guidelines about how to organize or coordinate its work. To address this issue, one of the first initiatives was to hold weekly team meetings. This idea originated from Anne and Jack, who were now the most senior members of the team and who thought it was important to start by building a shared understanding of the project and its parameters. Anne, like Jack, had a PhD in computer science, but her undergraduate background was in the humanities, and her research interests were in space modeling (i.e., how humans perceive space). Her approach to research was grounded in experimentation and ethnography, and less in theoretical computer science. Jack, by contrast, was a theoretical computer scientist with an interest in mathematical algorithms. As we observe below, this difference in background turned out to have an effect on their ability to gain legitimacy in the group.

At the very first weekly meetings team members were invited to discuss their expectations, exchange knowledge, create a common vocabulary, and plan their overall activities. Anne and Jack chaired these meetings, sending out agendas and asking team members to prepare presentations about their research interests and their expectations.

The team members were not sure how to interpret the meetings because their content was not always well defined. Some team members worked in firms with a highly structured approach to project management, and they found Jack and Anne's approach jarring:

I find the management incredibly complicated because they [Anne and Jack] keep coming up with these strange tools, which are sort of invented ad hoc. What is really missing is an adequate innovation management tool. [Interview with Martin]

However, in line with institutionalized notions of authority based on seniority, several team members mentioned in interviews that despite being skeptical about Anne and Jack's approach they still considered them to be legitimate project managers:

Jack and Anne run the meetings. It has to be like that. There is some sort of hierarchy, right? [Interview with Walter]

At one meeting, there was no agenda and Anne suggested that everybody should give a status overview of their work. In this Anne mentioned that she had had several meetings with a visiting professor about modeling and that these had been fruitful even though they did not result in specific input to the project. She also gave an overview of an ethnographic study she was carrying out about digital support for people who travel a lot which she finished by stating: *"It isn't really clear what the link between our project and this might be, but it does give me a lot of inspiration"*. At the same meeting, Jack reported that he had attended a conference on mobile systems, applications, and services in the USA and he showed how an experiment someone at the conference presented could be directly applied to the EuroSat project.

After the meeting two team members said in an informal interview that they really liked Jack's presentation about the experiment, but that they found Anne's input somewhat confusing. Jack's report was perceived to have a greater capacity to meet nascent identity-relevant needs — in so far as it had concrete implications for further research — in a way that Anne's did not.

Other meetings had similar patterns. Anne often raised either very abstract and unfocused issues or very specific and practical issues (e.g., whether to use Mac or Windows in a given application, or the introduction of a project wiki for knowledge sharing). These inputs met with little enthusiasm. On the other hand, though, input that gave team members insight into how to tackle complex problems and take concrete action were better received, and gained more traction in the team. As Jack's contributions tended to be of the latter form, he

gradually came to be seen by other team members as the person whose expertise was most relevant to the team. Indeed, as time went on, input from Anne was increasingly perceived as related to the use and introduction of different coordination mechanisms, whereas Jack's contributions were perceived as providing focus and direction for the research.

Three months into the project, Jack invited the team to a one-day workshop with the intention of discussing the team's specific goals. When the team arrived, he explained that they had "*to establish a common ground for discussion*" in which they should "*1. Reach a shared level of understanding; 2. Propose a common vocabulary; 3. Suggest structure for the 'big overview'.*" [Jack's verbal introduction at the workshop]

The group discussed the different components of positioning technology. This was essential because these were potential research topics for the project. Being a more experienced researcher than the others, Jack was able to make a convincing case for advancing his own area of research on indoor positioning. This proved to be an important turning point in shaping the overall direction and focus of the project.

In the same workshop it was clear that Anne's legitimacy, and thereby influence, was declining. Her introduction of the project wiki had proved unappealing and had fallen into disuse despite numerous reminders via email and at weekly meetings. Various team members suggested that her role in the team was supportive rather than pivotal:

Anne is an administrator, and she always administrates whatever activity she participates in! [smiles] *That's how it is when you are the only woman, I guess.* [Interview with Martin]

Anne's loss of legitimacy was also apparent from interviews with her and Jack. Thus, on the one hand, Jack felt that his influence and power within the group was growing; but, on the other hand, Anne felt hers was waning:

I find it somewhat irritating that focus has shifted to predominantly indoor positioning [Jack's research interest] and that there is now a focus on things that require so much technical, eh ... well, this is not an area where I can make a difference. [Interview with Anne]

At this point, various team members indicated that they identified more strongly with Jack because he reinforced and was emblematic of their perception of themselves as 'serious' and high-achieving theoretical computer scientists. This development was related closely to team members' differential beliefs about the degree to which Anne and Jack had expertise that was relevant to group members' shared identity and hence were in a position to satisfy identity-relevant needs (both now and in the future).

The workshop concluded with the team deciding on a set of core components to pursue. Through this process, the team co-produced its first set of common directions and instantiated these in a PowerPoint document into which everyone had input. This was seen as an important achievement and created a tangible sense of relief in the team because in previous weeks, many of its members had been increasingly frustrated that the project appeared not to be progressing:

Now at least we are going somewhere! And we have become more specific about where that is. [Interview with Walter]

After eleven weeks, the team had further clarified which components it would work on. One day, Jack used a weekly meeting to introduce what he referred to as a "Roadmap" for the team. This defined the functionalities within the project and took the form of a table listing all the project's key components. The idea was that this would provide an overview of the nature and status of various research elements. Jack had drafted the table, but he encouraged other team members to fill in voids or move tasks around as they saw fit. Martin, Andrew, and Anne had a number of suggestions for changes that would make the roadmap

more efficient, and as a result of this discussion, the table was substantially modified. Importantly, it was now a tool that team members could relate to, and it was used regularly to keep track of overall progress. In particular, it helped reduce uncertainty about future directions by constructing a meaningful representation of both (a) the project's current state and its future direction and (b) the team and its activities. As one team member put it:

The roadmap helps us get an overview of the many topics, how they are related, and what specific things we have to work on. [Interview with Walter]

The roadmap represented an object around which the team co-constructed action and direction for the future and therefore also contributed to an ongoing process of alignment between the activities and goals of team members. It also reinforced team members' self-confidence and relief and thereby reinforced their sense that Jack was an expert and 'man of action':

Jack is very productive [...] He puts a lot of things into action [...] If you have problems finding some articles or something that is relevant, you just need to go to Jack, and he will simply whizz them out. [Interview with George]

After having determined the theoretical problems and tasks they were going to work on, the team began to explore these problems in greater depth. In particular, they started to organize their work around the process of article writing. Here Jack helped other team members plan which research articles they were going to write, which conferences they would attend, and he set about working on co-authored articles with each of the PhD students. Simultaneously, the team also developed small software experiments to test their hypotheses. In this process, Jack was perceived as someone who could help team members make sense of the complex (and potentially stressful) realities they were facing:

If I am blocked ... then I go see Jack [...] If it is concerning something more theoretical, then I go to Jack. [Interview with Martin]

As time moved on, several team members indicated that they felt their research had become more focused and that their interests had become increasingly similar to Jack's:

My interests have become more aligned with Jack's over time. My research has definitely taken a more theoretical turn now compared to the beginning where I had a much more practical and applied focus. [Interview with Martin]

However, interviews also indicated that while academic team members generally leaned toward research-oriented activity, developers from ResearchFirm — in particular, Peter and Walter — were increasingly keen to work on applied prototypes. They indicated that they thought the project had moved away from *their* core interests and become too theoretical and abstract, and too focused on publishing rather than producing code and functionality:

You see, they do a lot of article writing, etc., but that is not really important to us. To us it is more important that we produce mature codes, which can go directly in the platform.
[Interview with Walter]

In the following months team members continued to work together in small groups on their articles. Yet while Peter and Walter also participated in some article writing, they worked primarily on the development of a prototype. In this way it was clear that a division was emerging between the majority of team members who had a primary focus on 'pure' research and a minority who were primarily interested in developing applied prototypes.

Jack continued to work on articles, but he also began to work with other colleagues outside the project and this meant that he did not attend as many weekly meetings as previously.

Fifteen months into the project, the research director, Paul, appeared at a weekly meeting and gave a presentation entitled “*Demo or die*”¹. The presentation was unexpected and had not been flagged in advance. In it he emphasized the importance of demonstrating that research on the project had applied value:

He [Paul] made a presentation where he said ‘If you can’t demo you can’t have money.’

[Interview with Andrew]

Paul ended his presentation by saying the team should have a demo ready for the next steering committee meeting in a little over a month's time. His message was clear to the team: they should no longer do basic research but should instead focus on work that had applied relevance. This statement pleased Peter and Walter but annoyed those five individuals who were primarily focused on academic work. They felt that Paul did not understand or respect their research and that demos were a bi-product of high-quality pure research, rather than vice-versa. They were also frustrated by the fact that the change of direction was presented as non-negotiable and that they had no choice other than to do as Paul had said. This incident served to underline the fact that the majority of team members perceived themselves to have a shared identity as researchers, but that this identity was now seen to be under attack.

Soon afterwards the team started to work on their first experimental prototype. Indeed, for around six weeks, all their time went into this prototype work. Jack, who had some experience in prototype building, initiated the process by developing a simple demo of a simple problem. Peter, Martin, Jack, Walter, Anne, George, and two part-time programmers then developed it further until it became quite advanced. Their prototype approach was rooted in constructive computer science, an approach advocated by Jack and that differs from the prototype approach used for applied product development. In this way, despite Jack’s

¹ A demo is a small piece of software code used to demonstrate a specific functionality, whereas a prototype is model that tests or illustrates a concept and that may contain multiple demos.

frustration at having to do prototype work, he still managed to move this work in a more theoretical direction. Indeed, Jack's actions played an important role in determining the nature of the demo work and shaping its overall focus.

At this point Andrew, Martin, and George also indicated that they felt safe following Jack's suggestions, as he seemed to have a better grasp of the relevant research terrain. Indeed, thanks to the constructive approach they had taken (following Jack's lead), the team had managed to make the prototype work more relevant to their group identity. Academic outputs also remained a central objective of the project and due to Jack's continued legitimacy (and the illegitimacy of those who presented an alternative vision for the group, principally Paul) his influence was still strong.

Nevertheless, at this point, the majority of team members who perceived their work on the project to mainly involve doing basic research spent most of their time together:

Those of us who sit in this corridor do of course have a sense of kinship. That is me, Martin, Anne, Jack, and George (...) we know each other well and we have also spent time together outside work. [Interview with Andrew]

There is a good spirit in our group, but I have no idea how it is elsewhere — how they are doing. [Interview with George]

At the same time, Peter and Walter —who were unfamiliar with the constructive prototype approach — became increasingly marginalized.

The development of the first prototype led the team to identify gaps in existing knowledge.

As team members had built up significant knowledge and as their uncertainty decreased, diverging interests also became more pronounced in the team. At this point too, the sense that Jack was someone who was acting in the group's interests started to change.

For example, Peter and Martin began to suggest that he was deliberately — and unreasonably — steering the prototype work too much in the direction of his own research interests:

He made a plan 2-3 months ago to look into his own research. And he doesn't care about anything else. [Interview with Martin]

Moreover, as Jack's direct engagement with the team's work had started to decrease, so too had his legitimacy in the eyes of many team members. So whereas once he had been seen to be broadly representative of the group's identity — and proved influential on this basis — this was no longer the case:

Jack has only worked in a university and he doesn't have the proper training to manage data in a professional manner, and yet he has a higher position in the hierarchy ... that would not be the case if he worked in a company. But here he can do as he wants. He is not disciplined — and he doesn't care: he just fixes things when he wants to ... without any notice. This is something I have discovered as time passed by, and I don't respect that. [Interview with Andrew]

As such criticism quickly percolated through the team it was clear that Jack's leadership star was now on the wane.

Case 2: Filling and shunning the group's needs

As the project progressed, Andrew, one of the PhD students, had become a popular sparring partner for other team members. He was perceived not only to be an expert on system architecture but also to be good at understanding and analyzing different types of problems holistically. He also seemed genuinely interested in others' work:

Andrew and I spent a bit too much time discussing all kinds of things! [laughing] ... He is extremely talented at spotting how you can build up code in a theoretical way, and also in a practical and neat way. [Interview with Martin]

I have been speaking a lot to Andrew, because he has many good ideas! [Interview with George]

It was increasingly the case too that George, Martin, and Peter would go to Andrew's office for a chat. At the same time, Andrew became involved in designing the architecture of the platform and this played a central role in the work of other team members. He was perceived as engaged and entrepreneurial, and his involvement in the choice of architecture (a system called OSGI) was serendipitous:

Nobody has been hired to do it, so Andrew knew the most about the OSGI technology, and he is also a talented software developer, and he was the one who developed some of the first stuff that ended up in the platform. [Interview with Jack]

As things progressed further, Andrew's expertise in IT architecture, his ability to advise other team members, and the perception that he was committed to group goals gained him further legitimacy and status among team members. As team members increasingly turned to him for advice, he exerted growing influence over them, and the direction of the project as a whole.

One other topic that became central to the project related to a method known as 'particle filters' — a sophisticated estimation technique based on simulation. Martin's PhD topic now also became particle filters and knowledge about these became important to everyone in the project, creating interdependence between Martin's work and the rest of the team. Consequently, other team members often approached Martin for advice and help with their work as he was the team member with most expertise on this topic. Martin himself was also aware of his increasingly pivotal role:

My work lies at the core of what the other team members need. And the particle filter is a must if they want to have a precise position, and they all need a good position. So, I have always felt that when I am done, then they can start walking.

The importance of Martin's work was confirmed by the team members in interviews: *In the next prototype that we have planned to develop, we need Martin's particle filter to work with a GPS receiver and the dead-reckoning module. That is essential to get the accurate position.* [Interview with George]

Due to Martin's knowledge about particle filters, he steadily built up legitimacy within the team. However, unlike Andrew, Martin was primarily interested in his own research (e.g., he rarely contributed to discussions at team meetings) and he became irritated when a lot of people approached him for help. Some perceived this as a sign that he was not committed to group goals, but nevertheless they still recognized his contribution to the project and continued to ask him for advice. This gave him status in the team, and also translated into him having influence in areas other than particle filters. Accordingly, when he proposed the implementation of a new repository that would handle code in a more orderly and structured way, other team members accepted his suggestion.

However, as the demands placed on him grew, Martin became increasingly stressed. He felt he had spent too much time on prototype work and other shared tasks and he worried he would not have time to complete his PhD. He complained openly at team meetings and to Paul, indicating that he did not want to take on responsibility for coordinating activities, even if they were related to his interest in particle filters:

I think I have delivered more than enough to this project. I have committed to way too much, so in fact I haven't really done any work on my PhD [...], while I have worked continuously on other tasks. But that's going to change now! [...] And if they come and ask me for help, I will be there, but only for a few hours. [Interview with Martin]

This decision had an impact on other team members' productivity as they depended on Martin's input to finalize their work.

We would have liked him to spend some time making it [the particle filter] more generic, but his PhD will not benefit from a generalization of the particle filter. [Interview with Peter]

Martin's refusal to engage with this collective goal meant that the work of the team was blocked for several weeks, because they were unable to solve their problems without his expertise. They finally abandoned the unresolved problem and moved on to other paths. So while Martin had the capacity to lead the project forward he made it clear that he did not want to. This came at a big cost to the rest of the team, who labored for weeks in vain. The consequence was that once the project moved on to other issues, Martin was no longer the person other team members turned to for direction. In interviews many expressed disappointment about his decision to focus on his own interests rather than the needs of the team and indicated that, for this reason, they did not trust him to take the team forward.

Case 3: Advancing the group

As the team became increasingly involved in research work again, they left the prototype work on the backburner. This did not please Jasper, the administrative project manager, who was keen to present concrete prototypes at the biennial steering meetings. Consequently he told Peter to go back to the team and make sure that precise success criteria were implemented for all the activities in the project, including research outcomes.

After this, Peter attended all weekly meetings and often had input into discussions. At this point Paul also introduced the idea of success criteria at a weekly meeting and suggested that Peter facilitate the implementation of these. With this in mind, Peter presented a detailed table that contained a number of work tasks (taken from Jack's previous PowerPoint table)

and columns with the titles “success criteria,” “milestones,” “activities,” “publications”, and “prototypes” to be completed for every work task:

So fill in the blanks for next Tuesday and then we will print it out and read them all and in two weeks we will meet and commit ourselves. [Peter at weekly meeting]

At the next meeting team members met to work on the success criteria table. The criteria were adjusted through discussion in which all team members played an active role. This work unfolded over several weeks, and while in the beginning most team members felt it was a waste of time and merely an administrative activity, they later moderated their criticism as the exercise proved helpful in giving them an overview of where they were, how the various parts of the project were interconnected, and what needed to be prioritized. A message from the steering committee also underlined the importance of showing precise success criteria at this point. The team understood that continued funding depended on delivering this. Indeed, team members frequently brought this up at the weekly meetings — seeing it as a necessary evil:

If we want to continue with our theoretical research we have to show these administrators what they want, no matter how superficial it is. [Martin at weekly meeting]

Peter proved to be efficient in keeping track of progress on the success criteria list, but it did not win him respect within the team. In interviews he never described himself as having a relevant role in the project, but one day when two guests were visiting the team, he introduced himself to them as “coordinator and deputy project manager”. This leadership claim caused some consternation among other team members:

That came as a surprise to me! But if that’s what Paul and Jasper want, I guess that that is the way it is. [Interview with George]

Most team members were not enthusiastic about Peter or his role in the process.

Moreover, it was clear that this was because most academic team members saw him as someone who represented the specific commercial interests of ResearchFirm rather than those of the project:

Peter is clearly a firm representative. He is wearing his firm's glasses and tries to create the things that his firm has committed to the project. [Interview with George]

Peter, then, did not speak to team members' identity-relevant needs or represent any identity-relevant values; and so while his work on success criteria was accepted as necessary it did not increase his perceived legitimacy in the group.

Moreover, because team members did not identify with Peter they were generally reluctant to follow his lead. In particular, he received only weak support for the shared tasks outlined in the success criteria plan and very few — indeed, to our knowledge, no — team members sought his counsel. In the weekly meetings, which he now chaired, he continued to ask for help completing the coding work, but without much success. As a result, he only interacted with other team members at the weekly meetings and he was left to pursue various applied prototypes more or less single-handedly:

Well, there are clearly some informal power relations, which determine who gets to set the agenda. And obviously, if you only show up at the weekly meetings, then you will never have any influence in that group. You may be allowed to speak at the meetings, but you are met with silence, so it can be difficult to get through with anything. [Interview with Peter]

One of the prototypes on which Peter continued to work involved indoor tracking and guiding in mega-hospitals. After two months, he presented a demo of this at a weekly meeting, sending George off to walk in the corridors with a homemade navigator device. Others followed his route on a computer screen in the meeting room. Although the

measurements were rather unstable, to everyone's surprise, it worked. Other team members were clearly impressed by this:

Jack: *Well, we are done! That's it!! (smiling)*

Martin: *Why don't we just stop the project right here?!*

After this Paul wanted to take the navigator for a walk. The entire team came along. Paul asked a lot of questions about the demo and repeatedly praised Peter for his good work. Peter's demo created a positive mood in the meeting, because it delivered a key outcome that the steering committee had been requesting for months.

After this event, many team members became friendlier to Peter, and he was now met with less resistance in his efforts to update the success criteria. This was confirmed at a meeting where Martin once again objected to the success criteria updates:

Martin: *Why don't you just send an email to people telling them to insert their own numbers?*

Peter: *Because I think this is a very good exercise to see what we are all doing ... (teasingly) but if you are not interested in knowing what the others are doing (everybody laughs).*

Martin: *But we are just sitting reading up numbers!!*

Jack: *I actually think this is a good exercise — in keeps us focused. (Others nod in agreement)*

In stark contrast to his earlier attempts at influence, it was clear that Peter had now gained the acceptance from the team. Thus where people had previously been openly critical of him and suspicious about his motives, this criticism had evaporated. And now when Peter took on the task of integrating the various components into a “manual” other team members — including Martin — were happy for him to do this. Importantly too, whereas Peter's previous attempts at influence had been met with resistance, now team members generally

followed his suggestions — in particular, those related to the process of developing the manual:

Peter has done a good job getting everything together. He has taken care of something that nobody else had the time or the interest to do. But somebody had to do it. [Interview with Martin]

I am glad that Peter took on the task to do the manual. [Interview with Jack]

Documenting their work and the project's results was now seen by the team members as an important indicator of project success and professional management of research funding. Not least this was because some of the team members (Jack, Paul, Andrew, Martin, Peter and George) now started to work on an application for funding for a related project. The task of documenting and reporting research results therefore became of central importance to the team and their ability to do this was something for which Peter was widely given credit. So, previously he had been very much on the outer, Peter's proven capacity to deliver for the group turned him from a pariah to a messiah.

Discussion

This longitudinal ethnographic study of processes, practices, and interactions among a R&D project team affords important insights into the dynamics of leadership. The most important finding is that the capacity for leadership did not not revolve around the character or actions of leaders in isolation but rather around individuals' capacity to make meaningful contributions to the group in ways which made sense in terms of its unfolding identity (Haslam et al., 2011). In particular, this was evident in interactions and practices that helped team members resolve collective uncertainty and provided clarification and direction which advanced project goals. This was seen early on in the project (in Case 1) in Jack's creation of organizing and analytical devices, and later (in Case 3) it was apparent as a result of Peter's

work on the success criteria and the manual that integrated team outcomes. However, as a corollary, individuals' influence fell away if their input did not map onto team members' perceived identity-relevant needs. This was seen in resistance to Anne's wiki and when Jack started to focus more on his own goals than those of the team (in Case 1) and when Martin proved unwilling to help group members who were in need of support (in Case 2).

In providing evidence of the importance of these processes, the study also provides insights into the micro-foundations of legitimacy (cf. Drori & Honig, 2013; Johnson et al., 2006). In particular, the study helps to address questions raised (but unanswered) by previous identity leadership research about when and why particular individuals exert influence over others (DeRue and Ashford, 2010). For ultimately, we see that it was those individuals who at a particular point in time proved capable of meeting the group's identity-relevant needs who achieved legitimacy in the eyes of other group members and who therefore wielded the most influence over the group's ongoing direction (Crevani et al., 2010; Drori & Honig, 2013; Haslam et al., 2011). Indeed, the study shows that group members who initially had little or no legitimacy were able to acquire this through contributions which were perceived to advance identity-relevant goals in a given context. Thus in Case 1 Jack gained influence through his ability to represent and marshal the group's research-related ambitions, Martin's leadership gained traction as a result of his ability to provide a technological solution to a core group challenge. Here what mattered was not fixed attributes (e.g., a person's skills or status), but rather their capacity to demonstrate group-enhancing (and hence identity-enhancing) competences and connections. In this sense, legitimacy was acquired through the mobilization of different social resources (Drori & Honig, 2013) that facilitated collective sensemaking (Weick et al., 2005). More specifically, we see that leadership was not simply about what particular team members did and said, but critically about their capacity to create structures — for example, artifacts and coordination practices — that were seen to advance

and embed the group's collective identity and ambitions (Haslam et al., 2011; Steffens et al., 2014).

Nevertheless, throughout the course of the project we also saw that particular individuals' legitimacy and hence their influence almost always proved to be fleeting. Thus, at different times, Jack, Anne, Peter, Andrew, and Martin all held sway over the group, but their leadership was never permanent. In contrast to suggestions that the process of leadership identity construction is developmental and linear (DeRue and Ashford, 2010), our data indicate that a person whose identity as a leader is clear and widely accepted at one point in time can quickly experience a reversal in which their legitimacy is eroded and their leadership becomes irrelevant. More specifically, we see that loss of legitimacy could have multiple causes but, in ways suggested by social identity theorizing (e.g., Haslam et al., 2011; Reicher et al., 2005), most related to a perceived failure to represent and advance the group's core identity (Jack because he promoted his own interests; Anne because she was a woman, a social scientist, and an administrator; Peter because he was not a researcher and was seen to be doing ResearchFirm's, rather than the group's bidding; Martin because he resiled from group engagement). In this way, individuals' influence was very much tied to their capacity to 'make things happen' for the group (Huxham & Vangen, 2000) and to be perceived to be true to the collective rather than to themselves as individuals (Steffens et al., 2016). This implies that leadership emergence is a process of group identity construction rather than of leadership identity construction, as implied by DeRue and Ashford (2010). Indeed, more generally our findings indicate that leadership is a relational phenomenon rather than leader-centric. And in this, it centres not so much on dyadic relationships between a potential leader and individual followers (e.g., as suggested by leader-member exchange theory; Graen, & Uhl-Bien, 1995), as on shared understandings of a person's capacity to help the group as a whole overcome challenges and seize opportunities.

In this sense, our focus on relational and processual dynamics is in line with the idea that leadership is a process of structuring (Alvesson & Spicer, 2012; Crevani et al., 2010; Oborn et al., 2013; Uhl-Bien, 2006) in which group outcomes arise from constructed intentional processes but where the coordination devices themselves become enablers or constraints of group activities. So, whenever a new group activity was taken on board, the understandings of reality that were embedded within it pulled the project toward particular meanings and goals. For example, Jack's roadmap was a useful way of organizing the team's activities in a way that was perceived by other team members as being identity-enhancing, but (in contrast to Anne's wiki) it also became a potent focus and symbol of his influence that propelled the group in a particular direction.

Implications for relational and process-based leadership theories

Our results accord with recent calls to downplay the importance of fixed individual-level characteristics for leadership and to instead place more importance on its social contextual determinants (Crevani et al., 2010; Haslam et al., 2011; Larsson & Lundholm, 2013). However, because this makes our analysis very messy and entangled (Langley et al., 2013) one is entitled to ask whether this is really a study of leadership at all. We would argue that it is, and, in particular, that the processes we have explored are not merely isomorphic with, or reducible to, teamwork. Not least, this is because, as we saw at various junctures, effective teamwork was undermined by poor leadership (as seen when Paul forced the team to start working on demos), and indeed, without leadership, teamwork was not always possible (as seen in Case 2 when Martin decided not to take on the responsibility for coordinating the particle filter activities). This is a study of leadership, then, because it sheds light on the way in which, through social action and interaction, individuals prove capable of exerting influence over a group in ways that produce meaning, direction, and eventually

progress for its members. And as unconventional as our analysis may be, this is a very conventional definition of leadership (e.g., as found in various Encyclopedias; e.g., Haslam, 2004; Smith, 1995; Rost, 2008)

Moreover, while other research has called for a focus on leadership as a social contextual process, it is apparent that much of this is informed by quantitative and qualitative methodologies that provide only limited empirical insight into the micro-level workings of leadership in practice (e.g. Carte et al., 2006; Crevani et al., 2010; Denis et al., 2010). In contrast, the present research sheds light on the situated aspects of leadership and helps us to better understand this process as it waxes and wanes in real time. Indeed, when we shift our analytic gaze from fixed roles to unfolding processes, a range of subtle mechanisms that influence change — that would otherwise be invisible — come into focus. For example, when Andrew's knowledge of a specific technology led to his emerging influence (in Case 2), we see the role of serendipity in conferring legitimacy on a given individual; and towards the end of the project (in Case 3) we see how demands for closure propelled Peter, a previously peripheral group member, into a position of leadership. It is also apparent that as Peter's perceived capacity to advance group interests increased, so his mundane project management efforts became perceived as important by the whole group. In contrast, Jack's influence emerged when his early work (in Case 1) was perceived to increase the group's ability to overcome uncertainty and meet its needs, but it faded later as it came to be seen as relevant only to his personal needs or those of the subgroup of basic researchers.

At the same time too, our process perspective highlights the shortcomings of traditional views of leadership. For in the absence of (a) fixed formal leaders and followers, and (b) defined group goals this would face obvious challenges in trying to explain how a team such as the one we studied here — which was characterized by complexity, disorder, and divergent interests — could possibly progress. What we see, though, is that leadership

was possible, but that (a) its form was relatively banal (Alvesson & Spicer, 2012; Driver, 2013), (b) it emerged in ongoing influence between shifting participants, contexts, and structures (Haslam et al., 2011), and (c) this influence was shaped by social relations, ongoing interactions, and constant sensemaking (Crevani et al., 2010; Weick, 1979).

Of course, by their nature, findings from a process-based study such as this are difficult to generalize. Certainly too, leadership in a self-managed interorganizational R&D team has some peculiar properties. For example, ambiguity, uncertainty, goal conflict, and indeterminate identity are prominent elements of the R&D process, in ways that they may not be elsewhere. Nevertheless, goal ambiguity and identity uncertainty are central elements of human experience (Nayak & Chia, 2011), and at an abstract level, we would therefore argue that most of the processes we have explored are of a general rather than specific nature.

Practical implications

The practical implications of this study relate primarily to ways in which one can prepare and support team members in an environment that presents challenges for traditional notions of team management and leadership. The process view we have advanced — and the theoretical sensibilities with which it aligns (e.g., Crevani et al., 2010; Denis et al., 2010; DeRue & Ashford, 2010; Turner & Haslam, 2001) — indicates that efficient management of such projects is not a question simply of recruiting the right person to manage a project or of applying the most appropriate project model. Rather, team members should be made aware of their capacity to shape the project through micro-processes and apparently mundane actions. Furthermore, because leadership emerges through ongoing team engagement, highlighting the necessity of intense interactions and the advantages of fluid and distributed leadership may also help prepare teams for this journey (in ways that traditional approaches to

leadership development and training typically do not; Haslam, Steffens, Peters, Boyce, Mallett & Fransen, 2017; Hay & Hodgkinson, 2006).

Concluding comment

Received wisdom tends to reinforce traditional conceptualizations of leadership as a process in which one person with special qualities carves out a path for others to follow. The present research suggests that, in the world at large — at least within self-managed teams — it takes a very different form. For here we see that, in the absence of formal direction and guidance, leadership emerges through ongoing interaction in which complexities, ambiguities, and uncertainties are explored and positive social relations are constructed. This entails, for example, ensuring that a number of different tools and practices are developed and implemented in order to guide collective sensemaking. And here too we see that those individuals who exert most influence in this process — and hence those who are a source of most leadership — are those who achieve legitimacy by proving willing and able to represent and advance the group and its cause.

Understanding the centrality of this collective sensemaking process is essential for a proper understanding of leadership. So too is understanding its source. Yet, when we look closely, we see that this source is not found in the most obvious places. For it is distributed rather than centralized, fleeting rather than fixed, banal rather than extraordinary. Above all, then, we see that the search for identity leadership ends up highlighting the field's need for theoretical and practical models that expose, and move beyond, the stultifying myths of conventional wisdom.

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