Knowledge Production in Consulting Teams: A Self-Organization Approach

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June 5th, 2010

Abstract

The central thesis of this paper is that the production of knowledge in consulting teams can neither be understood as the result of an internal interaction between clients and consultants decoupled from the wider socio-political environment nor as externally determined by socially constructed industry recipes or management fashions detached from the cognitive uniqueness of the client-consultant team. Instead, we argue that knowledge production in consulting teams is intrinsically linked to the institutional environment that not only provides resources such as funding, manpower, or legitimacy but also offers cognitive feedback through which knowledge production is influenced. By applying the theory of self-organization to the knowledge production in consulting teams, we explain how consulting teams are structured by the socio-cultural environment and are structuring this environment to continue their work. The consulting team's knowledge is shaped and influenced by cognitive feedback loops that involve external collective actors such as the client organization, practice groups of consulting firms, the academic/professional community, and the general public who essentially become co-producers of consulting knowledge.

Paper accepted for publication by the *Scandinavian Journal of Management*

Acknowledgement: The authors would like to thank the editor Janne Tienari and the anonymous reviewers of the Scandinavian

Journal of Management for their very helpful and constructive comments. We would also like to thank Celeste Wilderom and Tim Morris for their comments on earlier versions of this paper. The support for this research from the German Federal Ministry of Education and Research (research grant 01HW0168) is also acknowledged.

Keywords: self-organization, management consulting, consulting teams, knowledge production, cognitive feedback

Introduction

Unlike manufacturing firms that can derive their competitive advantage from patented technologies, cost-effective locations, or unique products, management consulting firms gain their competitive advantage primarily from having the ability to create and sustain knowledge resources (Werr & Stjernberg, 2003) and institutional capital based on legitimacy, reputation or client relationships (Reihlen, Smets, & Veit, 2010). Mastering knowledge production and management is therefore particularly important for consultancy firms. Prior research has analyzed the production of consulting knowledge from two very different perspectives. From an internal perspective, scholars have investigated different knowledge management practices (Hansen, Nohria, & Tierney, 1999; Morris & Empson, 1998; Werr, 2002), the nature of knowledge work (Alvesson, 2001; Starbuck, 1992), and organizational elements that encourage or inhibit knowledge development in consulting firms (Anand, Gardner, & Morris, 2007; Heusinkveld & Benders, 2005). Furthermore, research has pointed out that clients co-produce or co-create consulting knowledge together with consultants (Bettencourt, Ostrom, Brown, & Roundtree, 2002; Fosstenløkken, Løwendahl, & Revang, 2003; Hislop, 2002). Much of this research is based on the assumption that knowledge creation can best be understood by studying consulting firms or client-consultant teams. For example, Bettencourt et al. (2002) stress the need to consider clients as 'partial employees' of consulting companies and to manage their co-production of consulting services. Only a few studies recognize that external actors can take part in the knowledge development within consulting teams and identify this as an important issue for future research (i.e., Fosstenløkken et al., 2003; Hislop, 2002).

From an external perspective, researchers have directed their attention to study the institutional embeddedness of the production of consulting knowledge. The underlying assumption of these investigations is that the socio-cultural context in which knowledge is produced strongly influences its content. For instance, researchers into management fashions (Abrahamson, 1996; Kieser, 1997; Suddaby & Greenwood, 2001) argue that management knowledge is socially constructed by a fashion-setting community composed of the elite consulting firms, the large accounting conglomerates, management gurus, and business schools. Management fashions become transitory rationality myths that are used as a standard for evaluating the usefulness of knowledge for framing and handling managerial problems (Benders & van Veen, 2001; Kieser, 1997; Suddaby & Greenwood, 2001). The focus here is on the macro processes of knowledge development: on how organizational 'actors within the field [of management knowledge] produce an informal structure that innovates new manage-

rial knowledge and regulates its production and consumption' (Suddaby & Greenwood, 2001, p. 950). The interaction between organizational actors and specific client-consultant teams, where the actual knowledge production and dissemination takes place, is not at the heart of these studies.

So far, research has paid only scant attention to integrating the internal and external view on the production of consulting knowledge (Sturdy, Werr, & Buono, 2009b). Knowledge is pictured as either produced internally by consultants in collaboration with clients decoupled from the wider socio-political environment or externally determined by industry recipes, management fashions, and the z*eitgeist* detached from the unique experience, creativity, and case-specific idiosyncrasies of the client-consultant team. We argue that such integration is critical if we are to better understand the nature of professional knowledge production. As Anand et al. (2007, p. 426) suggest, 'a more nuanced research design is required to explain fully how internal and external forces interact in the creation of knowledge-based structures [and knowledge in general].' (See also Hislop, 2002)

In order to study this interaction between the external context and internal processes, we choose the client-consultant team as our focal unit of analysis as this is where the main part of consulting knowledge development takes place (Bettencourt et al., 2002; Fosstenløkken et al., 2003; Hislop, 2002). We argue that knowledge production in client-consultant teams is intrinsically linked to the institutional environment that not only provides resources such as funding, manpower, or legitimacy but also offers cognitive feedback through which professional practices are regulated or influenced. Thus, the question we address in this article is how client-consultant teams structure and interact with their environment as the milieu for consulting knowledge production; what is the nature of the circular processes of influence between client-consultant teams and external collective actors that lead to the creation, legitimization and dissemination of consulting knowledge. Our approach is based on the theory of self-organization, notably the works of the German sociologists Krohn and Küppers (1989, 1990a; 1990c; 1992a; 1992b; 1991; Küppers, 2002) on self-organization of science, which we reframe on the basis of (empirical) insights from the management consulting sector. The theory of self-organization replaces the idea of adaptation with the concept of structuring, implying that client-consultant teams not only enact their environment in the sense Weick (1979) introduced this notion, but engage actively in creating favorable conditions for their operation.

This paper contributes to a theory of professional knowledge production in several ways. First, by outlining the specifics of the cognitive feedback loops influencing the work of client-consultant teams, this paper provides a differentiated picture of the nature of consulting knowledge production as a circular, multidimensional, and interactive social process. It outlines the underlying activities and processes that client-consultant teams need to master in order to be (seen as) successful. Second, by utilizing a new theoretical lens and existing empirical findings, we explain the micro processes of knowledge production and dissemination and their interrelation with the macro processes of creation and institutionalization of new management concepts and models, an issue which is still under-researched in the existing literature.

The paper is structured as follows: first, we explain the origins of the theory of self-organizing systems and show its relevance for the study of the knowledge production process within consulting. Next, we describe the self-organization of client-consultant teams by differentiating three social accomplishments that client-consultant teams need for survival and success as a social group. Then, we discuss in detail four structurally different relations in which client-consultant teams are embedded and explain how these teams act on their environment to continually strive to have this environment create favorable conditions for their operation. Simultaneously, we outline how different collective actors in the environment—the consulting firm and its practice groups, the client organization, the professional community, and the wider public—influence the working of the client-consultant team. We conclude our paper by outlining implications for future research.

The Theory of Self-Organizing Systems

Rather unnoticed by the mainstream literature, concepts of self-organization, self-referentiality of systems, or of autopoieses have quietly invaded various disciplines in the natural and social sciences (for an overview see Jantsch, 1980; Krohn et al., 1991). In the social sciences, concepts of self-organization have been introduced by sociologists (Krohn & Küppers, 1989; Luhmann, 1984), organizational psychologists (Weick, 1979), economists (Hayek, 1983), and management theorists (Hedberg, Nystrom, & Starbuck, 1976; Stacey, 1995). The concept of self-organization indicates a paradigm shift from the traditional system's understanding, which is rooted either in the mechanistic program of positivism or the descriptive program of phenomenology (e.g., Bunge, 1999, p. 17-44; Krohn et al., 1991). The term self-organization is frequently used to describe the spontaneous emergence of order through the interactions of a system's elements (Kauffman, 1993). In science, for example,

the recursive interactions between research groups are accountable for the emergence or submergence of collective research programs. The interesting question is concerned with the circumstances that facilitate the emergence of a spontaneous order. Following Tschacher et al. (1992, p. 344-345), we can point out two conditions: First, self-organized systems are always considered as open systems: systems' components interact continuously with the environment by exchanging information, energy, and resources. Second, self-organized systems are characterized as nonlinear systems; they do not respond deterministically to a change of an input; rather, these systems interpret external signals according to criteria they have developed by themselves and give rise to new dynamic structures (Foerster, 2001).

These two conditions have some important conceptual consequences. Contrary to descriptive theories requiring a number of pre-theoretical definitions of what phenomena count for the object of investigation, theories of self-organization are more constructive; they attempt to model the actual operation of real systems by introducing 'intervening variables.' Accordingly, they attempt to unveil how the system in question 'actually' works (Bunge, 1997). Krohn and Küppers (1989) illustrate this paradigm switch for the case of science. While descriptive theories of science assume that it is the task of the observer to define the nature of science, the theory of self-organization moves the observer into the system and regards these definitional issues as the outcome of social processes that the subject matter has to accomplish. It is only the system that is able to decide what social behavior is regarded as scientific. Therefore scientists are not only producers of knowledge but create the very conditions under which they do research.

This leads self-organization researchers to question positivist theory that treats knowledge as a thing 'out there' for which positive facts can be gained (Donaldson, 1996) and suggest a constructivist interpretation of knowledge (Krohn & Küppers, 1989; Krohn & Küppers, 1990c). Accordingly, knowledge is not a representation of discovered facts, but the product of an active knower who constructs reality on the basis of previous experience (Glasersfeld, 1995; Piaget, 1977). Furthermore, knowing is a social process of enculturation, interaction, and feedback where people negotiate meanings among various groups defined by common practices, beliefs, values, and a common language (Lave & Wenger, 1991; Thompson, Levine, & Messick, 1999). Social constructivists emphasize that knowledge evolves in complex ecologies of social interaction, in which the relation of the knowing individual and the socio-cultural context is mutual, complementary, and co-evolving: the development of either part not only depends on the other but is made possible through the productive existence of the other (Heinrich, 2004; Vogel, 2000). More specifically, self-organization

theory integrates what Polanyi (1966) calls the principle of mutual control with Fleck's (1979) environmental feedback loops on cognitive practices. In other words, knowledge is created internally through a cooperative enterprise and influenced by external cognitive feedback loops.

A self-organizing perspective on professions emphasizes process over structure, the exchange and interaction of professionals with their environment over its containment, and flexibility and change over stability. Accordingly, the literature on professions, which is largely concerned with constitutional characteristics of occupational groups considered as professions (Freidson, 2001), falls short in answering how professional knowledge is socially constructed and legitimated, and how actors actively gain community support for their practices, and expand control over a body of knowledge or over a particular problem domain. A theory of professional knowledge production has to uncover the social mechanisms or practices through which knowledge is created within client-consultant teams and controlled through an ecology of institutions.

The Self-Organization of Client-Consultant-Teams

We choose the client-consultant team as our focal unit of analysis because consulting, like all professional services, and consulting knowledge is the result of some kind of teamwork (Alvesson, 1995; Hodgson, 2002). The project team is a temporary assembly of consultants and clients, the main goal of which is to solve the issue for which it is designed and set up. Our particular interests are the processes accountable for the self-organizing of the client-consultant team as a social system and the self-regulating of its performance. According to Krohn and Küppers (1989; 1990b), each professional team has to perform three practices on a regular basis in order to accomplish three crucial tasks for its success and survival: (1) ensuring that group members cooperate (integrating practices); (2) producing knowledge for advisory services (professional practices), and (3) mobilizing resources to ensure that the outcome of the professional practices, e.g. some form of a consulting knowledge, is well received and legitimized in the environment (mobilizing practices).

Integrating practices

Integrating practices are team processes used to direct, align, and monitor professional work (Krohn & Küppers, 1990b, p. 210-211; Marks, Mathieu, & Zaccaro, 2001). Teams develop specific group norms 'defined as legitimate, socially shared standards against which the appropriateness of behavior can be evaluated' (Chatman & Flynn, 2001, p. 956). These shared

beliefs, attitudes, and intentions are the result of recursive interactions between members of the professional team (Bettenhausen & Murnighan, 1991; Krohn & Küppers, 1989). Although not directly involved in knowledge production, integrating practices are important because the nature and degree of integration within teams strongly influences the nature of teams' knowledge production, as discussed in the literature on team cognition (Cannon-Bowers & Salas, 2001; Mohammed, 2001).

Traditionally, it has been argued that client-consultant teams are characterized by relatively high cognitive and value diversity (e.g., Schön, 1983): because consultants are outsiders to the client organization; their knowledge, their work methods, and language differ from the client's, which has been seen as a considerable burden for a successful interaction with the client, often preventing consultants from being involved more intimately in the client's business (Clegg, Kornberger, & Rhodes, 2004; Czarniawska & Mazza, 2003; Kipping & Armbrüster, 2002; Kirsch & Eckert, 1998; Wimmer, 2004). While cognitive diversity within teams may stimulate reflections and critical analysis of taken-for-granted assumptions, the literature on team cognition has long stressed that a lack of integration has negative consequences on the execution of the team task, i.e. on project teams' professional practices (e.g., Cronin & Weingart, 2007). Empirical studies provide evidence that consulting projects characterized by divergent expectations between clients and consultants and a lack of shared norms, values, and practices are less successful in achieving their objectives (Kitay & Wright, 2003; McGivern & Fineman, 1983). For these reasons, it has been even suggested that consulting companies should only work with clients who are 'culturally compatible' with the consulting company (Bettencourt et al., 2002). More recently, Sturdy et al. (2009a) have questioned whether clients and consultants are always characterized by high cognitive diversity, arguing that in many cases, consultants can be seen as 'insiders' with regard to client organizations thanks to clients and consultants' shared knowledge domains, personal relations, and shared social space (see also Reihlen et al., 2010). In other words, client-consultant teams are often characterized by rather low cognitive diversity, which enables mutual understanding but prevents the development of novel ideas and insights (Bogenrieder & Nooteboom, 2004). As Bogenrieder and Nooteboom (2004, p. 298) argue, learning by interaction requires 'intermediate cognitive distance: large enough to yield novelty and small enough to enable understanding'.

Professional practices

Professional practices describe the interactions between team members' tasks, goals, knowledge, and background with the aim of creating knowledge for problem solving. There is

considerable literature discussing the nature of these practices for the case of professional services in general and management consulting in particular. Abbott (1988, p. 35-58), for example, suggests that professional practices are composed of three types of acts: classifying problems (diagnosis), reasoning about it (inference), and taking action on it (treatment). For him, the sequence of diagnosis, inference, and treatment represents the essential cultural logic of professional work. The very question of how knowledge is produced by clients and consultants is fundamental to understanding the nature of consulting work. However, it seems rather doubtful to discover a specific 'professional way' of knowledge creation. As the 'laboratory studies' (e.g., Knorr-Cetina, 1981; Latour & Woolgar, 1979) have shown for the case of science, knowledge production does not follow a unique scientific rationality. Similar claims have been articulated for other professional communities (e.g., Bijker, Hughes, & Pinch, 1987). Following this stream of research, we have to see the methods, procedures, and frameworks for consulting knowledge production as socially negotiated: through a process of negotiation in which different knowledge claims for problem solving are introduced, the question of cognitive dominance is settled discursively among team members (Hislop, 2009; Nikolova, Reihlen, & Schlapfner, 2009).

Mobilizing practices

So far, little research has been conducted with regard to the activities of the client-consultant team towards its environment, which we call mobilizing practices. The environment of the client-consultant team is made up of all external collective actors which directly interact with the client-consultant team, such as practice groups, clients and consultants not involved in a particular project team, the management fashion-setting community as well as business schools, and their relations with the team which take the form of external cognitive feedback loops (Krohn & Küppers, 1989, p. 66-73). The environmental cognitive feedback can be either direct in the form of suggestions, assessments, and criticism expressed directly to the client-consultant team by, for example, client managers or consultants not involved in the project, or indirect in the form of consulting standards and training methods developed by consulting companies and business schools; problems, funds, and learning opportunities offered by clients; and supportive, tolerant or restrictive regulations through associations and government.

We argue that not only does the environment influence knowledge production within client-consultant teams, but teams themselves influence their environment in order to ensure a measure of autonomy in their knowledge production. Consulting knowledge, the output of professional practices, is subject to perceptions and assessments of these external actors artic-

ulated in the form of cognitive feedback loops. Client-consultant teams will only be successful in influencing the environment in order to create favorable conditions for their knowledge production if they re-orient their professional activities according to the cognitive feedback provided through this complex network of collective actors. For example, members of the client-consultant team need to be aware of blockages and resistance coming from client managers and employees who are not involved in the project. Project team members need to develop strategies to deal with those early on in order to be seen as successful (Bettencourt et al., 2002; Nikolova & Devinney, 2009). In other words, consulting teams are influenced by the socio-cultural environment and influence this environment to continue their work.

Cognitive Feedback and the Team-Ecology Interaction

We distinguish four structurally different collective actors which interact with the client-consultant team (see Figure 1). Krohn and Küppers (1989, p. 71; 1990b, p. 216) point out that the fundamental mechanism characterizing these interactions is always the same: external collective actors interpret and react to teams' knowledge production in various forms; simultaneously, team members act on their environment and influence it in order to have this environment create favorable conditions for their operation. These environmental acts, which we called mobilizing practices, differ from the recursive interactions of the professional team, i.e. integrating and professional practices, as they are not directly involved in the production of knowledge but influence it through the provision of cognitive feedback. In the following, we demonstrate how the production of consulting knowledge is influenced in the course of social interaction of client-consultant teams and external actors.

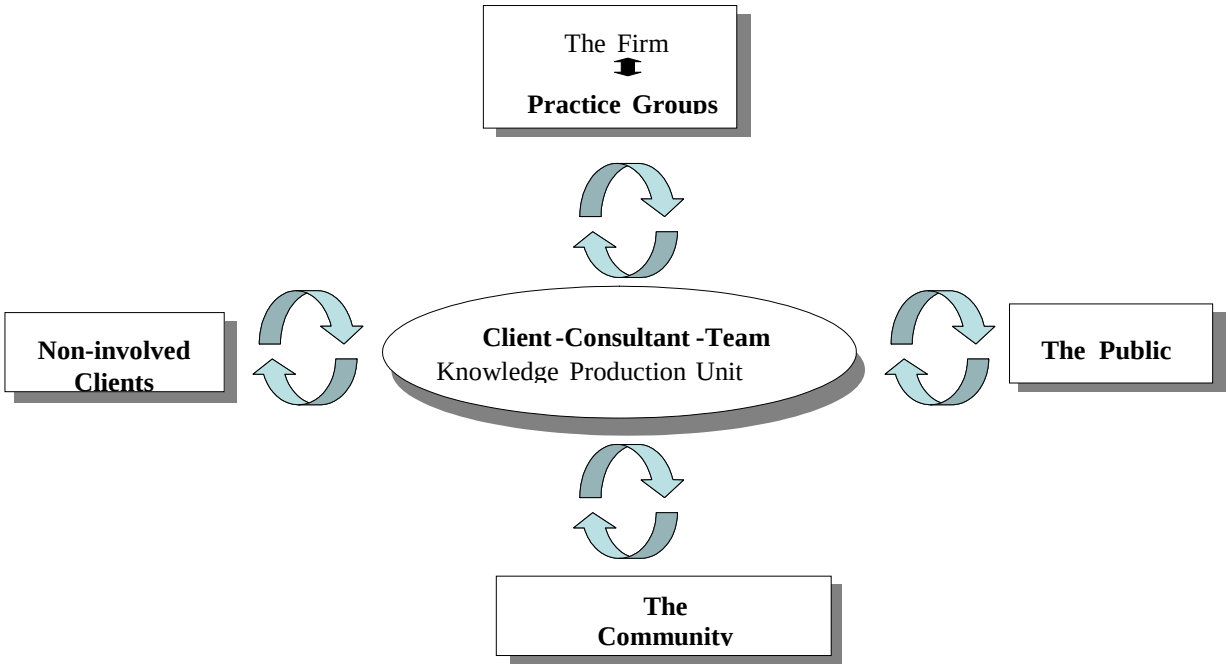

Figure 1 Four feedback loops on professional practices of the client-consultant-team

The team/practice group interaction

Many consulting companies have formally recognized the importance of specialized practice groups as venues for knowledge development, and play a more or less active role in their emergence and progress (Anand et al., 2007). These practice groups are based on a functional, e.g. corporate governance, information technology, marketing, or strategy, or industry specialization, e.g. financial institutions, consumer goods, energy, or transportation, and their goal is to enhance communication and sharing of knowledge between consultants with similar specialization and expertise, and ultimately, to stimulate the creation of knowledge that can be used to approach clients, sell services, solve client problems, and build reputation (see Bartlett, 2000, for a detailed discussion of such professional groups at McKinsey). As such, practice groups are relatively stable communities and are considered part of the ongoing organizing structure of consulting firms (Anand et al., 2007). Similar to professional communities, membership in practice groups is more or less regulated based on common experience, background, clientele served, or area of intervention (Kubr, 2002). Because consultants are becoming increasingly specialized within particular practice areas (Anand et al., 2007), complex client problems are often not handled within a single practice group. Rather, when addressing specific client problems, consulting teams involve consultants specializing in different functional and industry settings.

The team/practice group interaction is characterized by three major cognitive feedback loops. First, practice groups provide consultants who are members of a particular project team with knowledge and resources for problem solving. Consultants often use their personal networks to locate colleagues who have valuable knowledge regarding a particular project. Additionally, consultants have access to knowledge-management systems that can provide previously developed methods, tools, and problem solutions (Hansen et al., 1999; Werr & Stjernberg, 2003). This standardization of consulting knowledge through practice groups has consequences for the conduct of professional practices. The defined knowledge base institutionalizes the cognitive authority of the practice group, i.e. their authority to deal with particular problem areas and to develop solutions to these. In order to preserve this authority, practice groups are encouraged to create standards for professional work practices to ensure a degree of stability in the quality of service production (Dutton & Jackson, 1987, p. 81). Therefore, the more the consulting knowledge base is confined, the less discretionary freedom and creativity is left to the client-consultant team (Engwall, 2003; Semadeni, 2001).

Second, if new knowledge is created within client-consultant teams, participating consultants need to legitimize it within their practice group as well as across practice groups. Newly created knowledge may face two types of legitimation problem: either the knowledge violates established practices, or it is beyond the existing scope of the firm's knowledge domain and therefore falls into a vacuum where no shared understanding exists for sense-making (Dougherty & Heller, 1994). This means, as Anand et al. (2007) argue, that project teams need to gain the support of senior consultants with significant client portfolios who can include the newly created concepts and methods in the services they offer other clients and/or the support of the company's management. In other words, the project team has to demonstrate how this new knowledge may contribute to the institutionalized system of thoughts and actions within and across practice groups. This, in turn, influences the work of consultants within consulting projects as they choose to align or not to align their work with these institutionalized knowledge structures.

Third, practice groups socialize and train consultants. Consulting work is performed, at least partly, on the basis of some kind of professional schooling through which new consultants become skilled in the conceptual frameworks and methodologies of their chosen field of expertise. As Larson (1977, p. 40) points out: 'The standardization or codification of professional knowledge is the basis on which the professional "commodity" can be made distinct and recognizable to the potential publics. This effect is never direct, but mediated by the process of training'. In consulting, which is not protected by confined educational standards, consulting firms complement general academic training with firm-specific curricula taught within 'corporate universities' or internal training institutions. In addition, practice groups organize their own training and developmental events (Armbrüster, 2006; McKenna, 2006). In effect, the body of knowledge relevant for consulting practice is essentially controlled not by the individual practitioner but by the community, be it the practice group or the firm that 'axiomatize[s] knowledge' (Krohn & Küppers, 1989, p. 96). Therefore, practice groups influence the problem solving processes that take place within client-consultant teams by shaping the cognitive characteristics of individual consultants.[1]

At the same time, practice groups are influenced by the change in their members' cognitive characteristics that takes place as a result of consultants' involvement in consulting projects. Consultants change the accumulated knowledge of a practice group by sharing their

[1] In this regard, business schools/universities play a similar role to practice groups: by providing education they shape the cognitive characteristics of future clients and consultants alike, and in this way, influence the work of future client-consultant teams. For space reasons, we do not discuss this in greater detail.

experiences and new insights developed within consulting projects and as well as through their efforts to legitimize these. As Reihlen and Ringberg show (2006), client-consultant teams develop site-specific, local knowledge, which is then captured in project-specific consulting models or frameworks. These are subsequently disseminated to the rest of the practice group and consulting organization through the company's intranet. Furthermore, practice groups have regular workshops in which their members exchange experiences and insights. As argued above, in this way, consultants can gain legitimacy for new knowledge and solutions, potentially improving their standing in the practice group as well as altering the cognitive authority of the group.

The team/client organization interaction

Traditionally, research on consulting has focused on the interaction between clients and consultants without differentiating clearly between those clients that are part of the client-consultant team and those that are not (see Garratt, 1981; Schein, 1997 as two notable exceptions). The result is an overemphasis of interactional issues within client-consultant teams and an underemphasis of interactional issues between the project team and those members of the client organizations who are not involved in it. Recently, Sturdy et al. (2009a) have shown that this focus in the literature leads to a misrepresentation of the cognitive and political boundaries around project teams as well as the influences that non-involved, indirect clients have on project teams' work (see also Alvesson, Kärreman, Sturdy, & Handley, 2009).

The team/client organization interaction is characterized by two major cognitive feedback loops. The first cognitive feedback loop characterizes the team/client organization interaction *during* project *acquisition* and in the *early stages* of the consulting project. In this phase, consultants need to persuade clients that they are the best provider for the services/solutions clients seek and to show an understanding for clients needs and views (Nikolova et al., 2009). Because the resources needed for consulting activities, such as funding and access to information and people, are often made available by non-involved clients, i.e. the sponsor and on some occasions by the steering committee, the success of the client-consultant team depends on the ability of the team members to secure the continuing support of the sponsor/steering committee (Alvesson et al., 2009).[2] The mechanism follows a simple logic: consulting projects represent opportunities to explore new service fields or to exploit existing competencies. To gain a contract and ensure continuing support, project teams have to integrate sponsors' preferences, interpretations and relevance criteria (Nikolova &

[2] This is most visible when the paying client is a funding agency and the actual client is another beneficiary organization, which is often the case with not-for-profit clients.

Devinney, 2009). This integration takes place, as Furusten and Werr (2009) suggest, through interpersonal negotiations in 'arenas of expertise construction.' Whatever knowledge consultants and client-consultant teams are enthusiastic to produce, their activities are constrained by the competitive market for funding, which also conveys a network of preferences. Thus, the integration of the preferences of critical, non-involved clients frames knowledge production. It is also clear that the choice of client portfolio influences the degree of new knowledge production in consulting firms. As Fosstenløkken et al. (2003) argue, demanding, sophisticated clients are a key factor of knowledge development.

The second feedback loop characterizes the team/client organization interaction *during problem solving and solution implementation*. Because of the difficulties clients have in evaluating the quality of the delivered consulting service even ex post (Clark, 1995; Løwendahl, 1997), consultants and clients need to actively shape non involved clients' impressions of the developed problem solution in order to be seen as successful. Schein (1997) emphasizes that project teams are embedded in the client organization and interact continuously with members of the client organization who are not directly involved in the project (see also Sturdy et al., 2009a; Sturdy et al., 2009b). The indirect clients are often represented by a steering committee overseeing the consulting project, or in the case of strategically important and financially very significant projects, by an executive committee consisting of senior executive managers. The steering committee can influence indirectly the professional practices of the client-consultant team by providing advice and recommendations for the work of the team, or directly when it has decision making authority regarding the project's objective and outcomes (see Nikolova & Devinney, 2009). In other words, indirect clients provide crucial cognitive feedback on the knowledge production process within consulting teams, and play an active role by shaping the advisory relation (see also Handley, Clark, Fincham, & Sturdy, 2007). Therefore, project team members need to actively influence members of the committee, and often other indirect clients, in order to legitimize the project objective and chosen solution (Alvesson et al., 2009). Research has shown that consultants regularly build coalitions with non-involved clients who have a positive attitude towards consulting, as well as clients who are politically powerful within their organization (Jackall, 1988; Kipping, 2000). Furthermore, consultants and their client allies use hierarchical power, persuasion and rhetorical skills to influence non-involved clients (Nikolova & Devinney, 2009). Investing in long-term, trusted relationships with crucial clients is another strategy that leads to more favorable conditions for consulting work (Morris, 2000).

The team/professional/industry community interaction

Through their members, client-consultant teams maintain regular communication relations with the professional community consisting of consultants (and clients) specializing in the same area of expertise as well as academic institutions and business journalists. The decisive institutional framework through which project teams' ideas and knowledge are communicated to the external environment are journals of various types, books, and self-produced reports often published on internet sites, as well as media cooperations. In addition, consultants and clients often present outcomes of consulting projects at conferences or fairs in the form of speeches, seminars, or workshops (Armbrüster & Barchewitz, 2004). In other words, publication and presentation outlets are part of client-consultant teams' environment. Consultants and clients utilize these in order to legitimize the knowledge and ideas developed within consulting projects, and in this way influence and change the shared understanding and knowledge of the professional community. At the same time, communicating results from consulting projects or attempting to do so provides cognitive feedback on how the team's work is appreciated by peers, editors, journalists, etc.

For example, by communicating with their professional community, team members contribute to the development and dissemination of 'sector knowledge.' Sector knowledge, defined as the accumulated experience of solutions and problems in a particular industry sector, has been recently found to provide important cognitive orientation to the work of client-consultant teams (Sturdy et al., 2009a). The authors found that consultants' knowledge of the client sector helps them to develop a common language with the client, which influences positively client-consultant team's problem solving and interaction. In the processs, professional/industry sectors with powerful and coherent 'peer group' relations and intensive communication activities within the professional/industry community where sector knowledge is circulated freely are characterized by stronger influence over client-consultant teams' knowledge production activities than less coherent professional/industry communities.

Furthermore, the interrelations between client-consultant teams and the professional community by means of publications and presentations explain how teams contribute to the development and dissemination of management fashions. Publications contribute to the emergence and legitimization of discourses through which members of the knowledge production community are funneled into the use of particular management concepts, and into particular behavior (Reed, 1996; Scott, 2001). At the same time (competitor) discourses that do not reflect a particular management concept can be marginalized as lacking expertise (Hodgson, 2002). As we show below, if this process is successful, knowledge produced during particular

consulting projects can become a standard practice, or a norm, and in this way it influences future knowledge production.

The team/public interaction

The overarching aspect of the team-public interaction is the question of legitimacy of the consulting practice in general. In order for client-consultant teams to be seen as the legitimate structure for addressing client issues, consulting in general needs some societal acceptance and support; its claims, values, ideas, and practices must be perceived by the public as legitimate. Legitimacy means that organizational practices are congruent with the shared beliefs of their domain and are therefore considered as 'desirable, proper, or appropriate' (Suchman, 1995, p. 573). Thus, consultants and clients supporting the practice of consulting[3] have to make every effort to legitimize consulting values and practices to increase general acceptance from and authority over various stakeholders.

The major source of legitimacy of consulting derives from the cultivation of management fashions (Abrahamson, 1996; Clark & Salaman, 1998; Kieser, 1997; Suddaby & Greenwood, 2001). Consulting companies have long recognized the need to develop new ideas, consulting methods, tools, and practices in order to be proactive in creating demand for their services (Ernst & Kieser, 2002a, b; Fincham & Clark, 2002). Studies of management fashions (Abrahamson, 1996; Benders & van Veen, 2001; Kieser, 1997; Suddaby & Greenwood, 2001) suggest that management consultancies strategically criticize existing concepts to re-shape the market for management knowledge and establish their own innovations as sources for commercial success. Since consultants are the major supplier of management knowledge for practitioners, management fashions justify the very existence and legitimacy of consultancy work.

While the macro processes leading to the emergence and dissemination of management fashions have been extensively studied, there is still a lack of research regarding the micro processes involved in the creation and dissemination of management fashions. It is clear from our discussion so far that client-consultant teams are the main setting where the production and dissemination of management fashions takes place. Through their recursive interactions with external collective actors, such as practice groups, non-involved clients, and the professional/industry community, client-consultant teams participate in the dissemination of new ideas and knowledge. If the external actors accept these new ideas and knowledge as

[3] The number of ex-consultants taking over leading management roles in client organizations has risen steadily. There is strong evidence that most of these ex-consultants are great supporters of consulting and make heavy use of consulting services in their new positions (Reihlen et al., 2010).

valuable and integrate them in their existing practices and knowledge base, they become intermediaries contributing to the dissemination and legitimization of the new ideas and knowledge. A number of consulting models and frameworks have originated from the work of specific client-consulting teams. For example, the McKinsey Industry Attractiveness – Business Strength Matrix was developed in cooperation with General Electric and was later successfully disseminated through the work of McKinsey with other clients and the adoption of the framework by other consulting companies as well as by its inclusion in business education. Therefore, the client-consultant team can be regarded as a source of ideas that could potentially develop into a new management fad if the members of the team are successful in gaining external actors' support for these ideas or knowledge (Anand et al., 2007; Morris, 2000). On the other hand, project teams' knowledge production is affected by existing management fads and fashions either directly, when clients and consultants are cognitively influenced by existing practices and views, or indirectly when the influence is mediated by the cognitive feedback from practice groups, non-involved clients, business schools, the media, and the wider community. Existing management practices influence the work of clients and consultants by offering proven paths and standardized templates for problem-solving. Therefore, existing management practices influence the direction of problem-solving and the degree of innovativeness and efficiency of the problem-solving process within the scope of specific consulting projects. Consequently, client-consultant teams both influence and are influenced by management fashions.

To sum up, by applying the theory of self-organization to the work of client-consultant teams and their knowledge production activities, we were able to show how internal knowledge creation processes are embedded in the team's interrelations with external collective actors and how these interrelations both shape and are shaped by the knowledge development activities within client-consultant teams. By outlining the mechanisms underlying knowledge development within professional teams our study develops an understanding of professional knowledge production as an institutionally embedded process that unfolds through the intensity of direct and indirect interactions between client-consultant teams and external collective actors. In this way, we show that professional knowledge is not stable; rather, it is continuously constructed and exposed to a multitude of cognitive influences.

Conclusion

The central thesis of this paper is that consulting knowledge is an outcome of endless processes of influence and mutual adjustment between professional teams and multiple net-

works of collective actors in which they are embedded. By applying the theory of self-organization to knowledge production in client-consultant teams and making use of existing empirical research on consulting, we reveal how clients, consultants and external actors interact and shape each other's cognitive orientations and consequently, the knowledge production within client-consultant teams. We show that this influence takes complex forms and pathways resulting in a view of knowledge production in client-consultant teams as a circular, multidimensional, and interactive social process.

One contribution of this paper is that it further elaborates on the active roles that clients play in the process of consulting knowledge production, which has been outlined in recent research (e.g., Alvesson et al., 2009; Sturdy et al., 2009a; Sturdy et al., 2009b). We argue that clients influence knowledge production within consulting teams on a number of levels: (1) clients as team members are directly involved in problem solving and knowledge development (see also Fosstenløkken et al., 2003; Hislop, 2002); (2) external, non-involved clients influence the direction of problem solving and knowledge development through their support or resistance to particular ideas and solutions developed by client-consultant teams as well through their influence through the provision of financial resources and the selection of team members; (3) through their support for or resistance to consulting concepts, clients as members of industry groups influence the generation and dissemination of consulting fads. Furthermore, this paper sheds more light on the mechanisms by which other external collective actors, such as practice groups, the media, business schools, and the general public influence consulting and consulting knowledge by outlining the nature of the cognitive feedback loops that bind consulting teams to their environment. In this way, we contribute to a better understanding of the micro processes of knowledge production and dissemination and their interrelation with the macro processes of creation and institutionalization of new management concepts and models, an issue which is still under-researched in the existing literature.

Future research may benefit from extending our work theoretically and empirically. On a more fundamental level, we suggest that knowledge should neither be investigated by an individualist (e.g., Felin & Hesterly, 2007) nor by a collectivist tradition (e.g., Dougherty, 1992) since neither of them recognizes the co-evolutionary and interactionist nature of knowledge creation. Quite contrary to both traditions, we see more promising work explicitly focusing on the interaction between socio-cultural and individual forces working together to create knowledge (Bandura, 1986; Bunge, 1996; Ringberg & Reihlen, 2008). That is, the dynamic processes involved in knowledge production can only be fully appreciated if researchers take into account both cognitive dispositions of clients/consultants (individualism) and

social feedback mechanisms (collectivism). Knowledge creation is thus predicated on influences from both the socio-cultural environment and the intentional mind.

Furthermore, what is of particular interest is to explore how the professional team and external actors react to each other's interpretations and actions fuelling an endless process of instability and mutual adjustment (Nicolini, 2009). This process is by no means free of political agendas and dominance. Rather, the negotiation processes taking place between professional teams and their environment influence, and are influenced by, relations of power and dominance. This interaction between the cognitive and political dimensions of knowledge production is still poorly understood.

On a more specific level, the presumed interactions between the client-consultant team and external collective actors involved in the production of consulting knowledge should be studied empirically. One route to accomplish this is to conduct in-depth case studies (Eisenhardt, 1989; Yin, 2003) with different actors in the consulting industry, through which central mechanisms of mutual influence and interaction can be revealed and their influence assessed. Such studies would contribute to developing empirically grounded theories (Glaser, 1992; Strauss & Corbin, 1998) on the social embeddedness of the production of consulting knowledge. Furthermore, empirical research is needed to access how client-consultant teams as self-organizing systems process external cognitive feedback and influences in a non-deterministic way and what are the results of different 'paths of influence'. In other words, we need to learn more about the path-dependency of the social production of knowledge.

Another avenue for future research would be to empirically study socio-cognitive interactions within other types of professional teams, particularly those that are regulated through professional associations, i.e. accounting, architecture, engineering and law. It is important to find out to what extent cognitive feedback loops differ between different professions in order to better understand differences and similarities in the knowledge development processes of these professional services. As Malhotra and Morris (2009, p. 896) point out, 'systematic inter-professional comparisons of firms are non-existent.' We regard our contribution in this paper as merely a starting point for research in these directions.

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