Community of Practice as a Tool for Company Performance in Strategic Context

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Abstract. The objective of this study is to examine communities of practice (CoP) as a strategic tool for expanding methods of collective learning and knowledge creation and sharing. Through the case study, I analyze how CoP increase personnel capabilities to improve company performance and achieve strategic goals. In this study, qualitative methods have been used to answer the research question 'How are communities of practice used as a strategic tool in the case company?' The literature related to CoP for strategic advantage is reviewed. Then, in the empirical portion, I describe in detail participant observations, document analysis and semi-structured interviews with experts from the case company. Based on the literature review and empirical findings, I construct the model for virtual collaboration in the CoP. The model provides practical guidelines for effective competence creation. Five organizational development areas are identified: (1) the strategy of a firm; (2) motivation to work in CoP according to the strategy; (3) knowledge creation and sharing through CoP; (4) feedback and benefits; and (5) strategy improvements and best practices (business processes). CoP findings indicate that the case company should work on all five development areas simultaneously. In conclusion, top management should encourage personnel to improve personal skills and support an open learning atmosphere. The main suggestion for improving virtual collaboration in the CoP on an organizational level at the case company is the establishment of informal networks. The relationship between CoP and their stakeholders should be strengthened because, in the absence of these relations, the collaboration will never begin. In particular, the case company should improve its social networks and encourage personnel to join CoP. This study paves the way for further research into experiments on the practical implementation of CoP.

Keywords. Communities of Practice, Knowledge Sharing, Virtual Collaboration, Company Performance, Innovation, Open innovation.

1.   Introduction

This study examines communities of practice (CoP) as a strategic tool for collective learning and knowledge creation and sharing. Wenger (1998) asserts that knowledge creation in CoP occurs when people participate in problem solving and share the knowledge necessary to solve problems. New knowledge can be created through the conversion of explicit (visible, codified) and tacit (invisible, difficult to code) knowledge as a social process between individuals (Nonaka and Takeuchi, 1995). From a business perspective, tacit knowledge, which is embedded in individuals, is often the most valuable because it consists of embodied expertise and a deep understanding of complex, interdependent systems that enable dynamic responses to context-specific problems; more importantly, it is very difficult for competitors to replicate (Wenger et al., 2002). According to Chesbrough (2006, p. 44), there is an abundance of knowledge in virtually every field around us. The proliferation of public

scientific databases and online journals and articles, combined with low-cost Internet access and high transmission rates, can give access to a wealth of knowledge that was far more expensive and time-consuming to reach as recently as the early 1990s. Chesbrough (2006, p. 45) argues that the rise of excellence in university scientific research and the increasingly diffuse distribution of that research means that the knowledge monopolies built by the centralized R&D organizations of the twentieth century have ended. Companies must structure themselves to leverage this distributed landscape of knowledge instead of ignoring it in the pursuit of their own internal research agendas. The sharing of tacit knowledge requires close involvement and cooperation, network relationships, face-to-face contacts, shared understanding and trust (Lam, 2000; Ardichvili et al., 2003). Tacit knowledge also requires informal learning processes such as storytelling, conversation and coaching, of the kind that CoP provide (Wenger et al., 2002). Through these processes, CoP members can increase their own understanding and add to their community's collective knowledge (Brown and Duguid, 1991, 1998). Appreciating the socially constructed nature of knowledge, McLure et al (2000) recommend that organisations consider a third perspective on knowledge: not as an object to codify or something embedded in individuals, but as social phenomena and an integral part of a community. According to Wenger et al. (2002, p. 6) cultivating communities of practice in strategic areas is a practical way to manage knowledge as an asset, just as companies systemically manage other critical assets (Prokesch, 1997; Hanley, 1998; Lesser and Everest, 2001; Cross et al., 2006; Probst and Borzillo, 2008).

Companies are not only competing for market share, they are also competing for talent-for people with the expertise and capabilities to generate and implement innovative ideas (Wenger et al., 2002, p. 7). These companies should discover the hard way that useful knowledge is not a "thing" that can be managed like other assets, as a self-contained entity; rather, they need to base their strategy on an understanding of what the knowledge challenge is (Brown and Gray, 1995; Wenger, 1999; 2004; McDermott and Kendrick, 2000; Barrow, 2001; Saint-Onge and Wallace, 2003; Anand et al., 2007; Wenger et al., 2002). Similarly they argue that what companies have been missing so far is an understanding of the kind of social structure that can take responsibility for fostering learning, developing competencies, and managing knowledge. From this perspective, CoP, embedded on open-innovation platforms, provide an appropriate tool to share and manage this knowledge internally and among the other stakeholders.

This study aims at answering the research question 'How are communities of practice used as a strategic tool in the case company?' Through the case study, I analyse how CoP increase personnel motivation and capabilities to improve company performance and achieve strategic goals. Achieving strategic goals requires new ways of knowledge harmonisation among different, mainly virtual, globally located business units and all stakeholders within the company. In this study, I constructed a model for virtual collaboration in the CoP.

2.   Research settings and methods

The case company is a multinational corporation with seven global production units and eight R&D centres. It offers elevator installation, maintenance, repair and modernisation in the construction and engineering industries. The company expected growth driven by the recovery of Western economies and the continued expansion of developing markets in Asia Pacific and Eastern Europe. The growth was mainly expected to occur through acquisitions. The new strategy was launched in 2005 with the aim of growing by shifting from a total technology-focused strategy to a

competitive and innovative services and solutions strategy. To achieve the strategic goals, there was a need to create a new organisational culture and improve knowledge harmonisation, especially among global installation and maintenance personnel in different units worldwide, many with overlapping functions.

New business units around the world, e.g., process-based organisations, were expected to collaborate more effectively. The company has to restructure many of its former units as virtual organisations to cut costs, compile globally fragmented knowledge and harmonise its processes.

The company faces the challenge of creating the common knowledge, shared best practices and trust necessary to carry out its strategic intentions. Growth through acquisitions is challenging for sharing knowledge and transforming best practices. Vertical knowledge sharing appears difficult. Understanding strategic goals, creating mutual knowledge bases and implementing a company strategy in a new organisational structure are great challenges for the personnel. The growth of maintenance, modernisation and service revenue continuously stimulate the creation of new service businesses.

The case company has 3,200 supervisors working globally. The top management of the company identified this strategic group to run the change of knowledge harmonisation and transfer. They started the Supervisor Development Program (SDP), which aimed to implement an equal level of knowledge needed all over the world to run the strategy of the firm daily.

The SDP was launched to reorganise the different process-based organisations and harmonise global processes. The SDP can be seen as part of the CoP domain (see Wenger et al., 2002) that integrates people in the case company. It is aimed at applying an equal level of knowledge needed to coordinate the company's strategy in the daily work at the customer interface level. It was created to build relationships based on mutual respect and trust (see Wenger et al., 2002), and to encourage members to engage in joint activities and share ideas, information and knowledge. For the SDP, the researcher proposed applying the concept of CoP, through which best practices can be shared to create common knowledge for the creation of new business processes and strategy improvements.

In order to answer the research question, a two-year longitudinal case study approach was adopted. This single case study aims to expand the understanding of CoP in the strategic context and to provide experiences of applying CoP to improve company performance. Research was implemented in two different steps. First, before the adoption of the SDP, the researcher was observing, participating and working (later, pre-working) with the Global eLearning and Collaboration Department (GeLCD) in the headquarters of the case company to get answers to the research questions. Second, semi-structured interviews with the project personnel were executed. It is notable that global project manager (GPM) and other interviewees were located in different divisions of the company, and therefore their answers came from different kind of backgrounds.

The case company's internal and confidential archives and numerous observation periods in the GeLCD provided a lot of material for qualitative research. For the researcher, who comes from outside the company, creating an open atmosphere and trust between interviewers and interviewees was important. In co-operation with the managers of the GeLCD, the general overview of the company's organisational culture and knowledge exchange processes was gained.

The researcher took part frequently to the meetings of GeLCD. Sometimes meetings were on a weekly basis, at least every month. The most intensive interactions were between Global eLearning and the Collaboration Manager, Project Manager of the department and the researcher. In the beginning of the process, the researcher was an

observer, but during the process he was able to offer added value in creating the way to work for the SDP. Before the co-operation with the researcher, the SDP was planned to be rolled out as a traditional, one-way training program. After numerous meetings between the researcher and case company personnel, they created the final version of the SDP. The new way of knowledge harmonisation among different, mainly virtual, globally located business units and all stakeholders around the company based on the collective learning and knowledge creation and sharing through the CoP was created.

The researcher made all the interviews after launching the global rollout for the SDP. Interviewees were running the SDP in practice. During the interviews they were already able to see the influence of a new kind of training program and received a lot of feedback about it.

Four interviewees from the SDP virtual project group were selected in cooperation with the case company: a global project manager (GPM), technical trainer (TT), technical editor 1 (TE1) and technical editor 2 (TE2). All interviewees were active in CoP and work continuously in the different virtual networks. Interviews were conducted face-to-face and through virtual meetings via the Internet. Notes from every interview were made during the session and later supplemented on the basis of recordings. The interviews were compiled and analysed using qualitative analysis methods.

The interviewees were all working with the SDP in various roles. Some were leading and managing the process, while others were producing content for it. The interviewees' attitudes were very positive and harmonised with the SDP, and their answers were similar. They discussed the organisation's skills, opportunities and challenges in networking, collaboration in the virtual teams and working in the CoP.

After the case company launched its growth strategy and SDP, qualitative methods were used to determine how CoP can be used to achieve the company's strategic goals. Based on the literature review and empirical findings, a model was constructed for effective virtual collaboration in the CoP. In this study, participant observation and semi-structured interviews with personnel (who participated in the SDP) were performed. The case company's internal documents were also analysed. Comparing relevant theories to the case company's practice is the foundation of the study. Based on the data, results can be categorized into the following themes:

1. Strategic management in the CoP,
2. Motivation to implement the strategy of the firm in CoP,
3. Knowledge creation,
4. Feedback and benefits of CoP, and to
5. Strategy improvements and best practices.

The paper outlines the full context of the process so that the reader can understand how the case company succeeded with this program, the results of the program and what kind of improvements they should execute to implement their strategic goals better in the future.

3.   Communities of practice in the strategic context

3.1.   Communities of Practice (CoP)

Wenger et al. (2002, p. 4) defined CoP as 'groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis'. CoP provide the social

context (Correia et al., 2010) for collective learning through which people exchange knowledge based on their shared practices and collective identity (Wenger, 1998; Kirschner and Lai, 2007; Correia et al., 2010). Lave and Wenger (1991) originally described CoP as informal, self-organising entities with self-selecting members that occur naturally. Wenger et al. (2002) later revised this definition, stating that CoP could be created and may not be that informal. The original definition of CoP involved relatively stable communities of interaction between members working in close proximity to one another, in which identity formation through participation and the negotiation of meaning are central to learning and knowledge creation (Amin and Roberts, 2008). Today, some CoP have regular face-to-face meetings between members working in close proximity to one another (Amin and Roberts, 2008), while others are connected primarily by e-mail networks or Internet technologies, which allow virtual, real-time interactions and distant, dynamic and 'global' characteristics in the collaboration (McLure, Wasko and Faraj, 2000; Ardichvili et al., 2003).

Three key elements make CoP an ideal social structure for developing and sharing knowledge (Wenger et al., 2002): 1) a recognised domain of interest; 2) relationships based on mutual respect and trust; and 3) shared practices. Members of CoP can pool and share their expertise, test new ideas, improve past processes and procedures and find solutions that result in increased capabilities and improved performance for an organisation (Saint-Onge and Wallace, 2003). Wenger et al. (2002) recommend that, rather than formalising CoP into an organisation structure, they should remain somewhat informal, albeit sanctioned and supported.

A distributed community is any CoP that cannot rely on face-to-face meetings and interactions as its primary vehicle for connecting members argues Wenger et al. (2002, pp. 115-116). There are four factors which determine distributed community-distance, size, organizational affiliation and cultural differences. These factors are compounded and make building and sustaining communities significantly more difficult. Distributed communities are generally less 'present' to their members, and because of these barriers, it take more intentional effort to consult the community for help, spontaneously share ideas or network with other members (Wenger et al., 2002, pp.116-117).

Community size and geographical distance are not necessarily related (ibid). Wenger et al. (2002, p. 117) argued that size has implications for the way communities structure themselves, and when compounded with distance, size becomes an even more significant factor.

Large, global communities often have more trouble than local ones in getting senior managers with conflicting priorities to genuinely buy into the idea of sharing with other companies or business units, and idea sharing is complicated by the need to develop criteria for dealing with intellectual property (ibid.). Wenger et al. (2002, p. 118) argue that rather than creating a complex ownership system, managers should agree to share only knowledge that they think could be disseminated within the other member companies without adverse effect to their own companies.

Cultural differences can easily lead to communication difficulties and to misinterpretation, and successful distributed communities have to learn to address cultural differences without either minimizing them or stereotyping people (Wenger et al., 2002, pp. 118-119). Language differences also introduce a very basic barrier to communication and can intensify cultural boundaries, even when all parties agree to speak a common language (ibid.).

Communities are based on the connections of members and then the access to technology can be a barrier to communication (ibid.). If simple and advantageous connection is difficult, people are less likely to make the effort, at least not regularly (ibid.).

The design principles and processes we use for local communities also work for distributed ones (Wenger et al., 2002, pp. 123-124). Designing and nurturing distributed communities so they can overcome the barriers of time, size, affiliation, and culture requires additional effort in four key development activities (ibid.):

1. Achieve stakeholder alignment.
2. Create a structure that promotes both local variations and global connections.
3. Build a rhythm strong enough to maintain community visibility.
4. Develop the private space of the community more systemically.

According to Wenger et al. (2002, pp. 135-137), strong human relationships are key to integration across geographically distributed business units, as well as to creating effective partnerships and communities that can become a primary source of stability. CoP create a point of stability in a world of temporary, distant relationships, as well as the common talent pool that globalization requires (ibid.).

3.2. Strategic management in CoP

A company's competitive advantage is primarily embedded in its personnel's intangible, tacit knowledge (Nonaka and Konno, 1998). Thus, companies need to understand what knowledge will result in commercial success; they need to keep this knowledge on the cutting edge, deploy it, leverage it in operations and spread it across the organisation to generate capabilities (Teece, 2003). A knowledge strategy is typically developed with a business strategy, which is intended to lead a company through changes and shifts, securing its future growth and sustained success (Teece, 2003). The knowledge strategy specifies in operational terms precisely how to develop and apply the knowledge assets and capabilities required in executing the business strategy (Wenger et al., 2002).

Saint-Onge and Wallace (2003) suggest that CoP can be a key element of an organisation's knowledge strategy for increasing individual and organisational capabilities. Wenger et al. (2002) argue that using CoP in the strategic context is a practical way to manage knowledge as an asset systematically, just as companies manage other critical assets. CoP can provide value through their ability to develop new strategies complementing existing ones, and they provide a method to realise a business strategy (Swan et al., 2002). CoP can also keep abreast of market opportunities and their own practice development; thus, they can inform or enact new strategic initiatives. The knowledge dynamics of virtual communities are different from those of CoP that depend on social contact and direct engagement, because knowledge is transmitted electronically via interfaces (Amin and Roberts, 2008). Virtual CoP are often informal inter-organisational groups without the leadership of traditional teams or structured organisations (Wenger et al., 2002). A virtual organisation is characterised by collaboration between persons from different departments, units or even organisations. In this type of situation, an awareness of the firm's strategy is essential to reach assigned goals.

3.3. Motivation to implement the strategy of the firm in CoP

Saint-Onge and Wallace (2003) state that the challenge in running a company is creating an uplifting, motivating atmosphere among personnel. To achieve success, a company must enjoy strong links between individuals and organisational capabilities. The most effective link is between the mindsets of the individual and the organisational culture (Saint-Onge and Wallace, 2003). According to Burk and Sutton (2000), successful CoP are organised around the needs of their members; as such, they exhibit a wide range of sizes, structures and means of communication. By proactively cultivating CoP and providing structure and support, a company can

discover new ways to create value for the community, the company and its customers and partners, and the individuals involved in CoP (Burk and Sutton, 2000).

The key to successful CoP is the members' motivation to actively participate in knowledge creation and sharing activities-something which individuals typically resist (Ardichvili et al., 2003). The motivation to participate in CoP increases when an organisational culture encourages mutually supportive relationships between employees, and when employees view themselves as experts (Ardichvili et al., 2003). Thriving CoP can offer the following motivation factors (Burk and Sutton, 2000):

1. Find a means for frequent contact. CoP grow stronger with better and more frequent exchanges, which can include more frequent meetings, teleconferences, e-mail listservs and/or a virtual home base accessible through the Web.
2. Give it a name. Informal CoP may become stronger simply by adopting a name, creating and disseminating member lists and letting others know how to plug in.
3. Maintain a balance between experts and practitioners. A mix of knowledge levels and related disciplines in CoP membership can help the organisation innovate and develop staff skills.
4. Facilitate knowledge exchange. Recognised CoP facilitators can grow membership and help CoP identify and address their priority needs.

3.4. Knowledge creation

Communities of practice are particularly effective at turning information to knowledge since they deal with information on the basis of experience (Saint-Onge & Wallace 2003, p. 66). In a community, members give a greater meaning to information by applying their tacit knowledge (ibid).

The best way to create the access of tacit knowledge is through productive inquiry, getting to the core of an experience and understanding the many facets and nuances based on a need situated in practice (Saint-Onge & Wallace 2003, p. 67).

At a fundamental level, knowledge is created by individuals. An organization cannot create knowledge without individuals. The organization supports creative individuals or provides a context for such individuals to create knowledge. Organizational knowledge creation, therefore, should be understood in terms of a process that "organizationally" amplifies the - knowledge created by individuals, and crystallizes it as a part of the knowledge network of organization (Nonaka 1994, p. 17).

The assumption that knowledge is created through conversion between tacit and explicit knowledge allows us to postulate four different "modes" of knowledge conversion: (1) from tacit knowledge to tacit knowledge, (2) from explicit knowledge to explicit knowledge, (3) from tacit knowledge to explicit knowledge, and (4) from explicit knowledge to tacit knowledge (Nonaka 1994, p. 18).

The first step in the process is socialization. It contains sharing and creating tacit knowledge through direct experience among individuals; it contains sharing of experiences and learning from tested tradition.

The next step is externalization, where individuals are articulates tacit knowledge through dialogue and reflection in a group.

The third and very important step is combination. During it, explicit knowledge and information are systematized and applied by the groups. The organization documents and integrates knowledge to building structures and blueprints for a workable procedure. The last step for knowledge creation is internalization. The organization is then learning and acquiring new tacit knowledge in practice. They are making synthesis, adapting new knowledge, and fashioning new best practices.

Communities of practice can be a highly effective way of bringing together people who have an affinity of purpose and need (Saint-Onge & Wallace 2003: pp.71-72). With high-calibre facilitation, these communities represent the best way to let people tackle complex tasks with speed, creativity, and high trust what Nonaka refers to as "*ba*" (ibid).

For each of the four modes of knowledge, conversion can create new knowledge independently. The central theme of the model of organizational knowledge creation proposed here hinges on a dynamic interaction between the different modes of knowledge conversion. That is to say, knowledge creation centres on the building of both tacit and explicit knowledge and, more importantly, on the interchange between these two aspects of knowledge through internalization and externalization (Nonaka 1994, p. 20).

3.5. Feedback and benefits of CoP

CoP in the strategic context have three development perspectives (Chesbrough, 2006; West and Lakhani, 2008, p. 1) the members are highly committed to collaboration for solving the problems of their business and to increasing their performance capabilities; 2) while the members are an obvious focus of capability generation, the community as an entity provides the structure or space to which the members are drawn, and creates a repository that facilitates access to the community's explicit knowledge; and 3) the organisation is interested in supporting focused opportunities for employees to increase capabilities that will improve performance and achieve strategic goals.

For companies, the potential benefits of CoP include promoting collaboration, improving social interaction, increasing productivity and improving organisational performance (Wenger, 1998). CoP can drive strategy, generate new lines of business, solve problems, promote the spread of best practices, develop individual professional skills and help firms recruit and retain talent (Wenger et al., 2000). Other benefits include growing competencies in areas of high need, becoming more responsive to customers, capturing and sharing good practices and lessons learned through staff experiences, quickly increasing the productivity of new staff, sharing lessons learned and sparking innovations across CoP (Burk and Sutton, 2000). For CoP, benefits include increased idea creation, improved quality of knowledge and advice, problem solving and the creation of a common context. Individual benefits include improved reputation, increased levels of trust, increased access to experts and knowledge sources and a better understanding of what others in the field are doing (Millen et al., 2002). These benefits allow members to develop professionally, remain at the top of their disciplines and gain confidence in their expertise (Millen et al., 2002). According to Chesbrough and Brunswicker (2013), large firms have a preference for inflows of knowledge into their innovation portfolio. They argue that outbound activities play a secondary role. As they are interested in inflows of knowledge, inbound open innovation practices have been more important than outbound open innovation practices in 2011, even though the importance of the latter ones has increased from 2008 to 2011 (Chesbrough and Brunswicker, 2013). To implement their open-innovation practices, firms work with a variety of different innovation partners and sources, with customers and universities rated as the most important (ibid.). Companies take more 'freely revealed' information from others than they provide to others and they are 'net-takers'. Overall, executives consider the relational and explorative dimension of open innovation of high importance. Firms engage in open innovation to build new partnerships and to explore new technological trends and stresses (Chesbrough and Brunswicker, 2013).

3.6.   Strategy improvements and best practices

Wenger et al. (2002) argue that it is important for CoP to create value by connecting the practitioners' personal development and professional identities to the organisation's strategy. Because strategy sets direction, focuses efforts and encourages consistency, strategy development focuses on creating a distinctive set of organisational capabilities that will meet market-driven demands (Saint-Onge and Wallace, 2003). According to Saint-Onge and Wallace (2003), the organisation's performance depends on the quality and reach of its strategies and its ability to provide the necessary individual and organisational capabilities that enable employees to take effective actions. They add that the ability to continuously gain new capabilities is at the heart of competitive advantage in markets characterised by rapid change. Wenger et al. (2002) argue that many companies have organised their own business processes according to common standards that participants have developed in the networks. They have access to online mechanisms for conducting business with suppliers. These types of arrangements can significantly reduce transaction costs and increase negotiation leverage with participants with regard to price, quality and availability. Wenger et al. (2002) add that beyond this transactional efficiency lies the potential for significant knowledge exchange, which creates strong reciprocity among partners, resulting in remarkable performance and productivity improvements. According to Chesbrough and Brunswicker (2013), there are a variety of strategic objectives why large firms engage in open innovation activities. They found that new partnerships for innovation and technology exploration are the most important objectives and drivers for innovation.

4.   Case study

The literature review provided a solid background for creating the model of strategic management in CoP. The comparison of theories with the case company's practice also contributed to the development of the model for effective virtual collaboration in the CoP. Five development areas were identified: 1) the strategy of a firm; 2) motivation to work in CoP according to the strategy; 3) knowledge creation and sharing through CoP; 4) feedback and benefits; and 5) strategy improvements and best practices (business processes) from CoP.

4.1.   Strategic Management in CoP

Pre-work before the SDP provided a good phase for the whole research process. It supplied a lot of background information about the current situation in the case company. At the outset, it became clear that growth by acquisitions seems to be the major challenge for this organization's common knowledge and best practices because global acquisitions and corporate culture are not improving hand in hand (GPM). In the case company, there are large differences between cultural and geographical areas; local managers' attitudes vary considerably (GPM), and the affiliate's own culture and best practices seemed to be hard to transform into the new position. The lack of cohesiveness of the corporation's different departments and units led to boundaries and silos within the organisation (GPM). Understanding corporate goals, establishing equal knowledge and running corporate strategy in a new corporate structure were great challenges for the whole personnel (GPM).

The underlying growth of maintenance, modernization and service revenue conceive new service businesses continuously. The challenge for service businesses was to maintain the knowledge of competitors' equipment as well as that of the case organization. Recruiting competitors' personnel seems to be an easy way to acquire

local expertise of competitor's equipment. The problem was delivering new corporate culture to those persons as well as knowing how to socialize their knowledge in the case organization generally (GPM).

Interview results gave a lot of same kind of information as pre-work before the SDP. Also, some differences emerged. The early-stage discussions/interviews with the case company personnel confirmed that after launching the new strategy, the case company was not prepared for fundamental changes across the organization.

- The management was working for the elimination of silos, but regional differences still existed (TT, TE1, TE2 and GPM). Even the top management encourages personnel to improve their personal skills and supports an open learning atmosphere (TT, TE1, TE2 and GPM), but middle management, globally as a stakeholder, was not familiar with the new strategy.

According to the interviews and pre-work, it seems that the biggest challenges are in the middle management, which has not adopted new strategy as well as top management and supervisors. Also, it could be worth considering how to improve middle management skills and deepen understanding of the strategy of the company.

In the beginning of the research, it also became very clear that official strategy did not fully support working in an open environment with the customers, sub-contractors and other network actors around the corporation. This finding was confirmed in the interviews:

- *Unofficial co-operation happens every day (GPM and TE1).*
- *Management understands the opportunities of the open innovation, but there is no strategy to realize advantage from it. Especially, the Research and Development parts of the corporation need that kind of statements for working according to the goals of the firm. Also, Installation and Maintenance business needs clear statements for working in an open-innovation landscape (GPM).*
- *Clear strategy and statements for working within the network are lacking (TT and GPM), and they were generally missing proper knowledge of management strategy.*
- *It seems that clear knowledge of management strategy could help retain this kind of working culture on track, including during negative economic trends (TE1).*
- *Of course, it is easy to support learning and improving personal skills when business is running extremely fine and stakeholders are satisfied with the results that the corporation has achieved (GPM).*
- *Informal networks are useful, but the lack of an official statement and policy of working in the networks hinders the creation of fertile and open networks (TT).*

It was also meaningful to find out that personnel realised that the profitable growth of the case company led to a positive learning atmosphere. Another important finding was that they understood that this situation could change quickly without a strategic statement during a poorer economic situation.

4.2.   Motivation to implement the strategy of the firm in CoP

During to the pre-work, it was noted that stakeholders should also notice that a large amount of valid knowledge could disappear if dialogue is missing between headquarters and the subsidiaries (GPM). Management must realise that there is a

wealth of knowledge and professionalism at the local branches worldwide (GPM), and the exchange of it could strengthen the strategy by promoting an effective link between the mindset of the individual and the organisational culture.

During this research, the case company implemented an employee survey to discover how motivated participants, facilitators and leaders were. The results told of an improved level of motivation and an increased level of commitment. Trust in the chosen strategy of the firm as well as implementation of it indicated high satisfaction among the personnel. This kind of result sends a strong message for top management that the company must continue strengthening strong links between individuals and the organisational culture:

- *In the survey, satisfaction and trust in the company strategy and implementation method were noted (TT and TE1).*

- *Among participants, facilitators and leaders, motivation for CoP activities (TE1) was increased, and the results suggested an improved level of motivation and an increased level of commitment (GPM).*

- *For the first time, the company implemented a conversational development program among its supervisors. This program may lead to increased motivation and engagement among the personnel (TT, TE1, TE2 and GPM).*

According to the interviews, it is clear that a new way of implementing strategic goals and the development program was increasing motivation and trust of the participants in the SDP. There was also a clear influence on working in the CoP and engagement with the targets of the case company.

This kind of situation was very positive for the case company, and made it possible to run with the ambition of implementing the strategic goals.

4.3 Knowledge creation

During the pre-work, it was discovered that the company personnel have significant tacit knowledge in internal and external issues concerning the case company's business areas. However, the processes for knowledge transfer and cooperation were insufficient. According to the GPM, the company has inadequate tools, mechanisms and processes to make this knowledge explicit at all levels. In the global business environment, a common language is a challenge for the whole organisation. From top management to the supervisor level, reasonable English skills exist, says the GPM. It seems that top management and frontline workers understand best how the knowledge creation process should work, the GPM continues. Currently, informal networks are working actively, and it appears that they are quite often giving better feedback than a formal organization at the moment. Formally given information sometimes gets lost, but informal networks are able to repair the malfunction of the official information channels (GPM).

In the interviews, three main facts were pointed out:

- *Middle management has not yet realised the benefits of CoP, likely due to the strict and immediate need of middle managers to seek profit in short-term business (TT, TE1, TE2 and GPM).*

- *Another challenge for working at the CoP level is the IT strategy, which is not supportive of open Web 2.0 thinking, such as access to Skype, Second Life, YouTube and other knowledge sharing portals (GPM).*

- *Common language for all is lacking (GPM, TT).*

According to the interviewees, their collaboration capability was limited due to the absence of middle management support and tight working schedules as well as the lack of personal interest. The definition of objectives for middle management could

give first-hand help for knowledge creation process.

New communication methods and platforms were very hard to have in practice. In fact, for example, Web 2.0 platforms were not supported at all. Information security was used as a reason to refuse new collaboration practices. As the technologies and processes of virtual work improve, more work was designed to gain virtual benefits. This could be the way to activate the trend towards virtual teams, and at the same time make it easier work together, interdependently, in the CoP.

A fundamental aspect was that insufficient English skills seem to disturb networking, especially in the lower levels of an organization. The interviewees considered that the Supervisor level and lower levels suffer from the lack of a common language, which makes it difficult to build up networks. Use of computational linguistics could facilitate activities between different language areas. At least, documentation should be translated quickly into all main languages.

4.4.   Feedback and benefits

The pre-work stated that the case company should prioritise the support of focused opportunities for employees to increase capabilities that will improve organisational performance and help achieve strategic goals. The company should create repositories that facilitate access to the explicit knowledge of the CoP (GPM) and allow a reasonable way to make visible the lessons learned in the CoP. In general, working in CoP is unusual for the company, but there is an increasing possibility to gain feedback and benefits from them.

The interviews revealed two main messages. First of all, it became clear that the new way of working was not adopted without reserve.

- *The company is not actively seeking advantages from the CoP (TT, TE1, TE2 and GPM).*
- *Changes in fundamental thinking and principles are required to modify the current strategy (TT, TE1, TE2 and GPM).*
- *CoP are not recognised as a vital organ and are therefore not led or managed systematically (TT).*

According to the interview data, it was clear that strategic goals and working daily were not proceeding hand in a hand, and the company personnel was not very familiar with working in the CoP, so they were not able to take advantage from the work done within them. Also, the current strategy did not fully support CoP as a vital organ, and it was not included in the leading processes. A clear knowledge strategy could help the lack of management of the CoP.

Second, the case company was losing many possibilities to create new knowledge if they do not take advantage of the feedback and benefits of CoP:

- *Few persons who are working in CoP are target-oriented (TE1 and GPM).*
- *The company should take advantage of the personnel who are committed to collaboration for solving business problems and increasing their performance capabilities (TT).*
- *The company could increase its common knowledge by seeking feedback and participating in networking processes (TE2).*

Interviews made it clear that personnel do not know their objectives in the work of CoP. Apparently, they did not know their aims and what the company is expecting them to do. All stakeholders should realise the power of knowledge created in the CoP and made certain to benefit from it.

A clear statement of community working, from top management through the whole

organisation, could authorise the personnel to adopt a new way of working. It was crucial that middle management was also able to see that benefit when they align it with their personal goals.

Technical benefits were easier to achieve when tacit knowledge was documented in repositories with easy access to all stakeholders. Making all knowledge explicit that was produced in the networking processes and translating it into all prevailing languages in the case company would create a shared common knowledge.

4.5.   Strategy improvements and best practices

The Learning Approach in the SDP was totally new. The SDP was aimed at implementing an equal level of knowledge to run the strategy of the firm in the daily work during customer interfaces. It seems that the successful outcomes in the SDP created a new learning and training culture in the case organization. It still seems to be a quite distant from the structured knowledge creation process, but a well-sponsored strategy for creating knowledge through the CoP was quite near.

Apparently, the case company was not yet recognized the power of CoP. During the study, it was not clearly recognized that statements about CoP in the knowledge management strategy exist. It seems that at that moment, there was a good possibility in the case company for creating a successful strategy for working in the CoP. Clearly, however, it was necessary for someone in the top management to sponsor it.

Empirical research supports that working in the CoP and strategic management were very well handled in the case organization:

- *Restrictions and control have been the way to protect the core business, but strong policies are turning little by little to the understanding of and emerging commitment to the strategy of the firm, which may loosen the control of learning in the networks (GPM).*

The goal was to enact a strategy in which CoP were recognized as a knowledge creation and sharing platform. Based on the interviews, the company was making strides towards improving the knowledge creation processes thanks to the SDP. The company may consider facilitating the formation of CoP as a practical way to frame the task of managing knowledge. Managerial implications can be identified from the literature. One approach was to identify and appreciate the strategic value of CoP and the need for management by executives and managers.

While it was natural that members of a particular CoP adopt different roles, activeness was a key to success. Active members understood and took responsibility of the community whereas passive members do not. Alongside collective responsibility bearing, willingness to commit at an individual level was particularly important in the case of CoP since there was no formal structure to keep things together and running. CoP was based on people and their willingness to work toward a common target. If that willingness fades, the community will no longer exist. In this sense, communities of practice are, in the real sense of the word, intangible capital under management protection. The case company would be able to change to a knowledge-based organization with their customers and other stakeholders, as interviewees stated:

- *We stress the strategic partnership with customers, but other external networks are considered more a mere source of information than a conversational development platform (GPM).*
- *Actually, it is almost mandatory to work in the networks to achieve all the necessary information and support (TT).*
- *Subcontractors and strategic partners are closer than ever to our core business (TE1).*

Supervisors were asked to share success stories and items for improvement, propose new ideas and identify unclear issues. The organisation seemed to have begun the process of knowledge creation. TE2 stated that regional training centres were collaborating and trying to create new common knowledge. Although a structured knowledge creation process still seemed distant, a well-sponsored strategy for creating knowledge through CoP was quite near. The following themes were identified in the interviews:

- *Converting information to knowledge is the most important issue in strategy improvements and best practices for the case company (TT, TE2 and GPM).*
- *Benefits and feedback are relevant for the organisation's practitioners, in their dual roles as community practitioners and operational team members, to help link the capabilities of CoP to the knowledge requirements of team and business units (GPM).*
- *The capability to guide the development of strategic change and the building of an infrastructure is required to generate new capabilities and strategy improvements (GPM).*

Based on the interviews, it can be seen that knowledge creation process is a strategic issue for the company personnel and confirms their understanding of the importance of the strategic goals of the company. Also, they stated the importance of change in strategy to ensure the possibility of taking advantage of the new way of working. Another big finding was that interviewees were concerned about the strategic questions and with understanding the needed improvements.

5.   Conclusions

This study examined the CoP in the strategic context through the case study. The current organisational structure, capabilities and challenges of strategic management of the case company with CoP were analysed. In this study, it has been seen that there are large differences between cultural and geographical areas and local managers' knowledge of strategy in the case company. An effective corporate practice in an organisation built through acquisition is challenging to implement because there is a lack of cohesiveness of the corporation's different departments and units, which leads to boundaries and silos within the organisation. The official strategy of the firm did not fully support working in an open environment with the customers, sub-contractors and other network actors around the corporation. It was also noted that management must realise that there is a wealth of knowledge and professionalism at the local branches worldwide because employees work continuously with competitors and within informal networks. CoP are seen as new organisational groups, and as the key to managing knowledge and innovation (Brown and Duguid, 1991, 2000a; Brown and Grey, 1995; Wenger and Snyder, 2000; Kimble and Bourdon, 2008). Especially, CoP are seen as a strategic tool for executive management and supervisors. Mainly, the challenge is in the middle management, which does not have a deeper understanding of the knowledge-driven business. Despite that, supervisors are well motivated to work in CoP. The case company has a big challenge because CoP are not recognised as a vital organ and are therefore not led or managed systematically, and nor are they actively seeking advantages from the CoP. The company should take advantage of the personnel who are committed to collaboration for solving business problems and increasing their performance capabilities. The company should prioritise the support of focused opportunities for employees to increase capabilities that will improve organisational performance and help achieve strategic goals. Converting information into knowledge is the most important issue in strategy improvements and best

practices for the case company because benefits and feedback are relevant for the organisation's practitioners, in their dual roles as community practitioners and operational team members, to help link the capabilities of CoP to the knowledge requirements of team and business units. Another challenge is the outsourced ICT department, whose old-fashioned processes prevent it from using modern knowledge-sharing tools and channels. This disadvantage seems to be one big handicap in using CoP for knowledge creation and sharing through the entire, virtually connected global corporation. Without reasonable tools and platforms, it is difficult to achieve the best feedback and benefits from CoP. The lack of a documentation process to convert tacit knowledge seems to slow down the adoption of strategic change and new business processes. The main suggestion for improving collaboration on an organisational level in the case company is to establish informal networks with modern tools for knowledge sharing and documenting. Also, the relationship between CoP and their stakeholders should be strengthened.

The capability of leading the company has improved at the individual level as freedom to organize work has been given to first-line managers, and which it has aligned simultaneously with the corporate strategy. Extensive use of virtual meeting tools (web-conferencing, audio-conferencing, instant messaging) as well as virtual team sites (in which projects can be managed independently) have increased the capability of collaboration in the case company. Individuals have different skills and competences. A CoP provides skilled individuals with a forum that brings together people with different areas of expertise, allowing them to join forces to achieve a common goal.

Together, the pre-work and interviews indicate that as long as the case company implements an understandable strategy and fosters motivation as well as a common language and proper tools, it has capability to create a new, common knowledge for all stakeholders.

Top management has sponsored strong sponsorship of learning and knowledge creation. Although the core competencies are protected by the corporate policies, the case company is open to networking with their partners.

Partnership with customers is highlighted, and the target is to create in collaboration better services for the customers. The best practices, which have been created with the customer, are distributed to the whole organization and its partners. The outcome for that kind of collaboration is global content and local best practices. Generally, the atmosphere in the case company seems to adopt strategic and managerial sponsorship of working more openly in CoP.

Apparently, the case company has not yet recognized the power of CoP fully. During the study, it was not clearly recognized that there exist statements about CoP in the Knowledge Management Strategy. It seems that at the moment, there is a good possibility for the case company to create a successful strategy for working in the CoP. Clearly, it must be sponsored by someone in the top management. It could be rewarding to make a follow-up study to evaluate the current situation and possible improvements in the case company. Interviewees were running the SDP in practice. During the interviews, they were already able to see the influence of a new kind of training program and received a lot of feedback about it. A good basis for follow-up research could be to enlarge the group of interviewees. It could strengthen the results of the research and give more background for the conclusions.

The current study paves the way for further research into experiments on the practical implementation of CoP. Motivation as it relates to the success of CoP should be investigated further. Additional studies should identify methods to derive benefits and feedback from CoP. Much of the available research was conducted over short periods; prolonged interaction in an organisational context could show different results.

Further research is also needed to investigate competence creation through CoP.

6.   References

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