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The performative practices of consultants in a change network: an actor-network practice perspective on organizational change

Abstract

Purpose - This article positions actor-network theory (ANT) as a practice perspective and deploys it to explore the performative practices of internal consultancy teams as they implemented major programmatic change projects within a global telecommunication company. The change process required the creation of a "change network" that emerged as a boundary spanning and organizing network as the consultants sought to implement and translate a highly structured change methodology and introduce new meta-routines within the organization.

Design/method/approach - By combining the methodological datum of ANT to "follow the actors" (whatever form they take) with the guiding principle of practice theory to focus on practices rather than practitioners, the research explored the in-between temporal spaces of performative practices as they unfolded in relation to standardised routines, material artefacts, and the tools and techniques of a systematic change methodology. By a method of "zooming out" and "zooming in" the research examined both the larger context of action and practice in which the change network emerged and the consultants' performative practices; but without falling into static macro-micro dualism, or a purely ethnographic "thick description" of practice. The research is based on interviews (25), participant observation, and a review of the extensive documentation of the change methodology.

Findings - The findings indicate both how consultants' performative practices are embedded in the social and material arrangements of a change network, and why the intentional, expert or routine enactment of a highly standardised change methodology into practice is intrinsically problematic. Ultimately, the consultants could not rely on knowledge as a fixed, routine or pre-given empirical entity that predefined their actions. Instead, the consultants' performative practices unfolded in temporal spaces of in-betweenness as their actions and practices navigated shifting and multiple boundaries while confronting disparate and often irreconcilable ideas, choices and competing interests.

Research limitations/implications - As an ANT practice perspective, the research blends mixed methods in an illustrative case study, so its findings are contextual, although the methodological rationale may be applicable to other contexts of practice.

Originality/value - The theoretical framing of the research contributes to repositioning ANT as practice theory perspective on change with a central focus on performative practice. The illustrative case demonstrates how a boundary spanning "change network" emerged and how it partly defined the temporal spaces of in-betweenness in which the consultants operated.

Keywords: actor-network theory, performative practice, internal consultants, in-betweenness, change management, organizational routines.

Introduction

The role of consultants in the implementation of large-scale programmatic change is often framed in terms of models of expertise, competence and transferable knowledge (Heusinkveld and Visscher 2012; Levina and Orlikowski, 2009; Sturdy *et al.,* 2009; Mosonyi, *et al.,* 2020). The prevailing assumption is that knowledge of the change process is already standardised, codified and commercially proven and that implementation can be managed within fixed project timelines (Canato *et al.,* 2013). This means there is often enormous pressure on consultants to close any "gaps" between theory and practice, rhetoric and reality, success and failure; the implementation of the change methodology must become even more structured and standardised as existing internal organizational routines are replaced by new "meta-routines" (Feldman and Pentland 2003; Wright *et al.,* 2012). The core presupposition of these programmatic approaches to change is that knowledge transfer can be "enacted" in practice through prescribed rules, standards, routines, project plans and methodologies. But is this really a useful way of conceiving how consultants vary, redefine, or "perform" their practices during major processes of implementing change (Sturdy *et al.,* 2009)?

Actor-network theory (ANT) as an embryonic practice perspective has had an important influence on rethinking the idea of "practice" as something "performative"; an idea that runs counter to many prevailing explorations of management practices and consulting practices (Gond *et al.,* 2016). Invariably the "performative" has tended to be associated with implementing forms of knowledge that enhance "performance" (efficiency and effectiveness, outputs and outcomes), or the routine enactment of social practices – theory into practice (Cabantous *et al.,* 2016). Knowledge as theory is transferred into knowledge as practice, which is then apparently ready-made for enactment. These ideas make sense if one begins with a representational theory of subjectivity, knowledge and action; that thinking, theory and intention are prior to practice (Barad, 2003 p.802). In contrast, those influenced by the legacy of ANT seek to treat knowledge (theory) and knowing (practice) as mutually constituted, so that knowing in practice is always a performative accomplishment requiring processes and practices of "translation" in which the predetermination of outcomes is intrinsically problematic (Gherardi, 2017). Knowledge and theory are not separated from actions and practices. From this perspective, Latour (2005) conceives performative practices as unfolding within the temporal spaces of actions and practices as they happen. They become in a realm of in-betweeness that is always entangled within the sociomateriality of a world which is being constantly assembled and reassembled (Czarniawska and Mazza, 2003). In this sense, ANT questions all conventional representational dualisms of theoretical thinking about "social" practices: action and system, agency and structure, micro and macro, social and material, body and mind, theory and practice. In Latour's work, thinking and acting, knowledge and knowing, entities and processes are treated as ontologically relational, commensurable or equivalent.

A deep dissatisfaction with dichotomous thinking either as "dualism" or "duality" is shared by many practice theorists, and perhaps most notably by Schatzki (2005; 2010; 2019). From a practice

perspective the focus on performative practice highlights the "indeterminateness" of action until it occurs, because it is "something done and something that just happens" (Schatzki, 2010 p.170). The something done (the action) may have antecedents or dispositional aspects but until it happens it is indeterminate; what actually happens (outcomes or consequences) unfolds in temporal events of performative practice. In this sense the possibilities of action and agency are not predetermined by something "out there", some fixed representational repository of knowledge inside our heads, or the enactment of a prescriptive routine; rather, we must examine the "practices themselves" to discover the "practical intelligibility" of action – what happens or what people actually "do" (Schatzki 2010p.170). By situating practices as temporal events that happen Schatzki seeks to avoid imposing theoretical notions of intention, individual action or structure on actions, social practices or organizational routines (Caldwell, 2012). Instead, the primary focus is on practices as performative events (Schatzki, 2019).

This study uses actor-network theory (ANT) as a practice perspective to explore the performative practices of consultants during large-scale organizational change. It explores team-based and distributed models of agency within internal consultancy teams, specifically locating the consultants as 'hybrid-actors' within the sociomaterial arrangements of a boundary organizing 'change network' which requires them to enrol and mobilise other actors, while shifting between their formal roles as knowledge experts and project-oriented implementers of change (Latour, 2005). The change network is conceived as multiple sites of action co-constituted by social practices *and* material artefacts that form a series of sociomaterial connections, ties and relationships among consultants as team-based and distributed actors (Latour, 2005; Law, 2009; Orlikowski, 2007). By following the ANT imperative to "follow the actors" (whatever form they take), the research seeks to foreground the complexity of the change network as the consultants translated the project management of change into performative practices (Latour, 2005). This process reveals that the consultants' claim to knowledge and expertise was not fixed by prescribed routines of project control and monitoring, rather *knowing in practice* was relational; it was distributed to multiple 'actors' and 'actants' within the change network.

The research is based on an illustrative case study of internal consultancy teams within a global telecommunication company as it embarked on implementing Lean Six Sigma; a leading business transformation and continuous improvement programme that many organizations have sought to replicate as a low-risk methodology for performance improvement using a series of highly standardised meta-routines to increase quality and improve customer satisfaction (Canato *et al.,* 2013; Wright *et al.,* 2012). Deployed simultaneously or as hybrid methodologies of "process management innovation", Lean Six Sigma tends to focus on two related concepts, the elimination of waste or "non-value creating activities" through value stream process mapping, and continuous quality improvement through increased flow speed and efficient resource usage while simultaneously increasing accuracy (Näslund, 2008). By redefining the operational and functional structures of the organization in terms of "processes", Lean Six Sigma creates new standardised meta-routines through forming new cross-functional and

boundary spanning networks; a process designed to encourage self-directed team-working (Feldman and Pentland, 2003 p.95). While the methodology was conceived as 'disruptive' or transformative, its implementation sought to ensure stability and integration as new standardised routines replaced old ones incrementally (Wright *et al.,* 2012 p.655). However, the value stream processes were discrete and rarely unified, and the structural methodology of Lean Six Sigma was unable to control the process of implementation as a systemic entity with ostensive and repeatable sequences of routine activities. Instead, practices varied not only as they were diffused, but as they encountered "context–specific and systemic misfits" that could not be easily adapted or pre-programmed to "enable variation" (Ansari *et al.,* 2014:1313-1317). This had implications for the consultants' practices. Implementation and project control may have been formally defined by explicit knowledge, standards, rules or ostensive meta-routines, but they were unable to clearly prescribe the consultants' practices. In many cases the consultants simply had to find their own way through the performance imperatives they confronted (Sturdy, 2011; Wright *et al.,* 2012).

The core data of the case study research was collected using semi-structured interviews (25). The interviews were used to "zoom in" on the consultants' practices as they sought to navigate the tensions between the prescriptions of the Lean Six Sigma methodology and their "knowing and doing" approach to action, learning and practice (Nicolini, 2009). In contrast, by "zooming out" the broader theoretical goal was to partly capture the shifting boundaries of the change network as a sociomaterial and temporal meso-level entity that emerged around the internally focused, formally prescribed and ostensive project management routines of the overarching change methodology. This zooming in and zooming out approach was considered an appropriate method in capturing the in-between aspects of practices, rather than locating them in fixed micro or macro entities, or reducing them to an ethnography of description. From an ANT perspective neither the micro or macro can be the centre piece for the analysis of practice; nor can it become purely an ethnographic or 'native' exercise (Latour, 2005).

The article begins with a brief theoretical reframing of ANT as a practice perspective for exploring organizational change (Latour, 1986; 2005). This is followed by an outline of the zooming in and zooming out methodology of the study; an approach strongly endorsed by practice theory studies of "networks of practice" (Nicolini, 2013 p.229-231). The formation of the change network is then presented using the classic ANT sequence of problematisation, interessement, enrolment and mobilisation, which are conceived as overlapping processes and practices of translation (Callon, 1984). The location of the consultants within the change network is then explored using the ANT heuristic of in-betweenness to illustrate how their practices occupy a temporal space in-between maintaining and relinquishing control of the change; a paradoxical position that cannot resolve the inherent tensions that arise from the intrinsic indeterminateness of action as practices unfold. These tensions are explored in terms of processes of mediation and translation, standards and rules, paradoxes of control and sustainability, and learning as knowledge transfer. Finally, the discussion and conclusions focus on ANT as a powerful practice

perspective and the significance of employing the heuristic of in-betweenness to frame a series of paradoxical tensions within the consultants' performative practices and the change network.

ANT and organizational change: performativity and translation

ANT has a somewhat chequered history of provocation, controversy and misunderstanding, but the emergence of a second and truly international generation of ANT researchers and scholars promises new areas of research and theoretical development (Blok, *et al.,* 2019). One area of enormous promise is a rethinking ANT as a practice theory perspective focused on 'performative practice' that is directly relevant to organizational change.

What makes actor-network theory so distinctive as an approach to practice and the performative is that it seeks to fully incorporate materiality and the non-human into the processes by which knowledge and power are composed and how social change is conceived. This of course has always been one of the most controversial features of ANT as an ontological project that seeks to rethink the relationship between the social and material, people and technology in actor networks. By affirming a radically relational and process ontology ANT not only questions representational theories of action and all essential differences between entities, but any reductionionist explanations of society or nature as fixed or stable entities: "The principle of ontological performativity states that all entities are *performed* in, by, and through the [sociomaterial] relationships in which they are involved: stability is the result of an effort, not an intrinsic quality of things" (Gherardi and Nicolini, 2005 p.288). The idea that we can explain action and society, organizations and social practices, change and development by reference to abstract or higher-level fixed entities (agency and structure, social actions and social systems) is replaced by heterogenous, distributed and shifting 'actor networks' in which relative stability is an ongoing performative accomplishment.

By including the material in the social the ANT concept of performativity radically questions traditional notions of how actions are enacted by human actors. It is this 'relational materialism' that leads to a "post-social" view of how the social is assembled and reassembled (Gherardi, 2016; Latour, 2005). The social and material are co-constituted as the ongoing relational "effects" of performative practices (Barad, 2003 p.829). An actor network is therefore never a purely 'social' construct, but an outcome of sociomaterial practices.

Because neither the social nor material are given explanatory primacy in ANT, the world consists of human and non-human agency, social and material entities, 'actants' or hybrid-actors which form networks of relations that are constantly co-constituted. We therefore cannot make *a priori* assumptions regarding the asymmetry between human and nonhuman agency, between what humans "do" and what material entities, objects or artefacts "do" (Latour, 2005 p.76). If "agency" is relational then actors as sociomaterial entities or "actants" are potentially distributed everywhere within networks; and as such they "become mixed - hybridized – in practice" (Czarniawska, 2008, p.50).

By constantly focusing on the hybridised world of practice, ANT seeks to relentlessly escape from binary opposites and dichotomies by returning to what Latour conceives as "the middle kingdom" in which everything is relational, mixed, messy, and ultimately emergent (1993, p.77-78). Despite the analytical and interpretative difficulties this poses one can understand Latour's choice. In-betweenness suggests that actions and practices are rarely purified categories or fully formed entities. They exist in a constant realm of potentiality, in an in-between temporal space, neither fully ordered nor completely disordered. The research challenge for ANT is to maximise access to this sociomaterial and temporal reality of in-betweenness without reducing it to fixed states, or purifying it into either/or dichotomies.

The embrace of in-betweenness, of being in the middle of things, of experiencing everything in the making, partly explains why ANT is constantly concerned with translation. Translation is the process and practice by which the often-messy relations between social actors, material objects, entities, and things are ordered into networks and subject to new "inscriptions" that allow the alignment of interests and "influence at a distance" (Law, 2009, p.149). The translation process is a practice by which inscriptions and "inscription devices" (e.g., models, instruments, standards, protocols, rules, procedures, routines) are created. This process is less about knowledge transfer, transmission or the "commodification" of knowledge, and more about making what seems incommensurate commensurate in new contexts (Berglund and Werr, 2000). Translation makes connections and homologies between practices; it tries to make them convergent, delimited and relatively stable within a new network of practice (Law, 2009; Waeraas and Nielsen, 2016). Translation is therefore about the transformation and transitioning of meanings and material entities from one setting into another, so they form new connections and new hybrid networks of practice.

Translation is also about power and politics. If translation was transparent or simply a transfer of knowledge there would be no issue of power - of who or what does the translation? In ANT translation as a process and practice includes "all the negotiations, intrigues, calculations, acts of persuasion' used to confer 'authority to speak or act on behalf of another actor or force" (Callon and Latour, 1981, p.40). However, from an ANT perspective power in organizations is not spread or diffused through a chain of command from a single source or position; rather it circulates within the distributed practices through which it is performed: "the translation model looks at the links in the chain and notes that at each point there is local agency" (Fox, 2000, p.861). This is perhaps the central reason why Latour gives theoretical primacy to actor-networks; power, knowledge and expertise are not simply centralised and formally possessed, they circulate through the practices that are relational and distributed within networks (Latour, 1986, p.265).

From this ANT perspective on actors and networks organizational change is an ongoing process of translation and a constantly unfolding performative practice. Translation is always happening because all entities are in a process of becoming and stability is a temporal event. In this sense actor networks are temporal forms of organizing defined by sociomaterial practices (Mol, 2010). With this "process" and

"practice" focus the central questions become how actor-networks are performed into existence by translation and how they routinely carry, delineate and limit the scope of practices while simultaneously enabling new practices to emerge.

Despite the focus of ANT on process and practice, performativity and translation, the legacy of ANT has often been misinterpreted in understanding organizational change. This is perhaps most evident in the study of "organizational routines" as sources of stability and change during processes of strategy implementation (Cabantous *et al.,* 2018). For example, when Feldman and Pentland (2003) famously borrowed the distinction between the "ostensive" and "performative" from Latour's early ANT work to rethink the nature of organizational routines, they were revisiting long standing attempts in social theories of practice to account for how the dispositional, structural or rule–following aspects of organizational routines are enacted in practice to create endogenous stability and endogenous change (Bourdieu, 1977; Giddens, 1984). If routines are primarily guided by the ostensive (the structural aspects of social action) then they significantly influence the performance of the routine: how it is enacted. Their goal was to build a theory that explains "why routines are a source of change as well as stability", by arguing that "routines guide action" while the performance aspect of routines "creates, maintains, and modifies the ostensive aspect of the routine"; it is the "routine in practice" (Feldman and Pentland, 2003, p.94, 101).

This reading of the ostensive-performative distinction is undoubtedly useful in shifting the focus from a notion of fixed structures and routines as unchanging and rule-based to a more micro-dynamic view of how routines change, while also 'reinstating' human agency in processes of organizational change. Yet the new emphasis is still much more focused on the constraining and stabilising aspect of routines, or their status as "generative systems" or ostensive structures creating continuity, rather than their enabling or performative aspects. This partly explains why Feldman and Pentland had difficulty getting inside routines to "specify the mechanism through which endogenous change occurs" (Levina and Orlikowski, 2009, p.40). Routines were still being treated as black boxed entities that can be replicated, reorganised or replaced. There was little attempt to look inside routines to explore them as processes and practices that change. Instead, routines are repurposed as the building blocks of organizations; they enacted organizational structures rather than explaining organizational change.

In this respect, Feldman and Pentland (2003) are classic sociological realists, they treat organizational routines as "real" social facts or "things", that function as "generative systems with an internal structure and dynamics" that then produces endogenous routine change (Pentland and Feldman, 2005. p.793). The ostensive is an abstract representational entity or thing (cognitive, external or otherwise) that causes action or directs the performative. The performative is only meaningful because it unfolds within the pre-existing and recursive social reality of routines; it is "reproduced" in social practices. Moreover, by treating internal routines as representational objects of social inquiry, rather than as sociomaterial practices in-the-making Feldman and Pentland (2003) give a somewhat limited role to artefacts in influencing "patterns of action", mainly because they wish to reaffirm Giddens' focus on

human agency – only people can enact endogenous routine changes - agency cannot be distributed to sociomaterial or technical artefacts (D'Adderio, 2008, p.48).

This amounted to a serious misrepresentation of Latour's intention that is still very prevalent in the discussions of organizational routines, despite the increasing focus of the literature on practice and process theories of routine change, and the role of artefacts within routines (Feldman *et al.,* 2016). Latour's ontological ambition was to give analytical priority to the performative over the ostensive in a bid to break the hold of both "dualism" and "duality" thinking, either in the form of social structural morphologies or Giddens' search for a new duality or recursive model of agency and structure (Wright, 2016). Latour's argument for the primacy of the performative is essentially twofold. The performative is the ontological condition of possibility of the ostensive (the reality of the sociomaterial world is relational, it comes into being simultaneously), and the performative has come to the fore because our sense of "society" or the social as stable entities have been overtaken by the ongoing performativity of the sociomaterial world which we ignore at our peril (Latour, 1986, p. 272). By conceiving the performative as co-constituted or relational (i.e., sociomaterial), Latour refuses to draw a strong distinction between the social and natural, or the human and the nonhuman in defining how the world is *socially* constituted. For Latour the "social" in-itself is always of limited explanatory value in exploring the nature of performative practices.

This research contributes to on-going efforts to position ANT as a distinctively performative and processual approach to practice, a *process-in-practice* perspective on organizational change, which has close affinities with practice theories of how social activity is enacted and performed (Schatzki, 2010). Performative practices are conceived as assemblages of actors/actants, material artefacts and processes of knowing-in-practice that can be explored in the doings of practices. By exploring the consultants' practices during the formation of the change network, the goal is to examine the 'translation' processes through which change projects are defined by the consultants' performative practices as they occur within the temporal spaces in-between actions and practices as they unfold: they are not simply the enactments of knowledge, expertise or ostensive routines defined by an overarching and standardised change programme methodology. The change network and performative practices of translation are the primary focus of analysis, rather than the change projects conceived as purely objectified or structural entities predefined by Lean Six Sigma methodological protocols, tools and new meta-routines (routines designed to change routines). It will be argued that the change methodology as a sociomaterial arrangement of routines, objects and artefacts designed to project manage change may have provided consultants with opportunities for power, control and legitimacy, while also constraining their ability to act, but ultimately it did not predetermine their performative practices.

Research approach and context

The research is based on evidence gathered through participant observation and semi-structured interviews with twenty-five members of a global telecommunications company's internal consultancy team working on a series of Lean Six Sigma (LSS) process and continuous improvement projects. The consultants performed specialist and multiple internal change roles in business improvement, project management and training and coaching. Their internal clients were large, geographically dispersed, operational teams who were experts in systems and technology. The consultants invariably worked with clients in parallel project teams, and were expected to deliver team objectives or they worked as a resource attached to a programme. Some individuals involved in the project teams where co-located, for example at a regional service centre or the Head Office, so multi-communications technology and virtuality were integral to bringing everyone in the project teams together.

At the time of the research the organization had undergone four iterations of the latest improvement project, affecting twenty implementation teams across the organization. Overseeing the projects and the central point of contact for the implementation teams was the Project Management Office (PMO), which sought to align the projects with the organizational strategy, as well as link the strategy with the implementation process.

Selection of participants was designed to establish a representation of roles that sought to mirror the ratio of PMO consultants to implementation team consultants. The participant group (fourteen male and eleven female) varied in experience from the most junior consultant with six months experience to the most senior director with over fifteen years' experience. Four participants were part of the PMO and twenty-one were members of an implementation team. The implementation team consisted of five sub-teams and one member from each sub-team was assigned to different operational teams for the duration of the project.

The PMO and the implementation and operational teams, were all tasked with managing change using a derivation of Lean Six Sigma; a "soft lean" version of lean methodology that combined small group problem solving and hard tools and techniques (Näslund, 2008). Lean Six Sigma is a hybrid of two highly structured and hierarchical continuous improvement (CI) tools that emerged in manufacturing but is now widely used in the service sector: a lean methodology designed to improve flow in 'value streams' by increasing production efficiency and 'eliminating' waste (i.e., all non-value-adding activities, including time), and a top-down, process-oriented, data-centric, and statistical problem solving methodology. Overlaid on these highly structured and routine methodologies were various "add-on" behavioural change initiatives designed to facilitate change.

The methodology had been developed specifically for the organization and it was regarded as a single system-wide programme, although in practice the PMO and implementation sub-teams operated as different entities interfacing with an array of sub-projects with discrete continuous improvement (CI) activities or "CI waves" and various "value streams" designed to map end-to-end processes and identify waste and cost saving activities. The various waves formed "intense periods of execution delivering a

benefit". The waves could range from a "10,000 people wave" in multiple locations in different countries to "100 people wave" in a single business unit within one country. The standard timeline for waves was 12 weeks, but they could be extended.

The principle researcher had previously worked as an internal consultant within the organization, and this facilitated access and the participation of a wide-range of interviewees (25). The interview data was analysed using the data consolidation and coding application, *Dedoose* (Version 6.1.18). The transcripts of the twenty-five recorded interviews were uploaded, with notes from participant observation and relevant operational documentation. The data was then reviewed, coded and consolidated. The initial analysis identified 12 practice areas, of which six were subsequently selected as most relevant to ANT. To compress the presentation of the interview findings, all quotations, phrases and terminology used by the consultants during the interviews are indicated by the use of "*italics"* within the article.

Creating the change network: zooming out

The decision by the organization to embrace a hybridised version of Lean Six Sigma, and build its implementation capability internally, was part of a broader attempt to combine programmatic business transformation projects with continuous improvement. This was an enormously challenging task given the scale and complexity of the organization, and the capability and capacity prerequisites required for major change; and this was compounded by the intrinsic limits of the hybridized methodology (Sarker *et al.,* 2006). Lean Six Sigma is a methodology for process redesign and continuous improvements driven by the application of highly structured plans and prescriptive tools, but it is not in and of itself a change management or culture change framework. As a result, there was a disjunction between methods, tools and techniques of delivering the process redesign and improvement and the "*add on"* of longer-term behavioural change (Canato *et al.,* 2013). Process and value stream mapping may be useful in defining projects with outputs, and Six Sigma may deliver powerful metrics, but both methodologies are about tools for deliverables, while change management is about sustaining the change as a practice. The constant danger was that project deliverables would be conflated with "*behavioural deliverables"*.

The implementation of the Lean Six Sigma methodology within the host organization triggered the emergence of a boundary spanning and parallel-meso change network focused on redesigning organizational processes and routines (Figure 1). Within this network the internal consultants were primarily positioned as process improvement specialists, knowledge experts, facilitators and implementers of change, but they also assumed a key mediation role in translating the panoply of Lean Six Sigma structured methods, tools, and performance improvement targets into frameworks that made sense to operational teams at the local level. Translation was therefore conceived as a boundary spanning and boundary extending process in the formation of the change network (Carlile, 2004).

However, the formation of the shifting change network was more than a boundary spanning exercise; it also required "boundary organizing" within and between perceived organizational boundaries and practices (Mørk, *et al.,* 2006). The boundary organising process of the change network was therefore complex because it often took place at the boundaries in-between the PMO, the implementation project teams, the operational teams, the visual artefacts of the methodology, and the multiple "*waves of implementation"* across geographical boundaries. This process can be partly explored through four overlapping and iterative moments of translation: problematisation, interessement, enrolment and mobilisation, as the change network and the consultants' performative practices were mutually constituted (Callon, 1984). This ANT framework affords insights into how the consultants sought to destabilise and re-stabilise boundaries as they translated the methodology of Lean Six Sigma from processes and tools into projects and practices (Law, 1992).

Problematisation

This occurred when the consultants made various efforts to make other actors within the organization subscribe to the perceived benefits of Lean Six Sigma models and tools by demonstrating their efficacy as solutions to specific problems. This can be done by "*framing"* the nature of the problem in their own terms, but this may have limited efficacy if the consultants do not involve other actors in the initial problem definition process (Callon, 1984). The definition of the problem must be stated or framed in a way that other actors recognize or perceive it as their own problem.

Insert Figure 1 Zooming Out: The Change Network

This kind of initial problem definition process is intrinsic to Lean Six Sigma. Before embarking on a project it must be demonstrated, in principle, that it will improve business performance. Once the consultants as key actors established with other actors (e.g., operational teams) that lean process maps and other Six Sigma tools offer perceived solutions, they have begun to establish the 'obligatory passage point' (Callon, 1984 p.207) through which all new actors within the network must eventually proceed; effectively they have begun to recognize that the consultants' expert knowledge and intervention is legitimate and indispensable – and that the change is irreversible. At this point the new actors within the change network may also be empowered to develop their own problem-solving abilities.

Unfortunately, the outcomes of problem definition processes cannot be clearly predefined, partly because they destabilise boundaries and they are often very unpredictable once other actors are involved. For example, value stream mapping of activities was often complex because they involved interrelated or cross-functional activities with different inputs and outputs, so process ownership was a recurring issue. In addition, identifying "*value added"* and "*non-valued added"* activities were enormously contentious. In these respects, the Lean Six Sigma methodology as both an overarching managerial philosophy driven by

the guiding principles of process thinking, and a prescribed set of management tools or techniques of "doing" was much less clear in defining what consulting 'practices' would lead to the achievement of desired outcomes. So, the proposed actions to deliver outcomes often remained problematic until they were clarified, redefined or discovered through the consultants' performative practices.

Interessement

Interessement ('to be in-between (inter-esse), to be interposed') occurs when other actors are interposed in the problematization process so that their interests become aligned; they begin to engage with the methodologies and tools of Lean Six Sigma, gradually taking on new tasks or roles (Callon,1984 p.204). They are also encouraged to become "*sponsors*", "*problem solvers*" or "*process owners*" who begin to convene around or partly own the new methods, effectively locking or committing the actors into the boundary bridging change network, and beginning the process of replacing the old organising processes with new work practices. At this point the new actors may be encouraged or empowered to develop new basic problem-solving abilities; and eventually they will do the doing by assuming quality implementation roles throughout the organization.

Interessement is more than the alignment of interests, it also requires cutting or weakening the connections or functional links between existing organizational members so that a new network can be established; e.g., the redesign of cross-functional process or a new way of working. New actors at the operational level must be detached from existing ways of thinking and working; they must be enlisted by the problematization process and become further committed to a solution as they gradually become actors with goals and aims defined by the Lean Six Sigma methodology – otherwise they may be excluded.

Interessement invariably invokes resistance, as some actors may refuse to embrace new ways of working by maintaining their own goals or interests (Callon, 1984). The consultants were certainly fully aware of the dangers of "*creating resistance*", especially if they applied "*too much force*". Some were therefore adept at applying pressure by "*sign-up and force*", while others knew how to "*transfer*" or channel resistance as it unfolded: "*If you're seeing much resistance, have them apply more force, and if you're seen backing off then you're not being forceful enough*". In these senses, resistance was conceived as both something subject to tactical control and as something generated and co-constituted within the interplay between the consultants' performative practices and the shifting contexts of 'control/resistance practices' as they unfolded.

More broadly, however, the major challenge during interessement was to break down the "*deep silos*" by enlisting new actors in creating a change network that was not defined by the existing compartmentalization of processes. The change network therefore had to be constructed in a manner that transgressed functional, operational, team boundaries; it had to be process-oriented and holistic rather than structural and hierarchical. This of course posed an enormous challenge. Projects as short-term or piecemeal process improvements within silos were always a challenge to long-term sustainability

because the process improvements could be confined to discrete projects within silos. The choice was between doing continuous improvement within a silo, or situating it within a larger value stream process as a *"big end to end model"* that encompassed many cross-functional activities.

Enrolment

From an ANT perspective power is not a possession; it is always in the making and this requires processes of enrolment (Latour, 2005). During enrolment the shifting boundaries of the change network began to emerge in a more definite form as actors began to assume the roles they had been allocated and they interacted on a more regular basis. At this stage the consultants began to assert their role as the primary proponents or protagonists of the change implementation process through consolidating connections and directing the enrolment process. Inscription devices and communication technology were key to this process because the new roles and the new practices required by the methodology had be recorded, carried and recursively enacted in a huge range of visual artefacts. Moreover, envisioning a *"visual end state"* was intrinsic to the change methodology, and the consultants were the most visible actors in its *"visualisation"*.

The consultants were fully aware that *"communication"*, *"visibility"* and *"visualisation"* were critical to the methodology and their practice, and they used a vast array of data artefacts and visual tools to promote inscription: value stream maps, cause-and-effect diagrams, control charts, check sheets, scatter diagrams, reporting templates, data artefacts, policy standards, planning and methodology documents (Glaser, 2017) . Once in circulation these mobile inscription devices operated as independent actants within the network; they also formed templates that allowed the consultants to communicate directly or virtually with other actors through team-led calls, weekly monitoring reports and plan updates. The control of communication also allowed the consultants to influence artefacts in circulation that were then used to initiate conversations across the network, solidifying the network and the consultants' ability to enrol other actors, while also allowing them to stabilise their connections within the network (Latour, 2005). In addition, video conferencing and multi-communication technology such as SharePoint, Onenote, intranet pages, email and Instant Messenger were used to host and circulate documents and hold conversations, further binding the virtual connections of the network together. These multiple artefacts were simultaneously social and material, combining the visible and data artefacts of project planning with the communication technology used to enact and reproduce practices within new local settings; effectively maintaining, extending and transforming the connections within the change network.

Mobilisation

The final stage of translation is mobilisation. This only occurs, if at all, when the proposed solutions offered by the Lean Six Sigma methodology have gained broad acceptance and become effectively 'black-boxed'; they are treated not simply as problematizations but as facts, models or solutions at the operational level that are increasingly immune from direct scrutiny (Callon, 1984). In effect, the more accepted the "facts"

become the stronger the network becomes, and the more it can be extended (Latour, 2011). This is the moment at which the boundary spanning change network developed by the consultants through a multiplicity of projects will have succeeded in establishing its agendas, timelines and performance outcomes. In such a situation the Lean Six Sigma methodology would have finally become an 'immutable mobile', an entity capable of being transported across space and time and therefore capable of controlling both process redesign and continuous improvement within the organization by embedding new organizational meta-routines. However, this apparently semi-fixed or self-sustaining state was not reached. To hold the change network together, to keep the system and process methodologies of Lean Six Sigma *'closed off'*, to make them sustainable, required the repeated mobilization of the methodologies, their actors and the temporal change network. Without this "*repeat cycle"*, the sustainability of the business process transformation was inherently problematic; it was reversible (Sarker *et al.,* 2006).

Performative practices: zooming in

During the research the four translation processes of problematisation, interessement, enrolment and to some degree mobilisation were occurring almost simultaneously as the change network emerged through the activities of a variety of consulting teams. This illustrates how actor-networks are processes in practice; they may appear as unitary, coherent and stable, but they are temporal entities that shift and reform as they interact with other networks and other actors (Callon, 1984).

To zoom in or partly get closer to the performative practices of the consultants in the change network we cannot simply predefine or "designate" what is being described, rather we must empirically examine the in-between temporal spaces of performative practices that the consultants navigated (Latour, 2005 p. 172). Six aspects of the consultants' performative practices are examined (Figure 2). First, the shifting position of the consultants as "mediators" and "intermediaries"; second, their role in the translation of the Lean Six Sigma methodology; third, the difficulty they encountered in enacting the prescribed standards and rules of the methodology; fourth, the paradoxes of consulting as a process of enforcing and relinquishing control; fifth, the intrinsic limits to the sustainability of continuous change; sixth, the tensions between expert knowledge as a possession that can be transferred and the practices of knowing by doing.

Insert Figure 2   Zooming in: Performative practices

Consultants as mediators and intermediaries

For Latour the "first uncertainty" in defining actor-networks is deciding if social-material objects or actors are mediators or intermediaries, or both (2005, p.27-37). Heterogeneous intermediaries appear to carry or transmit meaning or information without transforming it. Examples may include tools, technologies, texts, and people. In principle they are all actors, but they act as neutral or passive conveyors of meaning;

they do not transform the relations or contexts in which they are located. In this sense intermediaries are carriers of an ostensive or structural basis for stability; they create reliable, routine and rule-bond interactions between actors, in which material objects, visual artefacts, tools in use, technologies and methods appear predictable. Intermediaries are instruments, a means to an end (Latour, 2005 pp.38-39). In contrast: "Mediators transform, translate, distort, and modify the meaning or the elements they are supposed to carry" (Latour, 2005 p.39). Latour invariably gives primacy to mediators in actor-networks because they occupy the in-between temporal spaces of practices and their role is primarily performative: they create and facilitate the stabilisation and organising of intermediaries into entities. Mediators in this sense are often human actors, who create intermediaries and place them in circulation (artefacts, tools, texts, technologies, methods resources, symbols) so that they can define, enrol and control other actors within networks.

The mediator-intermediary distinction, however, is relational, processual and performative rather than an either/or dichotomy; it is not simply that intermediaries replicate and mediators transform (Latour, 2005, p.40). Without mediators the temporal stabilisation effects of intermediaries would not have occurred; the ostensive would not be constituted. In effect, if there were only intermediaries everything would appear to be fixed and stable, and if there were only mediators everything would appear to be in an infinite relational process of constant change. The intermediary-mediator distinction therefore occupies Latour's "middle kingdom"; it allows him to reconceptualise the relation between relative stability and ongoing change in performative terms; you cannot have one without the other, and they can shapeshift into each other.

The performative and relational definition of mediators and intermediaries is important in understanding how the Lean Six Sigma methodology had been deployed to produce predictable performance outcomes. Most of the consultants in the Project Management Office (PMO) identified their role with this goal; they espoused the organization's business transformation strategy and they gave primacy to the methodology in defining actions and outcomes. By positioning themselves as surrogate intermediaries the PMO consultants tended to treat the project methodology as an ostensive intermediary structure of routines and standards; or a system of control in which inputs determine outputs (Feldman and Pentland, 2003, p.111). They therefore conceived their role as "*monitoring*", "*policing*", or enacting the "*letter of the law*" thereby "*making sure people are sticking with the method*". And for some this role was almost evangelical: "*I believe in the method and its real measures drive behaviours*", so for any teams that were "*fiddling the process…I morally can't stand that*". This insistence on conformity and control was also reinforced by the view that the methodology was reality: "*Because we all share the same objective reality, ultimately.*" So once inscribed and sanctioned the methodology took on a life of its own as a neutral intermediary; a fixed representational entity of charts and diagrams, checklists and progress reports, that carried the planned changes as a series of apparently sequential stages and predictable outcomes. In effect, the methodology was an intermediary standing in for human

actors, it was an actant that acted on behalf of the PMO consultants and other senior managers. However, "minimal changes" may transform apparent intermediaries into mediators; actors, human and nonhuman, no longer appear as actants that steer or "force forward" the prescribed change, but alter and redirect it (Callon, 1984). For example, when the PMO consultants began "*cracking the wipe*" to enforce prescribed project timelines or predetermined deliverables they appeared to be intermediary actants of the method as a sociomaterial entity. Yet they were also willing in some circumstances to act as mediators redrawing timelines or redefining deliverables. Once again, these chameleon-like shifts indicate that the distinction between intermediaries and mediators and their status as actors or hybrid actants was relational; within the permeable boundaries of the change network intermediaries can shapeshift into mediators.

In contrast to the PMO, the implementation team consultants were primarily positioned as mediators. They may of course have often been willing on numerous occasions to act as neutral intermediaries in espousing the objectivity of the Lean Six Sigma methodology, but they invariably adopted a more iterative and performative approach to practice by working very closely with operational teams at the local level to make sense of the mounting tensions between "*standardization and variation*" as practices were diffused, reinterpreted or abandoned (Ansari et al*.,* 2014, p.1313). To do this the implementation consultants within distributed project teams maintained a network of multiple, simultaneous interactions at the crucial conjunctions and boundaries of the change network, the translation of Lean Six Sigma methodologies, plans and techniques into actions and practices.

Translation

The nature of practice often becomes apparent when we try to translate knowledge, ideas or meaning from one context to another; something is lost, something is missing, something is irretrievable (Waeraas and Nielsen, 2016). This paradox of translation is clearly core to consulting as a process and a practice (Heusinkveld, and Visscher, 2012). The overall project management of change is often maintained by the translation of procedures, rules, or project plans from one setting to the next – from the system-bond worldview of the change methodology to its peripheral locales of implementation in which practices proliferate.

Some of the implementation consultants were very acutely aware of their translation role: "*it's all about translation*". Translation was invariably perceived as a knowledge reframing process: "*extracting knowledge and data from operations and analysing it and presenting the case for change…. can you assimilate and extract the information or understanding from a situation or a process or a system, wherever and frame it and replay it in a way that people understand it…that's the primary role really of the consultant*". Once translation frames knowledge as codified "boundary objects" (e.g., process maps, standards, templates) it then becomes possible to potentially use this knowledge to both successfully bridge boundaries and extend boundaries within the change network (Carlile, 2004).

However, rather than translation as a means of transforming, controlling or re-ordering information and meaning, the acts of framing and reframing often led to competing or contradictory translations. For example, the apparently objective exercise of extracting knowledge from data could lead to the proliferation of *"data artefacts"* that bore little resemblance to process flows within the organization. Similarly, there were often disjunctions between the framing method as "*a very top-down model"* around overarching business objectives and targets and "*the true nature of the change"* in terms of how it "*happened on the ground"* or how the perceived benefits were interpreted at the operational level. Moreover, the cascade of translations required to frame the formally prescribed processes of *"navigating the change, leading the change, or implementing the change"* were all very different and this led many of the consultants to alter their performative practices, not only in translating one practice into another, but also in adapting their practices to each local context they encountered.

Standards, rules and routines

The difficulty of enacting and controlling the multiple processes of translations was a recurring issue for the consultants. But this reflected a much broader issue. The methodology of Lean Six Sigma was a hybridised entity that became increasingly hybridised in practice. Its two central features, continuous improvement (CI) and value stream mapping, were originally designed as standardized methodologies *"linked in a two-step process".* But they were both run differently from the prescribed standards: "*So we have standards but we don't rigorously use the standards…"* The two methodologies were also not linked effectively because teams in CI and value streams operated as "*two distinct silos with very little connection with one another"*. And even within teams there were significant variations in how CI was enacted in practice. For some of the consultants these disjunctions were not the only sources that "*corrupted"* the methods, they were also "*bastardised"* by each local iteration as business unit managers or other stakeholders sought to pick and mix their requirements: "*right, forget about doing this we're doing that".*

Some of the consultants were very critical of this hybridization and diffusion of the methods into heterogeneous consulting practices, partly because they retained a view that there was some notion of a standardised method or an ideal of "*best practice"*, or that there was within the methodologies pre-existing ostensive structures and meta-routines that defined both what to do and how to do it – a logic from actionable knowledge to practice. If this was the case then the tools and models deployed could faithfully transmit or transfer learning; processes could be defined as projects, and projects could simply be enacted. But this was rarely the case. The translation processes were much more complex than the transfer of new knowledge, the conversion of tacit to explicit knowledge, the learning of new meta-routines, or the diffusion of new practices by enabling flexible variation.

While there were dominant structural, system-wide and prescriptive methodologies that defined ostensive standards, the actual rules defining standards were often unclear; they were made and unmade through translations, contextual practices and the reactions these elicited within the often amorphous

and cross-cutting waves of the implementation sub-projects. It was only through "knowing and doing" as a distributed performative practice with respect to each standard that the implementation consultants established the boundaries and variations of the practices within the change network (Gherardi, 2016).This was a powerful instance of "practical understanding"; of doing what it makes sense to do without fully following formally prescribed rules or standards: "Rules do not determine what people do; rather, what people do determines what following rules amounts to" (Schatzki, 2010 p.181).

Paradoxes of control

Control by relentless monitoring is central to Lean Six Sigma project management methodologies, partly because of their complexity and the need to integrate various projects using simultaneous and sequential methods, tools and models during the change implementation process (Canato *et al.,* 2013). This imperative was ruthlessly embraced by the PMO which consistently advocated "*tight change control"*, as a way of deterring "*complete and random acts of violence":* e.g., the derailment of plans by bringing steps forward or "*cherry picking"* prescribed outcomes. For this reason, monitoring as weekly reporting was rigorously enforced, even though it was perceived by many as "*one-way traffic that drives everyone mad"*. One consultant fully expressed this sense of exasperation with the relentless monitoring process: "*So we have a god, we have a PMO report".*

The methodology of Lean Six Sigma and the perceived "*bureaucracy around the method"* also reflected the view that if a small number of control measures and variables were regularly monitored, then the managerial controllability and success of the implementation process would follow (Canato *et al.,* 2013). This process of "purification" tended to isolate control measures and the monitoring of the overall plan from the shifting practice contexts of implementation and the unintended consequences of prescribed action (Latour, 1993, p.10-11). This situation created a perpetual paradox of control for the implementation consultants; they were asked to exercise control through structured project management and reporting routines, while they simultaneously loosened or subverted this control when coping with the real performative practice challenges of delivering outcomes to meet very specific team needs.

Sustaining the change

The sustainability of change is a highly complex issue. Constant improvement requires constant change, but there has to be some fixed timelines for when "continuous improvements" will be achieved, as well as a long-term process for ensuring that continuous change can be sustained. These imperatives often appear irreconcilable. An organization that embarks on a Lean Six Sigma journey must somehow embrace the norm that continuous improvement can never be finished. Ultimately, there is no end to reducing time and costs, mistakes and defects, resources and people (Hammer, 2002).

Most of the consultants clearly recognised that sustainability was about "*embedding a new way of working…. It's about culture, it's about capability, it's about empowerment".* But sustainability often

became conflated with the ubiquitous artefacts of continuous improvement (CI) tools and techniques: "*its' no good having the tools if you think … 'I know how to do a process map' that's not where CI is and I think some people think it's all about tools, it's not it's all about change".* Another danger was the recurring disjunction between value stream mapping and continuous improvement: "*If you do value stream, you're on the first step to CI or if you do CI you're embedding what's going to come along in value stream and what they ought to be'.* The problem was that the two activities were often not linked. Compounding these issues were constant tensions within operational units regarding business transformation: "*are you looking for CI, or are you looking for cost transformation?"* Unfortunately, CI as culture change tended to be slow and intangible while cost transformation was instantaneous and measurable: "*At the end of a set period they don't care about behavioural change, in the heat of the moment it's cold hard cash, or service improvement to a degree, but cold hard cash is king at the moment".* And even if a "*learnt behaviour was left behind"* on the back of CI it was dependent on senior management as to whether they "*kill or cure it – they either live by it and grow it and it really works well or they're not interested in it and it withers and dies over time".*

What ultimately underpinned all these tensions of sustainability was "time" as the pervasive actant embedded in the drive to rapidly implement new meta-routines (Geiger and Danner-Schröder, 2017). The consultants were fully aware that "*time is of the essence for all of consulting practices".* To deliver to the timelines of a plan was absolutely imperative: "*For me what is important is that behind every line of the plan there is a reason, a deliverable. I think what's important is that we get to the deliverables…"* Consulting teams might of course fail along the way, but the imperative was to *'fail fast'* partly because the consequences were far reaching and brutal for the consultants – they must deliver. Unfortunately, this imperative meant that "*behavioural change"* as a long-term goal became compressed into the fixed timelines of project deliverables.

For many of the consultants time pressure was clearly the major impediment to the sustainability of culture change and it circumscribed the possibilities of their performative practice: "*[T]hat's the problem with culture change, isn't it, you don't do it overnight – it's not going to occur instantly".* However, the pressure to meet deadlines was relentless and intensive because the consulting teams were required to move on to new projects every 12-14 weeks. This meant there was a recurring tension between the temporal nature of managing waves of change projects with an end-date, a momentum-driven and "*coercive"* approach, and the consulting teams' focus on sustaining change by "*landing behavioural changes".* This tension showed no signs of being resolved (Canato *et al.,* 2013 p.1725).

Doing as learning

The standard approach to learning was framed as a "*transference thesis"* in which the repetition of new meta-routines supported the transfer and acquisition of learning: e.g., "*the slow burn of demonstrating through doing as learning".* In effect, codified knowledge was to be transferred from the consultants to

the change recipients in their situational contexts of application. This required the consultants to demonstrate particular activities, such as data analysis, undertake the task with the operational teams and then ask the teams to complete it themselves. This approach was explicit in the method documentation of Lean Six Sigma and prescribed by the learning mantra *'I do, we do, you do'*, emphasising the transfer of knowledge, responsibility and learning from the implementation consultants to the operational teams as a means of sustaining change. The assumption was that a "*learnt routine"* would persist in "*learned behaviours"* and that it could be transmitted in explicit and encoded formal policies and rules, as well as captured in data collection, information and knowledge management systems.

The recurring danger for some consultants, however, was that they would get stuck in an "*I do"* mode rather than ever reaching the "*we do"* or "*they do"* modes. There was also a concern as to when knowing as doing would be recognisable as competence, not just by the doer; competence requires a performative context in which competence is also recognised by others (Hui *et al.,* 2016). This may partly explain why the learning mantra evolved as "*I do, we do, I do again"* as some implementation consultants sought to assume control and responsibility for project outcomes. In addition, the consultants often found that they retained informal coaching relationships with operational teams to maintain new skills or to informally advise them, even after the implementation phases of projects had officially ended.

Many consultants realised, however, that learning by doing was not simply a process of knowledge transfer; they also depended on peer-to-peer learning within their teams as well as learning collaboratively as a distributed activity with operational teams. This form of distributed or "concertive" learning was an ongoing performative process and it was variously described as "*two-way", "unplanned", "collaborative"* or *"it just happened";* and sometimes it was presented as a "*conscience thing"* of "*getting people to understand why it is that they're doing what they're doing"*. These variations suggest that the learning and knowledge transfer or transmission processes were not following the espoused intermediary PMO planning agenda or the Lean Six Sigma methodology. Instead, learning as an ongoing concertive process had to be sustained by the unscripted performative practices of the consultants.

Some of the consultants were clearly aware of these performative issues in their perceptions of the nature of learning. By conflating methods and tools with the complexity of learning processes the consultants' practices were treated as routine inscription and transmission devises. The methods, tools and templates appeared to be more important than consulting practices, because it appeared that the method delivered the tools, and so "*doing as learning"* was somehow driven forward by the overall plan; it prescribed doing as a fixed sequence of steps rather than as a continuous or concertive process that enabled learning.

The consultants were also acutely aware that there were constrains on their own learning. There was limited time for self-reflection in action, or knowing in practice, because doing was conceived as a series of tightly programmed routines or repetitive acts in the rapid mobilisation of the methodology. As a consequence, there was almost no time for engaging in "*hearts and mind stuff"* because "*value stream*

is process re-engineering, that's what it is"; it was simply an *"I do tool"*. These issues generated deep frustration for some consultants who felt that they were *"doing the right things for the programme",* but their micro-practices *"around facilitation, enabling and empowering people"*, of asking them *"what do you think you should do next",* were truncated into skill or tool-based knowledge transfer processes. Perhaps because of these challenges many of the consultants were often quick to debunk their claims to knowledge and professional expertise; they knew they had to deal with local knowledge, with context, with knowing as doing.

Discussion: inside the change network

The analysis of the boundary organizing change network was important in establishing how the mapping of new organising processes were translated into practices (Mol, 2010). For example, the 'process thinking' that underpinned the Lean Six Sigma methodology tended to treat processes as surrogate tokens for practices. It assumes that if firm-level and generic 'processes' inside the organization are codified and mapped by explicit knowledge, fixed as ostensive routines or prescribed actions, they can then be transferred into pre-determined or instrumental practices; the 'doing' is somehow circumscribed within the redefinitions of the processes. Systematic process categorisations are therefore conceived as processes and sub-processes, inputs and outputs, activities and tasks that can be clearly defined as "lean practices" (Palmberg, 2010). In effect, knowledge as a representational object is treated as a disposition to act, it is the same as knowing in practice (Gherardi, 2015). This core assumption also appeared to affect the ongoing attempts to extend the methodology into an add-on change management "tool kit" with predictable project management processes and outcomes. The implication appeared to be that behavioural change was as *"re-engineer-able"* as business processes.

This was a severe case of methodological overreach. If newly modelled processes could be designated as perceived solutions to business problems with defined outputs, they were rarely considered a guide to change management practice or the task of sustaining behavioural change. Instead, the change management practices had to be performatively varied and redefined as process mapping entities were turned into projects. In this sense, process mapping is inherently problematic, not only because the networks of processes and their multiple connections within any large organization are simply vast, but because the flows of actions within practices are unknown until they happen. We make sense of action and practice as they are 'performed in, by, and through relations' (Law, 1999 p.4). The performative happens somewhere in-between one action and another as practices unfold (Schatzki, 2010). This was evident in the consultants' practices. When practices happened, it became clear that they often did not follow a prescribed ostensive routine or dispositional logic, nor could it be assumed that the consultants articulated a unified or shared understanding of the hybrid Lean Six Sigma methodology.

The performative nature of action and practice is one major reason why process change as a radical transformation project is so challenging and unpredictable; so much can go wrong, especially if it

is assumed that "best practices" or "lean practices" are given in the modelled processes, or worse still, if they are treated as transferable without translation (Canato *et al.,* 2013; Hammer, 2007). The emergence of the Lean Six Sigma was partly a response to this dilemma; it takes process thinking and the endogenous meta-routines of total quality management (TQM) down to the functional-activity or task level rather than including the whole organization (Hammer, 2002). Processes as discrete projects are more narrowly defined. They may only involve a limited range of cross-functional processes, which also means that process redesign projects are much less threatening to hierarchical distributions of political power in organizations: there is no blank sheet in which power as a hierarchical function completely disappears into processes (Palmberg, 2010). This also means that process design is less systemic and more network-based, and so it can become disjointed or fragmented in execution as it moves from processes to projects to practices. Certainly, process mapping without a "system" view of the organization as a whole tends to lose its coherence, and change management can become a series of ad hoc tools and fixes - some work, some do not. Nevertheless, proponents of Lean Six Sigma tend to see it as a new vision of a systems philosophy with a rigorous methodology; so the ambitions of system thinking constantly reappear in process thinking (Näslund, 2008). This may partly explain why the Lean Six Sigma methodology aspired towards a complete 'systemization'; literally becoming systemic or a structural entity that acts. This would be the "performative" enactment of the lean methodology as a truly self-fulling reality - it was made to work (Callon, 2010). But this quasi-equilibrium state was never reached, partly because it was never really attainable in a context of continuous improvement.

The intrinsic limitations of the Lean Six Sigma methodology as a logic of practice driven by meta-routines were not only evident in the change network, they also had a far-reaching effect on how consultants used their practices to position themselves in the change network. For example, while the implementation consultants assumed roles as the primary mediators within the change network their position could shapeshift to that of intermediaries when they became entangled in the material artefacts of the highly structured logic of the project methodology. These entanglements created new tensions and paradoxes within the consultants' performative practices. Often the consultants sought to strengthen and legitimize their position as visible actors within the network by assuming authority and strategic control (e.g., by inferring objectivity through the tools and visual artefacts of the project methodology), or in acknowledging their political conformity with higher-level organization priorities, policies and plans; yet simultaneously they could adapt their knowledge or expertise tactically to cope with the contingencies of knowing in practice at the local level. For some consultants this was considered necessary in *"playing the political system".* For many others, however, their formal alignment with expert knowledge, power and ostensive routines, was not sustainable; they had to adopt much fewer controlling practices of implementation when they engaged with local knowledge and the possibilities of distributed learning through knowing and doing (Gherardi, 2009). But these shifting practice positions also reflected the reality that standards were malleable and that the bottom-up change *'happens involuntarily',* so the consultants

had to continually embrace the unplanned and unexpected. This up-down, back and forth fluidity within the change network and consulting practices was inevitable; boundaries could shift around the artefacts of project management plans, methods and tools in order to maintain coherence, while the change network of implementation was reconfigured through consulting practices. It was no surprise then that the prescribed boundaries of project managing and implementing change were often blurred (Blomquist *et al.,* 2010). In sum, both the network and the performative practices of the consultants were in a recurring in-between state because the network boundaries and the practices that sustained it were mutually constitutive of each other.

Conclusions

ANT framed as a practice perspective on organizational change was used in this exploration of the performative practices of internal consultants within a change network. The change network was defined as a site of sociomaterial arrangements that emerged as a boundary spanning/organizing network around the Lean Six Sigma methodology, and where the consultants' practices of control and sustainability were performed. Within the change network the methodology was a sociomaterial intermediary that sought to constrain and enable the possibilities of change agency by the consultants while directing and potentially locking the change recipients into new meta-routines (Latour, 2005). Its effects often appeared pervasive. The perceived structural, depositional and rule-bound dimensions of the consultants' actions were documented and prescribed by the formal methodology in which plans were constantly updated and monitored; as such the methodology was a sociomaterial intermediary in the change process that partly structured consulting practices (Orlikowski, 2007). The project management tools and techniques were both material artefacts of control and non-human actors: project plans were *driven* by deliverables; schedules *dictated* timelines; progress monitoring reports *objectified* missed deadlines. As control was inscribed in a vast array of the visual and material artefacts, they became ubiquitous actants; in effect, they had a potential agency of their own (Latour, 2005).

Yet the performative practices of the consultants as change agents were not predetermined by the regimes of ostensive routines they formally sought to enact. The implementation of the highly structured Lean Six Sigma methodology may have provided the basis for internally focused, formally prescribed and ostensive routines of action that were structure-defined, control-oriented, project-based, but it never fully attained the role of a "punctualised actor" that could hold the heterogeneous waves of the change projects together nor determine action (Callon, 1984). Instead, the hybridised methodology was inseparable from the emergence of a boundary organizing and distributed change network in which the implementation consultants as mediators sought to translate the prescribed method through performative practices that simultaneously affirmed and relinquished their control. Project plans, standards and rules may have been defined by recursive routines but they had to be translated, edited,

or manipulated as necessary by the consultants. Similarly, reports comprised of high-level factual statements which seemed to make progress appear to be objective and necessary, were navigated locally by the implementation consultants or simply not reported. Moreover, while inferring objectivity through utilising the top-down structural methodology of control, the implementation consultants' practices invariably sought to make sense of a change network in which distributed agency was a reality. The change network concept illuminated these fundamental aspects of practice; an actor-network may provide consultants with opportunities for power and control, but equally the practices that sustained the boundary organizing change network also constrained and distributed the agency of the network actors.

These tensions and their performative paradoxes were inherent in the many temporal spaces of in-betweenness that the consultants' practices occupied. Because consulting practices are performative, they produce and reproduce a multiplicity of paradoxes during processes of organizational change that are often difficult to cope with or moderate by 'modes of paradox resolution' (Poole and Van de Ven, 1989, p.83). Dualism and duality models of social structure and action, or agency and structure are often unable to capture these paradoxes. Nor was there evidence of a duality model of "dynamic equilibrium" within the host organization, so there was no functionally defined system of control to which the Lean Six Sigma methodology or the change network could refer to in explaining action or practice (Smith and Lewis, 2011). By abandoning dualism, duality models and the systems thinking that underpins change methodologies, ANT turns towards a process-relational perspective on performative practice and change. As such it is a powerful tool in illuminating the performative paradoxes of practice, not only because it discerns the ambiguities, tensions and contradictions involved in processes of translation and the transformation of practice, but because it questions the ontological divide between the social *and* material in understanding the role of agency and distributed power during organizational change (Alcadipani and Hassard, 2010).

The ANT-inspired heuristic of in-betweenness also provides possibilities for further practice theory research on change processes. Within temporal spaces of in-betweenness it is difficult to disentangle knowledge and knowing, theory and practice, thinking and doing into pure categories; but this is where we must focus if we are to avoid giving priority to the ostensive and structural over the performative and relational in understanding practices during change implementation processes. To understand performative practice is to explore the middle kingdom of doing before we start dissecting and classifying practices into the macro and the micro, or the ostensive (structural) and the performative. If knowledge, power and expertise are theorized as something possessed, and something transferred as codified knowledge, then the ontological nature of practices as fluid, relational, distributed, process-based, and team-oriented is seriously under-theorised, and we lose any deeper insights into what practitioners do. By stepping inside the doing we get closer to the performative, by stepping outside the doing we return to high-order abstractions of power as possession, knowledge as expertise, learning as transfer, action as intentionality, and project management as change management. The performative

happens in temporal spaces of in-betweenness; they allow for the indeterminate potentiality of actions and practices as they unfold in time (Bourdieu, 1977).

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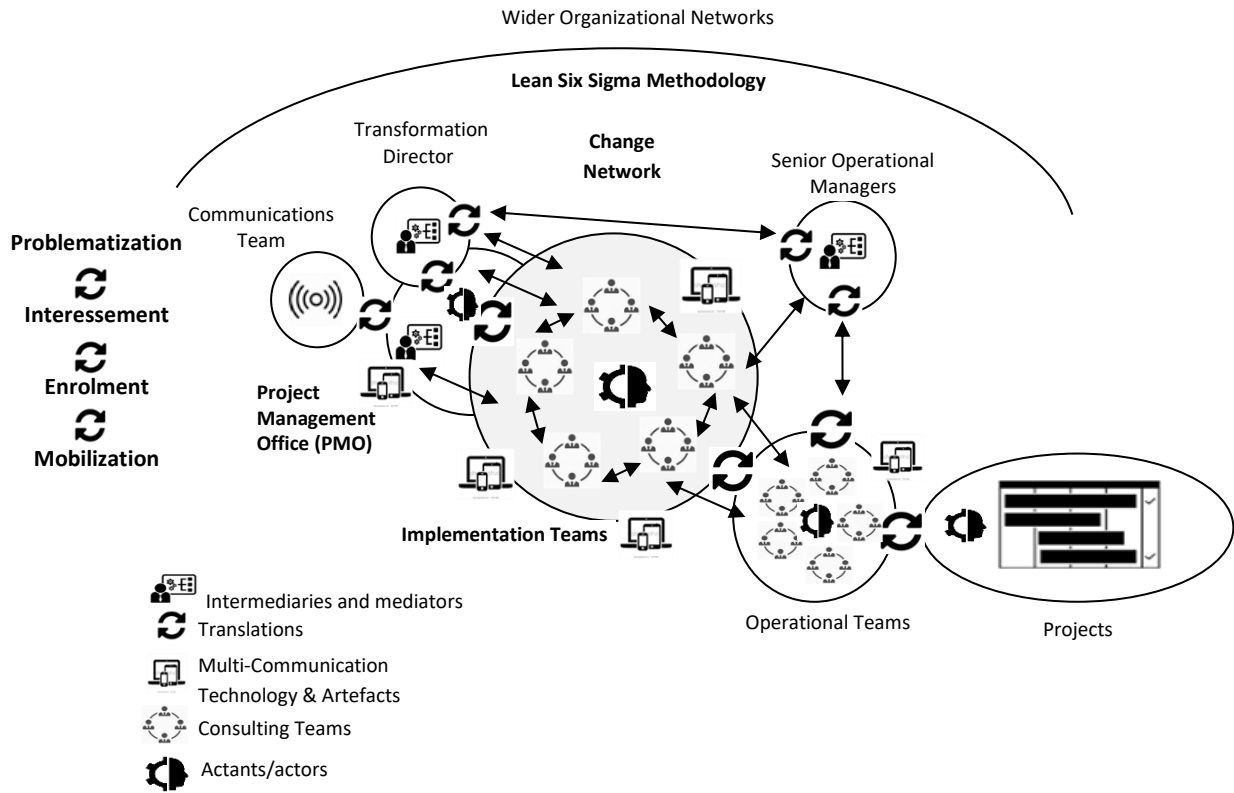
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FIGURE 1   Zooming Out: The Change Network

Wider Organizational Networks

Lean Six Sigma Methodology

Transformation Director

Change Network

Senior Operational Managers

Communications Team

Problematization

Interessement

Enrolment

Mobilization

Project Management Office (PMO)

Implementation Teams

Intermediaries and mediators

Translations

Multi-Communication Technology & Artefacts

Consulting Teams

Actants/actors

Operational Teams

Projects

FIGURE 2
Zooming in:
Performative practices

Actors/
Actants

Performative practices

Reframing

Translating

Paradoxes of translation

Stability
Structure and control
Rules, standards, routines

Paradoxes of
Control

Mediators/
Intermediaries

Paradoxes of
sustainability

Change
Connections and relations
Sustainability and flexibility

Knowledge
Transfer

Paradoxes of learning

Knowing in
Practice

Performative Practices

Material
Artefacts