Knowledge-Based Theory of the Firm, Challenges by Social Media

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Abstract

This paper reports on a study of the perceptions of top managers in 18 Swiss firms on the future of knowledge work in an age of new social media (SM). The executives perceive, and are concerned with, future work practices and behavioral norms; they are aware that the use of SM for knowledge work can change the locus of knowledge production from within the firm to networks and communities of practice (CoPs) that extend beyond the firm’s boundaries. To explore the strategic implications of this shift in locus, we re-conceptualize CoPs that emerge from the use of SM as a theoretical construct independent from the firm. We seek to distinguish the value propositions for firms and CoPs and explore the implications of a richer theoretical description of multiple strategic possibilities of firm-CoP relationships as new economic ecosystems emerge with widespread adoption of SM.

1. Introduction

Strategic management literature has for decades recognized the importance of knowledge as an asset and knowledge integration and sharing as valuable sources for gaining and sustaining competitive advantage [6; 8; 13]. Recognition and studies of communities of practice (CoPs) inside organizations [5; 15] have provided a solid foundation for knowledge management (KM) initiatives [23] aimed at sharing and applying knowledge by all members of the firm.

For the purpose of this paper we take a broad definition of the newer social media (SM), which has been defined as the set of tools that “enables people to connect, communicate, and collaborate” [11:44] and includes blogs, wikis and social network sites [3; 11].

In a nutshell, the adoption of social media has been described by scholars as a process that induces social as well as technological changes to the working environment and KM in particular. At the same time, CoPs have become less dependent on the geographical location [1] and thus become more virtual. The use of the newer SM has made it possible for professionals around the globe to get advice from their colleagues and share experiences with a mouse click.

The significance of SM on work habits and norms of behavior in the office has not gone unnoticed by managers and executives. To get a better view of senior management perceptions and concerns, we undertook a series of interviews to get a clearer picture of how they perceive the management challenges. In addition to the interviews, we undertook critical reviews of the literature on the theories of the firm, focusing on the knowledge-based view (KBV), and the literature on communities of practice (CoPs).

Our research began as an exploratory study of how SM can influence knowledge work. It evolved to include a critical review of some of the popular views on the firm and a reflection of how these views may need to change in the new environment characterized by the prevalence of SM.

We find the perception that adoption of SM is bringing significant change to knowledge production because SM platforms extend across the boundaries of the firm. The senior executives in our study were concerned about a growing influence on knowledge that in the past had always resided inside the firm and thus could be controlled. They are alert that changes in the workplace lead to a loss of control over key knowledge assets, and this can impact the source of their competitive advantage. Their reasoning about work practices and control appears to be grounded in a theory of the firm that associates control and ownership with competitiveness. They especially mention that their new employees (especially the younger ones) express different values towards the work they do; their behavioral norms seem more relaxed. The new employees appear to treat knowledge as a commodity that can be easily accessed from sources outside the firm boundaries. Penetration of SM through corporate borders poses serious questions for the C-level managers on the
border of the firm: Should they block social media? (Can they?) Should they accept the inevitability of the use of SM by their employees? How can they control the firm’s knowledge asset? If knowledge is no longer controlled inside the corporate boundaries, how can it be the source of sustained competitive advantage?

As researchers who study KM, KM systems (KMSs), and CoPs, we believe there is a need to re-examine the prevailing literature in this field, which often makes the unstated assumption that CoPs are effective tools for the transfer of the tacit dimension of knowledge within the company. With the perceived changes in the use of SM, however, a firm’s destiny may be related to CoPs that transcend or bridge a firm’s boundaries. We see limits to the prevalent research literature and its strong, often implicit assumption that a CoP is an integral part of a particular organizational structure [18].

We see this challenge for research: addressing questions of whether (and how) CoPs are – or at least can be and can exist – outside the firm, but still become a more effective tool for people’s collaboration in knowledge creation. Could CoPs replace the firm as the primary sources of innovation and knowledge creation? If so, what remains the role of the firm? What would be the form of “knowledge management” in such an environment?

In this paper we address two issues related to these questions. First, how the use of SM affects the control of knowledge assets within the organizational borders and what the benefits and threats of this influence are. Secondly, how the concept of CoP is changing – and needs to change – as a consequence of the rapid growth of SM and the implications of this change for the theory of the firm and KM.

We believe that if the concept of CoP is based on invalid assumptions, then this misunderstanding will limit how firms can effectively access and use knowledge embedded in CoPs. Our discussion focuses on possibilities for the design of relationships between firms and CoPs.

In the remainder of the paper, we first review highlights of those aspects of the theoretical foundations for the KBV of the firm and CoPs that are most related to our research questions (Section 2). Next, we summarize the field research on executives’ concerns (Section 3 and 4). We conclude with a discussion and implications for research and practice (Section 5).

2. Theoretical background

2.1. Knowledge-based view of firm

The knowledge-based view of the firm (KBV) introduced by Kogut and Zander [13] puts an emphasis on efficient knowledge and information creation and transfer as the main reason for the firm’s existence. The characteristics of the innovative and challenging environment in which the companies have to operate, makes them internalize their activities due to the benefits of better coordination as well as complementary activities within the same firm [6; 13]. As stressed by Kogut and Zander [13] knowledge is embedded in the organizing principles of how employees interact with each other. Therefore, social relationships, which are obviously affected by SM, are seen as an efficient component of the knowledge growth within the firm. The better the team is organized and the better knowledge flows within the company, the more advanced and innovative it would be. The same idea is also highlighted by Grant [8], who posits knowledge as the most strategically valuable resource of any firm. Under hyper-competition conditions of rapid change a market position alone does not lead to sustained competitive advantage because it erodes too rapidly.

Instead, knowledge resources and capabilities emerge as a source for constantly renewed advantages coming from sustained innovation such as the creation of new products and services from access to specialized knowledge [8]. Grant [8] stresses that integration and transfer of knowledge rather than knowledge itself is the crucial source of competitive advantage. Therefore, the development of organizational routines through training [2] and the buildup of interpersonal relations [9] become an efficient tool for effective knowledge transfer.

2.2. Communities of practice

Communities of practice, introduced by Lave & Wenger [15] can serve as tools for knowledge maintenance, transfer, and organizational learning. As depicted by McDermott & Archibald [18], they are seen on the one hand as an integral part of the organizational structure for tacit knowledge sharing [22]. For knowledge management, communities of practice present a way to codify knowledge or to embed knowledge in organizational routines so that it can easily be accessed and applied.

CoPs typically are organized around ideas, specialized knowledge, and values that matter to people [23], but at the same time bring benefit for the
organization [7]. The common features of CoPs as depicted by Wenger [23:72-73] include the establishment of collaborative relationships, so-called ‘mutual engagement’, common ground for understanding the purpose of the community’s existence (‘joint enterprise’), and ‘shared repertoire’ consisting of the resources produced by the community. A defined domain of knowledge and routines for maintaining, learning, and sharing are seen as the most important structural characteristics of such communities [24:27-29]. New SM impacts CoPs as the additional technical platforms that enable the relationships.

There is an obvious inconsistency between perceiving knowledge embedded in the community of practice as a public good [1] on the one hand, and control over knowledge as source of competitive advantage in KBV, on the other hand. This does not matter as long as CoPs, - as typically portrayed in academic literature on management and strategy - are located inside the firm and, do not bridge corporate boundaries [1; 5; 15; 24]. But crossing firm boundaries is what the senior executives of our study attributed to SM, and they expressed concern about this boundary crossing and the accompanying lack of control. And evidence that communities can successfully exist independent of firms can be taken for example from the literature on open source software communities [20] as well as from the interviews with the Swiss executives.

3. Concerns of C-level executives

3.1. About the research

We reviewed the literature that related to social media and how services that use social software and communications technology can pose both opportunities and threats to existing ways of managing knowledge in organizations. We also collected data from 24 C-level executives to help understand how organizations are reacting to these opportunities and threats.

We chose a naturalistic inquiry approach using on-site interviews. From prior studies [4], we anticipated that the first impact of SM might be seen in the information technology (IT) functions of the firm. The study was conducted in Switzerland because of the country’s high IT investment and because we had an interested group of companies willing to participate.

We interviewed Swiss executives in 18 knowledge-based companies across different sectors, including government, telecommunications, education, healthcare, banking, consultancy, and tourism. We conducted 24 interviews with senior executives (CEOs, CIOs and the HR managers) in order to have three different perspectives on the topic (CEOs – company’s strategy, vision for the future; CIOs – technological perspective; HR Directors – employees’ behavior, new leadership styles). Before the interview, each respondent received and reviewed an information form about the purpose of the study, procedures, and its benefits, together with a one and a half page provocative scenario reflecting the emerging issues in the social media usage inside and outside organizations [4]. In the scenario, the main character, the CIO of a high-tech company, is going to a meeting with project managers to discuss the behavior of their newly hired employees – their tendency for a high level of collaboration on social media, the usage of Internet for sharing experiences, making external connections to solicit help on projects, and putting project related information online. As he is going to the meeting, he is thinking about the issues that his managers have risen. For our interview, we asked the respondents to reflect on the scenario and any other aspects of new ways of working relevant to them and their organizations.

Respondents were only lightly guided by questions and free to brainstorm on topics in the scenario, which served as a common starting point for analysis. Each interview of about 60-90 minutes duration was audio recorded and transcribed, which resulted in over 650 transcript pages.

Four researchers reviewed the transcripts, using an agreed-upon set of codes. The researchers identified thematic patterns and synthesized an explicit set of relevant themes used as a basis for the discussion in the remainder of this paper.

4. Findings

4.1. Communities of practice as independent entities

Even though the “dot com” boom is long over, the first striking impression from the interviews is that the organizational and strategic effects only now seem to be inducing significant changes to the working environment. Of course, this new environment has posed new opportunities and challenges for the organizational leaders who question themselves what the future of their companies would be [12]. Communities of practice as part of the knowledge management practices of the firm are undergoing significant changes due to the SM influence. The
academic literature typically views CoPs as effective tools for tacit knowledge transfer in the organizations; the presumption is that they are contained within the corporate borders. Nevertheless, there are coming more and more vivid examples showing that CoPs are pictured as independent entities.

Professional communities of journalists, doctors, teachers or lawyers extend beyond borders to embrace professionals in the same field to preserve their professional ethics and enhance their learning across the globe. This means that the members of the professional communities are more identified with their specific profession rather than with the companies they work for.

One of the executives, who is board member of the Swiss Society of Engineers, for example suggested exploring the concept of setting up a nationwide platform on which engineers could report unethical behavior of the firm.

The concept of such a platform was inspired by WikiLeaks, which is a borderless community of practice. Founded by professionals from China, the US, Taiwan, Europe, Australia and South Africa, it now comprises more than 1200 volunteers across the globe [25] and the information it provides can be viewed, added to, or edited by anyone. With a goal of revealing unethical behavior of governments and corporations, the founders of Wikileaks believe that the digital age has opened new opportunities for transparent information exchange and discussion. They believe that such transparency can help prevent different catastrophes.

FLOSS (Free/Libre Open Source Software) and other open source software communities are examples of successful open knowledge creation communities in a free knowledge ecosystem [14]. Many of them are operated by independent knowledge workers, but co-existence with large firms such as IBM or Oracle for the OpenOffice software package, demonstrate hybrid operational modes.

The interviewed Swiss CEOs share the point of view that social media are changing traditional attitudes of employees in that their loyalty shifts from the firm they are employed with to their networks and communities:

- ... what happened in the telephone industry I think is going to happen in the financial service industry not only on the customer side, but also on the employer side, not that fast but it’s going to arise I guess. Because one of my direct reporters told me that there are already these ratings of an employer and that’s about it. I am not sure but about 10 people from X Company already made a judgment about X Company as an employer ...
- ... now, we have instruments like Facebook, also blogs, etcetera where you can talk to everybody ...
- ... I think that’s a fact anyway so if they (young people) are not connected here, they are connected at home. So the thing is that they are different and they work differently to take decisions. For instance for them, if they go to New York, they ask their Facebook friends where they should go and they go according to recommendations by other people. Whereas we didn’t have Facebook, when I was at that age ...

Moreover, social media accelerate the speed by which CoPs are formed independently from the firms. It takes only a couple of the mouse clicks to create a new interest group on Facebook and invite your friends and colleagues to contribute. All the rest is done by 87.7 million Facebook viewers per month [27] who are eager to get engaged in a productive knowledge exchange.

Interviewees reported that they felt pressure to respond to this new reality. They respond in different ways to this pressure. In some cases, senior managers have let shut down access to all non-work related sites, demanding that their employees concentrate only on the work they do ignoring the fact the CoPs are outside the corporate borders:

- ... most larger Swiss companies have shut down the access to social networks...
- ... your security standards are information standards or communication standards, and are strictly regulated, and that’s why our engineers or employers cannot use social networks here ...
- ... we have as a policy that some websites are restricted because we do not want employees to use them... It depends on the security standard. So if you work in the federal office, security is very important and it’s applied for every office in the whole administration...

Most of those companies (like banks or IT companies) base their main argument on the potential risks coming from the SM. They fear that their trade secrets can be spread online:

- ... of course, there is the risk that you have identified in your scenario which is the loss of the intellectual property ...
- ... we are concerned of sharing company’s secrets or intellectual property, that is what I mean by sharing online their profiles ...
They are confident that if they put high security standards (e.g. no access to the websites not approved by the senior management or no opportunities for downloading), then their company’s knowledge and developments will stay within the corporation. But is it really the case? And how long will employees accept this? Many interview partners voiced their concerns on the viability and sustainability of this strategy.

Another group of the sampled firms reported dealing with the problem of ‘know-how sharing’ by putting special guidelines for their employees of how to use social media:

- ... we have guidelines on how employees are allowed to use social networks. We have them all open, we don’t shutdown the access to them, but we tell people that beware you shouldn’t be using it or shouldn’t overuse it, don’t publish confidential information; don’t publish in which project you work, all that stuff we have in guidelines ...

Still a third group of the sampled firms takes a progressive stance in that they promote SM usage and do not see any value in restrictive policies. They are convinced that it cannot be stopped so why try to stop it anyway:

- ... we have decided not to adopt a restrictive policy or practice assuming that the use of social networks and online collaboration is something that cannot really be stopped, and putting any constraints on those things usually doesn’t stop it. The more you make it forbidden the more interest you get ...
- ... you can most probably do everything with the exception of illegal or insensitive things which will not be allowed but other than that, it's all open. You can even download applications or whatever we have very open software...

Across all three groups executives agree that CoPs exist independently from their firm, which departs from Wenger’s [23] point of view of that CoPs are associated with the firm.

4.2. Different roles for firms and communities of practice

The interviewed C-level managers observe that especially young people, Net Geners, feel a necessity to discuss what they are working on online, contribute to different interest groups and get engaged into the knowledge creation processes taking place on the web. This observation causes them to acknowledge that relevant knowledge is no longer located only within the corporate borders but outside as well. They emphasize:

- ... if somebody needs to make a discussion in a certain forum, to get some ideas I do not care. I mean, at the end somebody has to be here with a certain job description, and he has to produce certain things or get a certain performance. If he goes to the library and then reads all the books or goes to a forum and discuss this with 10,000 people over the planet how to solve something, I don’t see that is really a problem to evaluate the performance. I mean I just don’t care how he does this performance. I care if he shares secrets from the business model with others ...

Of course, this means that the adoption of social media transcends the organizational boundaries that long have been conceptualized as circumscribing the stickiness of knowledge and preventing knowledge leakage [16].

One approach of addressing the firm-CoP relationship is to seek strategic opportunities by marshaling knowledge gained through exchanges with users and customers. Sara Lee (open innovation portal), Dell (IdeaStorm platform – external idea sourcing), and Starbucks (My Starbucks Idea platform to shape the future of the company) [17] are examples of this approach. Such knowledge sharing creates new and more innovative ideas and products, which may have never been invented if they were not asked for from the outsiders.

Concepts such as crowdsourcing innovation, as evidenced by multinational firms like Procter and Gamble [10] as well as start-ups like Quirky [17], push this thinking even further. In these examples, the networks are the central place to explore knowledge sharing and innovation opportunities.

Interviewees in our study also perceive that the clear distinction between user and producer of knowledge weakens when online creation is more productive than trying to constrain and preserve knowledge only within the company. They now are accepting that CoPs and knowledge embedded in them are outside the firm and are ready to cooperate:

- ... people get their information on the computer and it's no more like you can tell them what they have to do. They go and ask, and they will put it together themselves. So tourism, I think beside books and probably DVDs and all this music, is one of the products which is also very much sold via Internet and therefore, the information is also searched in the Internet...
- ... we had one day some kind of a platform


The recognition that customers can be more involved with product design leads to an approach that would organize the firm-CoP relationship as a co-creation relationship in which CoPs play a specific role (distinct from the firm’s role) in the knowledge-based ecosystem.

A third approach to design the firm-CoP relationship is by co-specialization. The theory of the firm identifies three rationales for the existence of firms: revenue maximization, resource possession [26], and control [19]. In contrast, CoPs exist to preserve values [23], to maintain their codes of conduct, and to promote the sharing of information and knowledge on best practices. These distinct rationales may lead to conflicts, e.g., legal, but unethical behavior, or illegal but ethical behavior. In a co-creation relationship, such dilemmas can be moderated through preservation of separate entities.

The public portal of the engineering association (based on the WikiLeaks model) could serve as an example. While firms pursue the commercialization of their products, engineers can put online ‘drawbacks’ of their companies’ products and services in order to avoid future catastrophes as well as keep their professional code of conduct. While this move is obviously motivated by professional ethics, it contradicts traditional trade law that clearly states that it is illegal to spread company’s trade secrets. If well managed, public discourse on potential product drawbacks could generate mutual benefit for the public, the engineer, but as well the firm. This however, requires new communication capabilities for the firm.

5. Discussion and conclusions

5.1. Social media and the theory of the firm

Much has been said on how the new social media change work and what advantages and benefits these tools bring to the individual and team. Our study suggests that the impact of SM at the firm level may be equally significant both for knowledge management practice and for research on the theory of the firm.

First, with adoption of SM, enterprises are no longer in complete control of the knowledge assets as posited by the KBV of the firm. Knowledge from outside may become equal in importance to knowledge inside the firm.

Second, CoPs, which have always been viewed as an internal part of a firm, are becoming independent entities, innovative and constructive, and the influence of the SM in opening organizational borders is strong. Our observations show that the concept of the CoP mutates from an integral, internal knowledge management tool of a particular organization into an effective tool for virtual cross-organizational collaboration and knowledge exchange.

This early naturalistic inquiry reveals more open questions for future research than it provides answers. If firms and CoP are distinct entities, it is beneficial to have a closer look at the interaction mechanisms that would allow firms and CoPs to productively cooperate in an emerging knowledge-based ecosystem. More research is needed into the three approaches that we have observed with the most progressive companies.

Relationships between CoPs and firms seem manifold and further research is needed to discover the wealth of possible links. CoPs exist for, inter alia, knowledge creation and storage (knowledge exploration), while firms exist for knowledge exploitation. Consequently, current trends in SM use suggest that firms may become increasingly dependent on CoPs. However, we recognize that this view (shared by our interviewees) may be rooted in educated theories about KM. We conclude that further research can help clarify the future possible relationships among firms and CoPs. It may well be that a new perspective, a new “theory of the firm” can emerge from such research. Such a theory might include a dynamic conceptualization of the firm as an entity whose role adapts to an ever-evolving economic ecology of CoPs, firms, and other entities with specialized roles.

5.2. Implications for knowledge management research

Based on our observations, it is clear that more research is needed in two areas related to the knowledge management. At the institutional level, the mechanisms for knowledge creation and interpretation need to be better understood. Much more knowledge and information is made available through SM, but how are firms (and CoPs) making sense of this wealth of information and knowledge?
How do they select, from the flood of available information, what is salient? How do they assure that highly valued knowledge is not overlooked? The answer may lie in new relationships between firms and CoPs.

What we have heard in the interviews is that CoPs tend more to knowledge exploration while firms tend toward knowledge exploitation. Even if this separation and specialization proves to be widespread, we still need to find out how KM is organized in both entities. We also should see if previous research indicating that executives use knowledge management systems for both model (knowledge) exploitation and exploration [21] remains true in the emerging knowledge ecology.

Secondly, social media are evolving as a complex new knowledge management system, one not owned or controlled by a single firm or entity. Again it may not be appropriate to call this a knowledge management system in the logic of current literature, since it does not have the typical characteristics of a management system under the control of firm management. Previous research on KM posited the design of KMSs to align with organizational strategies. As social media are coming from outside the firm, leaders are challenged to cope with a complex set of knowledge agents, none of which may be answerable to the executive’s own firm. Research is needed to understand how knowledge exploration and exploitation take place in this dynamic and multipolar environment.

5.3. Implications for practice

A first take away for practice is the insight that a process of change induced by SM has only started. As this change proceeds, each individual organization will have to find its own situated and appropriate response to it.

More concretely firm leaders should recognize that CoPs are no longer inside, but are outside the firms and are independent entities. The company’s leaders share:

- ... I mean basically all the information you need is on the Internet ...
- ... what we see is that next generation of people coming in are obviously very addicted to the use of social networks like Facebook and LinkedIn and other sites, and that has become part of their personal lives and also seem as part of their professional lives ...

This has practical consequences on the way control can be exercised; most probably resource control is diminishing as the focus shifts to the linkages for accessing knowledge resources. Employees exchange information online, engage in the productive online creation and CoPs with the help of SM become a powerful tool in accessing the wide range of resources in the fastest time frame. For example:

- ... I would say the major part of our internet is our knowledge management and internal navigation platform. So it is a facility that gives us access to share knowledge through documents that qualify our experience, our projects’ particular insights, X Company methodological approaches, etc. ... When I say navigation I mean functions to find people, to find experts, to find start for project, to find alumni, to find the external information sources and it also includes online training, access to tools we use in the productivity or other kinds of things. So a fairly comprehensive set of tools ...
- ... we had some kind of platform for one of our businesses where people could put information on that platform for one project and I realize now that it was very useful...
- ...It is simply the cooperation which became much more intense, and I think it is related to the possibilities which emerged; communication channels but also these collaboration tools. It's just everything on the net, you work collectively, the knowledge is gained from different groups...

Knowledge workers are aware of the change in control that firms can exercise. In the words of their senior managers “loyalty” towards the employer is changing. More research is needed on how to attract creative talent to firms. As the interview partners frequently mentioned, intrinsic motivation from interesting and challenging jobs, and other mechanisms are needed if firms are to retain younger worker. Accepting and embracing collaborative relationships with CoPs through SM can be an appropriate answer – perhaps even a strategic necessity – if corporate leaders are to get the best performance of this new generation of knowledge workers. Our interviewees clearly confirm:

- I am absolutely convinced that if companies make use of those features like Facebook or XING, they will gain a competitive advantage and if they don’t do it at some point in time, they will actually lose people and they will lose the chance to realize on ideas that are in their company but they are not being found because they don’t use these new tools ...
... I think that we must work with virtual team(s) because otherwise you couldn’t fulfill your job. Because the projects are fast and they have a time pressure. They are really complex and so you have to set up virtual team to fulfill the projects, to have success...

5.4. Concluding remarks

This exploratory research has raised more questions than it has provided answers. The empirical evidence from executives indicates that firms see change coming as a result of SM. They frequently feel ill-prepared to make the best use of these new platforms and services, and traditional management models and models of knowledge management that have served so well in the past will benefit from a re-examination of the hidden assumptions. As researchers and thoughtful executives, we have much more to learn about how to navigate through the emerging wealth of available information and knowledge.

6. References

Appendix A: Home organizations of respondents

BCG, The Boston Consulting Group (Switzerland)
BSI Healthcapital SA
Bucher Management AG
Bundesamt für Berufsbildung und Technologie – BTT
Destination Davos Klosters
ETH Eidgenössische Technische Hochschule, Arbeits- und Organisationspsychologie
Lantal Textiles AG
Orange Communications SA
Raiffeisen Schweiz Genossenschaft
Schweiz Tourismus
Staatssekretariat für Wirtschaft SECO
Stadt Zürich, Organisation und Informatik
SWICA Gesundheitsorganisation
Swisscanto Holding AG
Swisscom AG
Swisscom IT Services AG
Walder Wyss AG
WWF Schweiz