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Japan's learning communities in Hewlett-Packard Consulting and Integration

Challenging one-size fits all solutions

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Abstract

Purpose – This paper aims to explain and analyze community-based corporate knowledge sharing and organizational learning, the actual use of communities in Hewlett Packard (HP) Consulting and Integration (CI) and their role in leveraging and exploiting existing and creating new knowledge.

Design/methodology/approach – The paper presents an explanatory case study research design, qualitative interviews with top executives, middle managers and employees conducted in 2005 and 2006. Explanatory case studies were used to analyze, illustrate and exemplify major findings.

Findings – The paper identified an effective approach to community-based knowledge sharing and organizational learning at HP CI Japan's learning communities (LCs). The case study illustrates the main characteristics, features and mechanisms of communities within the framework of HP's global and local knowledge management (KM) structure and resulting activities, and illuminates effective adaptation to the Japanese working and business context.

Research limitations/implications – General limitations of case studies and generalizability of such field research apply.

Practical implications – The research has important implications for firms and business practitioners by highlighting how HP's Japanese-style LCs facilitate intra-organizational knowledge sharing and creation.

Originality/value – This paper presents a real-life example of an effective community at HP CI Japan, its mechanism and practical value for companies. Even though HP's KM activities have frequently been researched, HP CI's learning communities are discussed for the first time and illuminate that even within one single company there is no one-size-fits-all solution.

Keywords Communities, Knowledge sharing, Knowledge creation, Multinational companies, Japan

Paper type Research paper

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Introduction

Based on a comprehensive empirical research project on knowledge management (KM) and the transfer of knowledge within multinational companies (MNCs) in Japan, we set out to explain and analyze community-based corporate knowledge sharing and organizational learning (OL); the communities' actual use in business organizations and their role in leveraging and exploiting existing knowledge as well as in the process of creating new knowledge. The objective of this paper is to present an efficient approach to community-based knowledge sharing and OL identified at Hewlett-Packard (HP) Consulting and Integration (CI) Japan's learning communities (LCs) and to show that for communities of practice (CoP) there is no single one-size-fits-all solution. The paper is structured as follows: first, the theoretical background on CoPs and knowledge communities in firms is briefly introduced. After discussing methodology, a case study of HP CI Japan's LCs illustrates the communities' main characteristics, features and mechanisms within the framework of HP's global and local KM structure and resulting activities. It also demonstrates its effective adaptation to the Japanese working and business context. Subsequently, the case study is analyzed and discussed and main conclusions are drawn. Finally, we take a look at limitations of our empirical study as well as the need for further research.

Theoretical background

The field of CoPs has been developed and significantly shaped by the works of Etienne Wenger and fellow researchers (e.g. Lave and Wenger, 1991; Wenger, 1998; Wenger *et al.*, 2002; Wenger and Snyder, 2000). In fact, CoPs have recently become "key components in an organizational learning toolkit" (Plaskoff, 2003, p. 161), and can be seen as "the cornerstones of knowledge management" (Wenger, 2004, p. 2). As a result, they have achieved prominence in the context of KM and OL both with scholars and practitioners (see, for example, Brown and Duguid, 2001; Buckman, 2004; Saint-Onge and Wallace, 2003; Swan *et al.*, 2002).

In their seminal *Harvard Business Review* article, Wenger and Synder (2000, p. 139) speak of CoPs as "a new organizational form" that promises to complement existing structures of KM and radically galvanize knowledge sharing, learning and change. CoPs can be defined 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" (Wenger *et al.*, 2002, p. 4), or more generally as "an activity system about which participants share understandings concerning what they are doing and what that means in their lives and for their community" (Lave and Wenger, 1991, p. 98). Thus, they are united in both action and in the meaning that the action has, both for themselves, and for the larger collective and can be defined by disciplines, by problems, or by situations (Wenger, 2004, p. 2). "In brief, they're groups of people informally bound together by shared expertise and passion for a joint enterprise" (Wenger and Snyder, 2000, p.139). Finally, CoPs "appear to be an effective way for organizations to handle unstructured problems and to share knowledge outside of traditional structural boundaries" and serve as "a means of developing and maintaining long-term organizational memory" (Lesser and Storck, 2001, p. 832). As a result, community building "can be viewed as learning how to learn organizationally" (Plaskoff, 2003, p. 166).

In their *Harvard Business Review* article Wenger and Snyder (2000, p. 142) stress that CoPs are "informal – they organize themselves, meaning they set their own agendas and establish their own leadership" and that "membership in a community of practice is self-selected". However, two years later in their Harvard Business School Press book together with McDermott (Wenger *et al.*, 2002, pp. 24-7) they also acknowledge more intentional and institutionalized forms of CoPs. In fact, LCs at HP CI Japan are both intentional and institutionalized and therefore can also be called "sponsored" CoPs.

According to Wenger *et al.* (2002, p. 24), CoPs "vary widely in both name and style in different organizations". Another term that can frequently be found from the extant literature and which seems to be even more general than CoP is "knowledge community" (KC) – sometimes also referred to as "strategic community" – (see, for example, Barrett *et al.*, 2004; Botkin, 1999; Storck and Hill, 2000), but there does not seem to exist a common definition of the term. Below, drawing from empirical research, we will introduce a real-life example of one kind of CoP or alternatively KC.

Research methodology

The case study and the findings presented in this paper are derived from a comprehensive empirical research project on KM, knowledge creation, sharing and OL within MNCs. In order to analyze the process of knowledge creation and transfer in MNCs, our study adopted an exploratory research strategy. Indeed, qualitative research, rather than traditional quantitative empirical tools, is particularly useful for exploring implicit assumptions and examining new relationships, abstract concepts, operational definitions, and organizational processes, as well as outcomes (see, for example, Bettis, 1991; Cassell and Symon, 1994; Weick, 1996).

One important objective of the empirical study was to identify and analyze firms and cases that seemed to be most appropriate to provide insights into KM processes and OL. Therefore, we opted for purposive sampling (purposeful sampling) which is essentially strategic and entails an attempt to establish a good correspondence between research questions and sampling, as the researcher samples on the basis of wanting to interview people who are relevant to the research questions (Bryman, 2004; Patton, 2002). According to Patton (2002, p. 230, original emphasis), the "logic and power of purposeful sampling lie in selecting *information-rich cases* for study in depth", with information-rich cases being "those from which one can learn a great deal about issues of central importance to the purpose of the inquiry". In fact, "[s]tudying information-rich cases yields insights and in-depth understanding rather than empirical generalizations" (Patton, 2002). We purposefully identified and selected our informant companies through a review of the relevant literature and widely recognized KM studies such as the Most Admired Knowledge Enterprise (MAKE) award[1] for example. Indeed, HP has frequently been featured as a role model in numerous books and articles on KM and has also been a recipient of the MAKE award several times. Consequently, we chose HP CI as a critical case for an analysis of KM and community-based knowledge creation and sharing.

Another goal was to conduct an analysis of different patterns and ways of knowledge creation, sharing and OL within MNCs that helps to develop new hypotheses and build theory on how companies can efficiently and successfully do so and thus contribute to the theory of knowledge creation in an international context and

to develop constructs that facilitate future hypothesis testing. The fact that case studies have an important function in generating hypotheses and building theory (see, for example, Eisenhardt, 1989; Hartley, 2004; Yin, 2003) was thus another reason for choosing a case study research strategy.

According to Yin (2003, p. 2) "the distinctive need for case studies arises out of the desire to understand complex social phenomena" because "the case study method allows investigators to retain the holistic and meaningful characteristics of real-life events," such as organizational and managerial processes, for example. In fact, "[o]rganizations constitute an enormously complex arena for human behavior" (Dubin, 1982, p. 379) and case studies seem to be the preferred strategy when "how" or "why" questions are being posed when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context. In such a setting, case studies are explanatory ones, i.e. they present data on cause-effect relationships, explain how events happened and extend theoretical understandings (Yin, 2003). Indeed, using the "force of example" (Flyvbjerg, 2006), HP CI Japan's LCs serve as such an explanatory case study in order to illustrate and analyze the essential mechanism of this highly effective KM approach.

The research was conducted over a period of more than one year and involved triangulation among a variety of different sources of data, including both formal and informal on- and off-site interviews with manager as well as scholars and other experts in the field; analysis of archival materials such company internal documents as well as articles in the business media, and an evaluation of existing case studies and other relevant literature (Yin, 2003). In total, qualitative interviews with more than 100 top executives, middle managers and selected employees in more than 30 different MNCs, Japanese, European and US American, have been conducted in 2005 and 2006 mainly in Japan. As for the HP case study, the second named author was the head of the KM department at HP CI Japan from November 2003 to February 2006, and, based on his deep insider knowledge, he provided the source of most of the rich and thick description and analysis of the case study. Additionally, we conducted interviews with his subordinate and knowledge managers at HP CI's Vienna office responsible for the EMEA region. This not only helped to gain additional insights, but also included different points of view. In the course of these qualitative interviews, semi-structured questions in accordance with the theory of organizational knowledge creation and enabling were employed, but the interview partners could nevertheless answer openly and lead the interview mostly. All interviews were recorded and authentically transcribed.

HP CI Japan's LCs: a case study

HP and HP Japan

HP consists of four global business groups with 150,000 employees in more than 170 countries, and a total revenue of approximately USD 87 billions in FY 2005. HP's corporate activities in Japan go back to 1963 and HP Japan is HP's legal corporate entity in Japan with 5,600 employees and a turnover of almost 412 billion yen (approximately USD 3.5 billion) as of November 2005.

HP CI is part of HP Services (Technology Solutions Group), which has 65,000 IT professionals in 160 countries around the world encompassing four geographical regions (Americas, Asia Pacific, EMEA, Japan). Its main business is the system

integration (SI) of corporate computer systems, which includes the development of system software for customers, IT consulting, sales and distribution of software developed by HP and other developers.

KM at HP CI

At HP CI, KM is a systematic approach to help information and knowledge flow to the right people at the right time so they can act more efficiently and effectively in their daily job (see also Davenport and Prusak, 2000; Leonard, 1998). The KM program relies on three main components: people who are the producers and consumers of knowledge, processes that guide the management of the knowledge and technology/tools to facilitate access to knowledge assets (see Figure 1).

HP CI's KM activities can be divided into three different levels. On level 1, the @hp employee portal can be accessed by all HP employees worldwide and across all business groups. It is integrated into HP's intranet and used for general communication and information sharing. Level 2 consists of different global repositories and communities. The latter will be discussed below. On level 3, different collaboration tools and team workspaces for virtual collaboration of teams and team members from different locations can be found.

HP CI's KM activities are managed and controlled by its KM departments and their knowledge managers and knowledge advisors. While the knowledge managers' task is to implement the worldwide strategy and tools through communication and marketing, training and consulting, building interfaces (HR, IT, Marketing, Project Management Office) and reward and recognition programs, knowledge advisors give

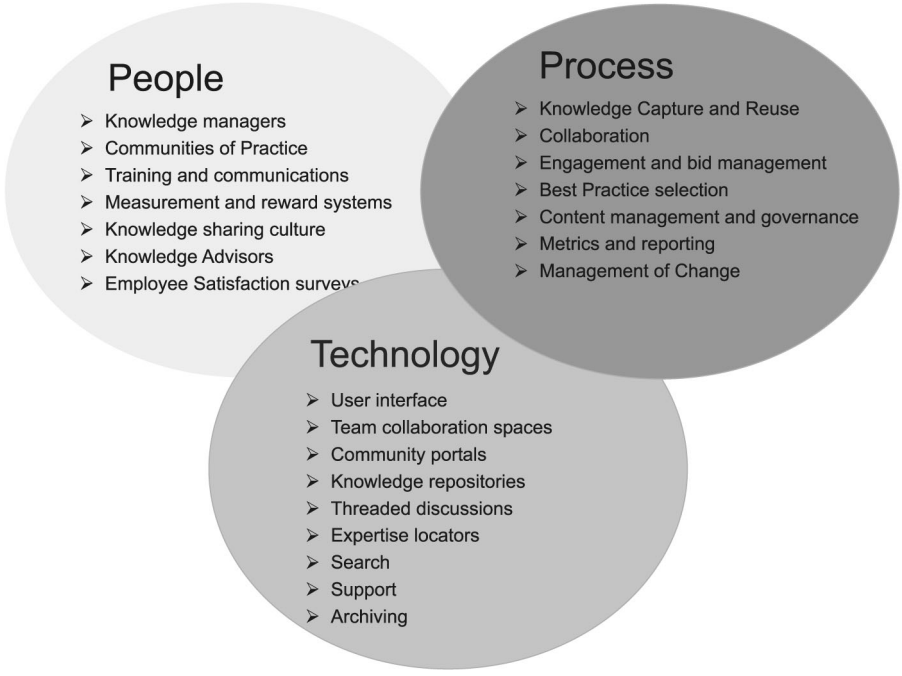

Figure 1.
KM components at HP CI

assistance on KM processes and tools, direct people to the right knowledge sources, based on their specific needs, and solicit feedback and utilize it for system improvements.

Community-based knowledge sharing and OL at HP CI

Community-based approaches to knowledge sharing and OL are a key feature of HP CI's KM activities. Offering not only hard and software products but also a variety of IT and consulting services, HP CI's consultants and system engineers often work on different teams and different locations and thus need a location-independent and flexible solution for sharing their knowledge. In fact, as 75 percent of the users are mobile, and many teams geographically distributed, the web browser is the lowest common denominator for access for them. Generally at HP and in consistence with CoP theory, a CoP is a natural grouping of people who share and focus on a specific knowledge domain or topic, with the objective to create, expand and exchange knowledge, and to develop individual and organizational capabilities. CoPs have no regional or organizational boundaries, live from their members' active participation and contributions, offer a collaborative environment, discussion forums on topics of interest, as well as community building events (e.g. HP Virtual Classroom). This results in the fact that no HP CoP is exactly the same and that various styles can be found. However, we found that there are two types of CoPs and both focus on a certain area of knowledge. The first one is for employees with the same or similar business practices, i.e. in most cases they work within the same business unit, e.g. Enterprise Application Services, Enterprise Infrastructure, Financial Services Industries, Government, Healthcare and Education, Manufacturing, Telecom/Network and Service Provider but maybe in different locations. The second type of CoP provides a common virtual space for employees of the same kind of profession and business solutions. They aim at generating new knowledge and sharing existing knowledge among the same type of professionals, e.g. all system engineers and solutions worldwide. Finally, CoPs at HP are frequently referred to as LCs especially those that meet at regular teleconferences (see also Wenger *et al.*, 2002, p. 24) and recently this term has more and more been replaced by profession community (PC).

HP CI Japan's LCs

Japan is one of the four regions, along with Americas, Asia Pacific and EMEA. According to which HP CI is geographically divided shows Japan's special position within HP. In fact, Japan's peculiar ways of doing business and the particularities of the market and customers prompt for a special approach in the land of the rising sun. This is also true for the way people are working and interacting in organizations and the way they create, share and disseminate knowledge. Indeed, research has shown that community building is also culture-dependent (Plaskoff, 2003).

As a result, HP CI Japan has applied HP's standard KM activities only to some extent, and has adapted certain aspects, tools and activities to their particular needs, ways of working and sharing knowledge in Japan. Based on Nonaka's (1994) SECI model, HP CI engages in KM activities for capturing and leveraging its rich tacit knowledge base and encourages and supports the externalization and consequent re-use of this knowledge (the three main people-based activities). Additionally there are also IT and tool-based KM activities which not only foster the sharing of highly tacit

knowledge, but also help to make it become explicit and thus easier for sharing and re-use. Figure 2 shows HP CI Japan's version of the SECI model.

The Best Practice Forum is an annual meeting for presenting, exchanging and discussing success stories and best practices that have been achieved. It is held in the form of a competition and presentations, with material made available for all employees on the intranet. The Service Delivery Kit (SDK) is a collection of successful methods from experienced consultants with the aim of helping less experienced colleagues to learn and replicate approved practices to deliver superior service to HP's customers.

HP CI Japan's LCs officially emerged in November 2001 from special interest groups (SIGS) that had independently formed and worked in different departments. The SG business done by HP CI depends and thrives on the knowledge of individual employees. As all forms of consulting, are people-based and people-centered, hence, sharing of tacit knowledge, externalizing and disseminating it, then the resulting explicit knowledge is essential for building and sustaining competitive advantage in the industry. In 2005, HP announced its education and career agenda, Profession Program, and as a result, LCs became part of the PC, which requires mandatory participation for all employees. However, even within this new framework, the essence of LCs has basically remained the same.

The main purpose of the LCs is twofold. First, the tacit knowledge of the individual consultants and system engineers is (partly) to be made explicit and shared, which is mostly done through discussions and professional interaction. Second, the LC is to provide a context and opportunity for executing HP's mentoring system, which is an important part of its internal employee education program. All junior consultants and engineers have a senior counterpart assigned as their mentor who helps and supports them by giving advice and guidance. All in all, a LC's goal is to share knowledge and information about highly relevant and important issues, discuss these and exchange opinions about them. It is a gathering of all employees that own such expert knowledge or who are simply interested in participating, learning and discussing these topics.

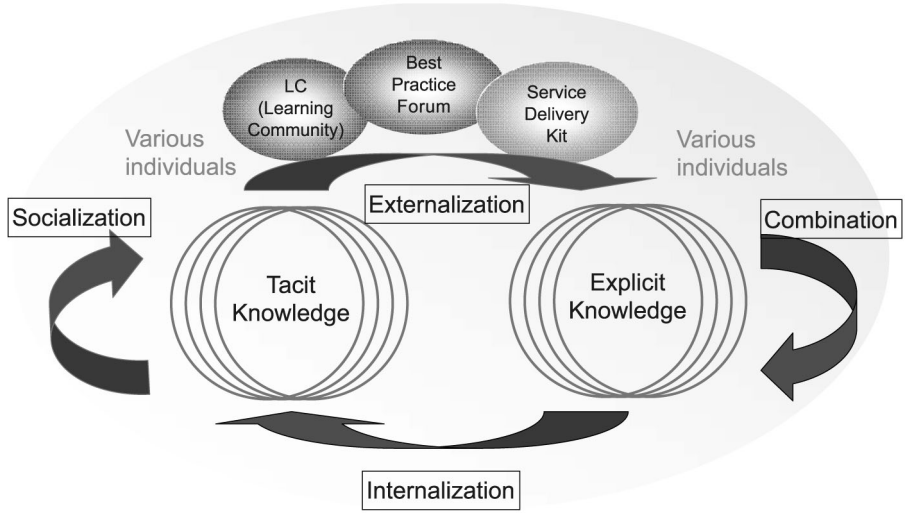

Figure 2.
HP CI Japan's SECI model

Therefore, topics and issues for discussion are various and may also change quickly. Besides, all employees are welcome to participate, regardless of their affiliation or position. LCs might center on certain business areas, technological issues or solution aspects. In fact, CoPs are not primarily about a product, function, or tasks, but rather center on a specific knowledge domain (Soekijad *et al.*, 2004; see also Wenger *et al.*, 2002).

Having experts and people with the same interests and the same need for solutions gathered to discuss matters in groups and face-to-face has proven very beneficial for leveraging and exchanging tacit knowledge and finally making it explicit, thus adding to the organization's common knowledge base and reducing its dependency on the individual (see also Nonaka, 1994). Especially in heated discussions, people will end up making their points very clearly and expressing their opinion, thoughts, worries and even complaints, quite straight-forwardly.

In this context, it is important to consider some key concepts in Japanese sociology, The concepts of *uchi-soto* and *honne-tatemae,* for instance, are essential for an understanding of the Japanese relationship within the group (see, for example, Doi, 1985). The term *uchi* designates the insider, a member of the group, while *soto* refers to the outside, somebody not of the group, and *honne* can be explained as the true feelings and *tatemae* as the outward appearance or front face. In fact, Japanese people clearly distinguish between their *uchi* and *soto* and will treat and talk to other people accordingly, usually using *tatemae* for *soto* people and *honne* mostly for themselves and sometimes also for *uchi* people (Hall and Hall, 1987). Therefore, in the course of the development of the LC, its members will become *uchi* for each other, which will finally enable people to directly express their *honne* in LC discussions, etc., an occurrence very unlikely to happen in the anonymity of formal meetings with large numbers of participants.

LC meetings usually start with a presentation on interesting or urgent topics and issues and will be followed by discussions afterwards. The presentations as well as other materials are made available on the intranet not only to the LC members but to all CI employees. The same is true for summaries of the discussions and meeting minutes of the LC. Examples of LCs at HP CI Japan are communities about certain types of products such as Linux, databases or security software, about certain methods like IT Service Management, Project Management, etc, and also about certain fields of business like financial services, networks, etc.

HP CI Japan's LCs are guided and coordinated by the KM department whose staff also serve as facilitators and advisors for the communities as well as all other KM relevant topics and questions. The KM department is also responsible for the handling and organization of the registration to the community, usually on an annual basis, training and administrative work resulting from the execution and maintenance of the LC. LCs mostly meet once every two weeks or once a month and participation varies between five and 40 people. Besides the face-to-face meetings, LCs also employ mailing lists and LC forums on the intranet for quick and easy access and exchange of information and explicit knowledge.

The regular meetings and discussions of the LCs help employees to share current information, news on important issues and their expert know-how on certain topics, as well as their experiences, success and failure stories and best practices. Thus, LCs also provide a space and a context for education of its members and for the solution of concrete problems as well as their pro-active prevention.

Finally, the biggest difference between HP CI Japan's LCs and the worldwide communities lies in the number of participants and the focus on the type of knowledge. While the communities are meetings of a large number of employees and often take the form of seminars or training courses and as such focus rather on explicit knowledge and the combination of sharing and transfer of it, LCs in Japan usually only have a small number of people and focus on the sharing and co-creation of tacit knowledge. In fact, even though the LCs are of course trying to externalize as much tacit knowledge as possible, they acknowledge that not all tacit knowledge can be made explicit and in that case concentrate on the exchange and sharing of this tacit knowledge without formalization and externalization.

Discussion

Knowledge creation, sharing and OL through LCs

HP CI Japan's case of LCs has shown the following key points. First of all, depending on the context, purpose and location there are different kinds of LCs or CoPs within HP worldwide and there is no single one-size-fits-all solution. Second, at HP CI Japan, face-to-face communication and as a result a focus on sharing rich tacit knowledge predominates. Third, HP's knowledge-orientation, KM organization and the coordination of the LCs foster knowledge creation, sharing and OL at the communities.

One size does not fit all

There is a need for adaptation of knowledge creation, sharing and OL styles to fit the particular needs of an organization (see also Davenport and Prusak, 2000; Holden, 2002; Leonard, 1998). Even within one company like HP that tries to standardize and define its business processes across its subunits around the world, different national and corporate cultures have an impact on the way business is done and this has to be considered when building CoPs. As a result, under the umbrella of the global community, there are various LCs which share certain common characteristics but at the same time differ from each other. Indeed CoPs, like HP's LCs for instance, have different meanings and connotations dependent on their context and individual and organizational agendas, even within the same MNC. In fact, as noted above, CoPs "vary widely in both name and style in different organizations" (Wenger *et al.*, 2002, pp. 24-7), and we identified HP CI Japan's LCs as one particular type of community. All in all, there does not seem to be a silver bullet, and it probably is exactly this flexibility, which make CoPs such a fascinating as well as effective organizational phenomenon.

Focus on tacit knowledge

According to Lave and Wenger (1991), the sharing of expertise and the creation of new knowledge, often tacit in nature, is a central tenet of a CoP's existence, whether they exist as a social gathering or technological network. The sharing of tacit knowledge by and through CoPs is by means of story telling, conversation, coaching, and apprenticeship provided by CoPs (Wenger *et al.*, 2002). As a matter of fact, the sharing of tacit knowledge, socialization, as well as its (part) transformation into explicit knowledge, externalization, are at the heart of HP CI Japan's LCs. This also seems to be in line with Nonaka's (1994) theory of knowledge-creation and Japanese firms' particular focus on tacit knowledge[2]. Besides, as managing existing knowledge alone is simply not enough, the creation of new knowledge and OL are also key.

Importance of KM structure and coordination of LCs

The theory of organizational knowledge creation has been further developed by adding the concepts of context and place (*ba*), leadership and by identifying enabling conditions, as well as certain barriers for knowledge creation (e.g. Nonaka and Konno, 1998; von Krogh *et al.*, 2000). This "overall set of organizational activities that positively affect knowledge creation" is called knowledge enabling (Ichijo, 2004, p. 135) and according to Plaskoff (2003, p. 179), "[c]ommunities provide an enabling context for knowledge creation". Indeed, organization structures and systems that provide a context that coordinates and motivates action are critical elements of the overall knowledge organization (Wenger *et al.*, 2002).

At HP, knowledge enabling is one of the main purposes of the KM departments and an essential task for its knowledge managers and advisors. Indeed, the role of coordination and stewardship is a critical issue for CoPs (Wenger *et al.*, 2002), and this rather managed membership of HP's LCs shows similarities to "strategic communities" described by Storck and Hill (2000) for instance. Moreover, Vera and Crossan (2003, p. 137) conclude that "learning and the accumulation of knowledge only lead to better performance, when they support and are aligned with the firm's strategy", a fact that is taken very seriously at HP.

As they view *ba* as "an existential place where participants share their contexts and create new meanings through interactions", Nonaka and Toyama (2003, p. 7) acknowledge similarities of the concept of *ba* to the concept of CoP, but also stress important differences[3]. Nevertheless, it is probably safe to say that CoPs are, or at least can constitute and provide, a certain type of *ba*, an enabling context for knowledge creation, sharing and OL in organizations. Indeed according to Mavin and Cavaleri (2004, p. 286), learning is "embedded in and mediated through particular social and cultural contexts" and such social learning in context enhances the performance and capability of organizations[4].

Conclusions

Our finding from the HP CI case study is that there is not one single approach to CoPs in corporations and that even within the same firm one size does not fit all. There are different varieties of CoPs and they are "as diverse as the situations that give rise to them" (Wenger and Snyder, 2000, p. 141). Hence we view both HP's LCs and PCs as derivates of CoPs, or to use the broader term, KCs. Indeed, through our explanatory case study of HP CI Japan's LCs we identified a "black swan" that helped us, through the "force of example" to challenge the applicability of a one-size-fits-all solution for CoPs[5].

Moreover, the case also shows the important role of face-to-face communication for sharing tacit knowledge (socialization) and explicating it (externalization) (see also Nonaka, 1994). Indeed, IT-based KM tools cannot substitute the rich human interaction, which underlines the vital role of CoPs like HP CI Japan's LCs for the creation of new knowledge and the sharing of tacit knowledge. However, this also implies that communities should not become too big (>20 members) because face-to-face communication between all members will barely be possible. In this context, HP offers a quite sophisticated solution for intensive knowledge creation and sharing on a local level through LCs and regular large scale exchange on a global level through its communities. In fact, "[a]s organizations grow in size, geographical scope,

and complexity, it is increasingly apparent that sponsorship and support of groups such as [CoPs] is a strategy to improve organizational performance" (Lesser and Storck, 2001, p. 831) and "[s]uccess in global markets depends on communities sharing knowledge across the globe" (Wenger *et al.*, 2002, p. 7). Therefore, CoPs "can be particularly useful in helping to build a global organization out of a lot of individual operating companies in separate countries" (Buckman, 2004, p. 164). Wenger and fellow researchers (Wenger *et al.* (2002)) speak of "distributed" CoPs and thus foster the sharing of knowledge horizontally and across intra-organizational boundaries.

Finally, CoPs help us to learn about who knows what and their member lists can serve as a 'know-who-list', expert directory or yellow pages of experts and their areas of expertise. CoPs like HP CI Japan's LCs also play a vital role for the education and mentoring of employees and help to foster human relations and communication within the organization.

Although carefully researched, documented and analyzed, our study is subject to some limitations. First of all, the insights gained were derived and concluded from one single, probably rather unique, case, even if this is exactly what case study research is basically about (Stake, 2000). Indeed, the common limitations of generalizability of such field research are well documented (see, for example, Eisenhardt, 1989; Hartley, 2004; Yin, 2003), although analytic generalization, in contrast to statistical generalization, is possible (Hartley, 2004; Yin, 2003). Therefore, it maybe helpful to conduct further case studies of community-based knowledge sharing and OL not only at at HP (CI). The results from our research into other case studies of KCs and CoPs in Japan and other countries is beyond the scope of this paper.

Finally, follow-up investigations of HP CI Japan's LCs in the next couple of years to develop longitudinal case studies (Yin, 2003), would explore the LCs' development and long-term impact and thus provide additional insights into success factors for intra-organizational knowledge creation and community-based knowledge sharing and OL.

Notes

1. For detailed information on the MAKE award see the homepage of Teleos and the KNOW Network: www.knowledgebusiness.com/
2. With the majority of employees being Japanese, Japanese-style management and business practices are prevalent at HP Japan. This obviously has an impact on knowledge creation and sharing (see, for example, Hedlund and Nonaka, 1993; Holden, 2002), but a detailed discussion would go beyond the scope of this paper.
3. Interestingly, the Japanese translation of Wenger and Snyder's (2000) *Harvard Business Review* article, published in the *Diamond Harvard Business Review*, August, 2001, pp. 120-9, has the title "The innovation power of *ba*". The translator mentions in a short note that CoPs are the same as the concept of "*ba*" and uses them term "*ba*" as a translation of CoP throughout the article.
4. This kind of social learning in context has been termed "situated learning" by Lave and Wenger (1991).
5. According to Flyvbjerg (2006, pp. 228, 235), the case study is well suited for identifying such "black swans" because of its in-depth approach and it is falsification, not verification, that characterizes the case study.

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