Knowledge as Open Space

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Abstract: The paper addresses the role that knowledge metaphors play in reflecting ambitions to manage knowledge and intellectual capital development as clearly regulated processes. This is contrasted with the focus on knowledge formation in intra-organizational and inter-organizational open spaces. Transfer of knowledge and open space as knowledge metaphors are emotionally attractive, but assume organizational and technological prerequisites in order to be embedded into daily management practices. The paper reflects the experience gained discussing knowledge management metaphors with MBA students and management practitioners: different ways of understanding the prerequisites of knowledge management are revealed through metaphors. Metaphors disclose conflicts between basic IT-centred and people-centred assumptions that guide efforts to accumulate intellectual capital. The desire to clarify knowledge spaces for employees as experts, and to align face-to-face knowledge sharing with virtual knowledge sharing tools in an open virtual space, are challenges in today's rapidly changing societies and organizations that face intensifying competition and staff mobility. Open space can be treated as a specific technology for blending different knowledge sources and as a broader knowledge metaphor that focuses on self-regulating knowledge processes. The paper briefly outlines the experience of applying the open space technology in a large-scale civic society initiative, My Estonia, that on 1 May 2009 involved more than 11,000 participants in 527 think tanks. The experience demonstrated that diversity and virtual networking are critical success factors of the open space, but are not easy to sustain in more closed communities where participants have a pre-determined status and shared experiences of non-productive conversations. The paper goes on to specify the limitations of the open space metaphor from the point of view of society and organizations. Knowledge metaphors can be applied to link intra-organizational knowledge management to the global village vision. The paper discusses some related metaphors and development practices that support the concept of knowledge as open space. It is a metaphor that reveals the contradictions between traditional knowledge management initiatives inside organizations and open space practices that can be found in civic society initiatives.

Keywords: knowledge metaphor, open space, knowledge sharing, self-regulation, knowledge management prerequisites, intellectual capital

1. Introduction

Metaphors have been used to express new management ideas and to differentiate them from earlier management concepts for many decades. The comparison of mechanistic and organic organisations was introduced half a century ago (Burns and Stalker, 1961). The metaphor of an organic organisation became an important vision for organisational behaviour experts and researchers looking for self-regulative forms of organisation that enable adaptive evolution in an unstable environment. Nonaka (1994), in his dynamic theory of organizational knowledge creation, has stressed that although ideas are formed in the minds of individuals, the interaction of these individuals in communities of interaction contributes to the amplification and development of new knowledge. He was critical of bureaucratic hierarchies and "top-down" management as knowledge management tools and suggested a "middle-up-down" model that facilitates simultaneous knowledge creation processes at the top, middle and lower levels of an organization.

Spatial metaphors have been widely used in classical knowledge management concepts. Nonaka and Takeuchi (1995), in their seminal book, have developed the model of four modes of knowledge conversion that explains the spiral of knowledge through conversions between tacit and explicit knowledge domains. The knowledge spiral itself is an essential metaphor that has influenced discourse between knowledge management developers. Bratianu (2010) has presented a critical analysis of the spiral of knowledge creation and stressed that socialization and combination are processes for exchange of knowledge from one person to another. His view is that only externalization and internalization transform one form of knowledge into another form of knowledge and the spiral of knowledge in this framework is a metaphor that does not match attempts of its practical analysis.

The use of metaphors is, however, also effective as a method for the management of knowledge conversion processes (Nonaka 1994). Nonaka and Konno (1998) disseminated the space metaphor in the knowledge management research community by introducing the Japanese concept *"ba"* that unifies physical, virtual and mental space. They explained how four types of *ba* (for originating,

Reference this paper as
Elenurm, T. "Knowledge as Open Space" *Electronic Journal of Knowledge Management Volume 8 Issue 2 (pp201 - 208), available online at www.ejkm com*

dialoguing, systemizing and exercising) are available to support knowledge creation and conversion processes. Accorsi and Costa (2008) have proposed that an additional connecting *ba* can stimulate the inclusion of geographically dispersed collaborators to virtual interaction. Rice and Rice (2005) have reviewed applications of the SECI model in multi-organizational projects. The need to facilitate knowledge conversions in small groups, organizations, inter-organizational value chains and broader communities is now an even more crucial knowledge management development challenge, when the internet and virtual communities have changed knowledge sharing practices.

The present paper studies how the logic of knowledge management can be aligned with the metaphor of open space. In section 2, knowledge metaphors are discussed in the framework of closed versus open approaches to knowledge management and self-regulation in knowledge creation and application activities. Section 3 focuses on synergies and contradictions between knowledge management prerequisites and related metaphors. Section 4 reflects upon the experience of applying the open space technology in a large-scale civic society initiative, "My Estonia", in 2009. Contradictions between open space as a metaphor and open space as a knowledge sharing and knowledge combination technology and implications of these contradictions for capitalizing knowledge are discussed.

2. Knowledge metaphors and closed versus open approaches to knowledge management

Andriessen (2010) has proposed three types of metaphor research in the knowledge management and intellectual capital arena:

- Studying the role of metaphors in theorizing and practice;
- Finding new alternative metaphors;
- Using metaphors in knowledge management interventions.

He has also stressed that the aptness of knowledge related metaphors depends on the richness of the semantic field of the source domain, the validity of mapping, and the ideological implications of the mapping (Andriessen 2010).

Using metaphors in knowledge management interventions is a way to apply their aptness potential but also a way to check the validity of the mapping of the semantic field of the metaphor compared to its practical application. Metaphors whose source domains refer to rich semantic fields can be often turned to slogans if they are applied in interventions that are supposed to support some ideology. If the intervention practice does not fully match the promise that is offered by the metaphor used for labelling this intervention, it may in long term discredit both the knowledge management intervention and the related metaphor.

The concept of a "global village" (McLuhan 1962) provides global socialization and knowledge sharing opportunities but also new global business synergies. Marcel Castells (2000) has pointed out three fundamental features of the new economy:

- Informational – capacity to generate knowledge and managing determines the productivity;
- Global – core business activities (finances, technology development) become global, although most jobs are not in fact global;
- Networked – network enterprises are at the heart of connectivity in the global economy.

Networking has become an especially important business model under the influence of internet-based learning communities and collaborative innovation networks (Gloor 2006) that help to overcome distance barriers in business co-operation. The network is an interesting metaphor that raises at least five crucial questions. Is the main source of intellectual capital really a formal network of enterprises as legal persons or an informal network of individuals from different organizations? How easily can a network be extended? Is it extended by the fabricator of the network or through self-regulation by a large number of people creating new nodes? Can it be easily broken? Can people sometimes envelop themselves in a network? In the social networking literature, an essential feature of social networking software is said to be its ability to provide the individual with control of his self-generated content (Avram 2005). The assumption is that networkers as individuals themselves choose the network they would like to join and control their knowledge-sharing activities in the network. Individuals typically strengthen their network ties through peripheral participation in the network initially and then gradually

build up their personal trust using personal knowledge, informal contacts, shared norms and mutually recognized co-operation principles. These developmental stages assist the communities of practice to deepen their knowledge and expertise (Wenger et al. 2002). Other researchers however stress that company blogging policy should give directions on how employees should participate in informal networks, and thus accumulate intellectual capital and generate profit at the firm level (Castiaux 2006). It is evident that supporters of these two views in fact have different answers to the question concerning self-regulation in creating and extending networks that make use of social software tools. They should use more specific metaphors than a network composed of nodes and connecting lines in order to express their answers to the question of "Who is the network fabricator?"

In the discourse about those knowledge-intensive organizations that should have more developed knowledge management practices and more intellectual capital than other organizations, the metaphor "knowledge rich" has been differentiated from the term knowledge-intensive. Scholars point out that knowledge-rich universities are not necessarily knowledge-intensive (Greenwood 2009). "Knowledge rich" is a good metaphor for organizations in which different structural units or expert groups might accumulate and preserve deep professional knowledge in their specific field, but which lack processes to combine the knowledge that is kept in the isolated "treasuries" in order to increase the value of the intellectual capital for the whole organization.

The English noun "knowledge" does not permit a distinction between knowledge as a single object and knowledge as a combination of different knowledge domains. In the Estonian language, which belongs to the group of Finno-Ugric languages, one can use four different forms and derivatives of the same core word to explain the differences between some important meanings of the term "knowledge". In the knowledge management context, these meaning may have conflicting roles:

- *Teadmine* (singular form) – knowledge about some subject, concept or fact ("I know this definition")
- *Teadmised* (plural form) – knowledge of some broader field "he has good knowledge in the field of knowledge management and in related training activities"
- *Teave* – useful knowledge provided by some source that is not yet linked to a specific action of the receiver. "BBC World is a good source of new constantly updated knowledge"
- *Teadmus* - integrated action-focused knowledge derived from different sources, including experience and experts.

The focus of knowledge management is on managing the process of creating and applying action-oriented combined knowledge, so the most suitable Estonian term for knowledge management is "*teadmusjuhtimine".* Although *"teadmine"*, *"teadmised"* and *"teave"* also reflect important aspects of the knowledge management process. It is also possible in Estonian and the other Finno-Ugric languages to differentiate the self-regulative and manageable aspects of "development", which is such a key term for organisation and management developers. The term in Estonian for development as the organic self-regulative process is *"arenemine"* whereas the term for externally-directed development is *"arendamine"*. The outcome or the function of the interplay between externally managed development and self-regulative development is *"areng"* if management efforts are aligned with self-regulative development processes. A similar linguistic logic applies to the term "change". As has been shown, in the Estonian language there are several derivational paradigms. This can be explained by the fact that English is an analytic language and Finno-Ugric languages are synthetic-agglutinative (Piits et al. 2007). Metaphors may be especially useful in analytic languages, where, if discussing knowledge and knowledge management, the use of derivatives of the word "knowledge" to explain the role of self-regulation and combining diverse knowledge sources does not reveal the different, although interrelated, meanings of the term knowledge that should be understood in the knowledge management development discourse.

Knowledge creation is often described using the metaphor of the learner as a builder and knowledge as a building. Kövecses (2002) considers construction and building an important cognitive domain for knowledge that reveals the role of structure. Knowledge as a building describes well the role of fundamental theories and axioms as the foundations of the knowledge house. The building is however also a shelter and protection against external disturbances and in the rapidly changing environment one has to think about the implications of emotional earthquakes and winds of change. A knowledge house may have conceptual or ideological walls that isolate some school of thought from interdisciplinary discourse or followers of a guru from external realities.

Information-centred and knowledge-centred trends have been competing for many decades in the field of developing knowledge-based assets (Sveiby 1997). In the "global village" knowledge environment that has been shaped by new applications of social software in recent years, it is, however, also important to distinguish closed and open approaches to developing knowledge management practices. Closed approaches to knowledge management focus on creating a relatively stable and integrated structure of knowledge representation, but see uncontrolled knowledge exchange with external sources as a danger to knowledge constructs inside the organization. Open approaches accept diversified external and internal sources of knowledge that cannot be fully controlled. Open approaches focus on combining different knowledge sources. Crucial choices between closed and open approaches can be revealed by discussing the prerequisites of knowledge management and its related metaphors.

3. Metaphors that reflect knowledge management prerequisites

In the course of running knowledge management training courses since 2001, we have asked participants to rank knowledge management prerequisites by their importance to the companies they work for. A checklist was introduced to compare rankings, but students were also encouraged to add their own prerequisites to the original checklist. Respondents were asked to provide supporting arguments for their evaluation of the importance of the knowledge management prerequisites. In 2006-2009, the highest placed prerequisite on average was: *employees have recognized fields, where their expert knowledge can support others* (table 1).

Table 1: High priority knowledge management prerequisites

Knowledge management prerequisites	Average priority rank 2001-2004 (N=115)	Average priority rank 2006-2009 (N=116)
Employees have recognized fields, where their expert knowledge can support others	VIII	I
Virtual information processing and knowledge sharing tools are used actively	VII	II
Trust between employees	I	III
Free circulation of information	II-III	IV-V
Promoting information sharing between colleagues	II-III	IV-V

It was followed by: virtual *information processing and knowledge sharing tools are used actively. A* difference was found in that this prerequisite ranked higher in larger companies and lower in smaller enterprises. In 2001–2003 the same prerequisites had received much lower ratings. *Promoting information sharing between colleagues* shared with *free circulation of information* fourth and fifth places in 2006-2009. During the economic crises free circulation of information has again gained higher rank among other knowledge management prerequisites. We have found that the rankings do vary depending on the size of the MBA students' companies and on the different business sectors they operate in, but there is evidence that respondents are rating the knowledge management prerequisites that can be linked to virtual space more highly recently. In recent years, MBA students have also tended to give higher priority to receiving a clear answer to the question: "Where is the space in my organization for my expert knowledge?"

In 2009, we added an explicit metaphor task — to describe one metaphor for the organization that has created knowledge management prerequisites that our MBA students considered important. Students were encouraged to draw a picture that visually explains the metaphor. 80% of drawings depicted some kind of network. There were however, network metaphors presenting face-to-face communication and drawings that focused on networks linking functional units or interconnected people, intranet and quality systems. Some pictures had closed networks whereas others stressed external knowledge inputs to the organization. A few visual metaphors reflected the influence of the hierarchy on an employee possessing some knowledge and manager-subordinate relations in the knowledge capture process.

At the beginning of the course in 2009, MBA students were also asked to identify the five most important knowledge metaphors from the metaphor analysis scoring form by Andriessen (2006). Students were permitted to add their own metaphors. This scoring form was introduced before explaining any definitions or basic concepts of knowledge management. *Share knowledge* was identified among the five most important knowledge metaphors by 90% of respondents. Among other

popular resource-related metaphors were: *use knowledge, need knowledge, acquire* and *store knowledge*, *invest in knowledge*, *exploit* and *manage knowledge*. Equally popular were such knowledge-as-object metaphors as *seek, link* and *exchange knowledge* but also *hold knowledge*. The metaphor *hide knowledge* was added to the knowledge-as-object metaphor list. Among knowledge-as-product metaphors the metaphor *develops knowledge* was the most popular and among the knowledge-as-capital metaphors *measure knowledge* and *value knowledge* were preferred.

Verbal metaphors favoured by MBA students and visual metaphors presented in their drawings reveal two challenges in the knowledge management and intellectual capital context. First, how to match face-to-face communications supported by personal relations and focused on tacit knowledge with the understanding of an open network that is focused on combining diversified internal and external knowledge sources? Second, how to match the desire to share knowledge with such metaphors as hide and hold knowledge as a resource and with the desire to value knowledge as the intellectual capital of a specific organization or community?

4. Open space as a metaphor and as a knowledge creation and knowledge sharing technology

Knowledge transfer has been an important metaphor for reflecting processes, where knowledge acquired through experience in one situation is taken on by users in a different location. In the Soviet totalitarian system, "exchange of experience" was promoted as a knowledge transfer tool that was considered a substitute for research activity. Such campaigns were supported by massive propaganda, where slogans promoting exchange of experience usually ignored different situations, the context and the needs of organizations that should have participated in a knowledge transfer process. Carraher and Schliemann (2002) consider the transportation metaphor of "carrying over" fundamentally flawed for learning. In response to criticism, several alternative metaphors have emerged, including transfer as preparation for future learning (Schwartz and Martin 2004). Transfer can be interpreted as the generalization of learning and as the influence of the learner's earlier activities on their activity in novel situations. It is suggested that the transportation metaphor should be replaced with production or transformation metaphors (Lobato 2006). The path metaphor is seen in expressions such as "achieving distant goals", "heading in the right direction" or "getting back on track" (Moser 2007).

"Open space" is a spatial metaphor that has gained popularity as a result of Harrison Owen introducing in 1985, the open space technology to run self-organizing knowledge sharing and knowledge creation meetings for groups of any size. Owen (2008) employs several metaphoric expressions in his user guide, such as "creating and holding time and space" and "opening the village marketplace". Open space technology empowers all participants to raise issues and questions they would like to discuss with any interested participants in order to find new ideas. Participants may freely move from one discussion group to another. Open space technology follows "the law of two feet": if participants find themselves in a situation where they are neither learning nor contributing in a group, they can move somewhere where they can learn and contribute. There are also four key principles: "whoever comes is the right people"; "whatever happens is the only thing that could have happened"; "whenever it starts is the right time", "when it's over it's over" (Open Space World 2009). Open space has inspired green organization developers (Yeganeh and Glavas 2008) and organizers of participant-driven "unconferences" offering a more flexible knowledge sharing space for professionals than conventional research conferences (Crossett et al. 2009).

Open space technology has been used in 124 countries over the last two decades (Owen 2008). On 1 May 2009 the large-scale civic society initiative "My Estonia", applied open space principles simultaneously in idea generation sessions conducted by 527 think tanks across Estonia. 11 000 people gained open space experience on that day (My Estonia homepage 2009). A year earlier, on 1 May 2008, more than 50,000 volunteers had joined forces and cleaned the Estonian forests of garbage. Encouraged by this experience, the target was to involve 100 000 people in a My Estonia Brainstorming Day that was compared to a mental garbage clean up. Its primary goal was to bring people together to raise and find solutions to urgent problems in order to improve life in Estonia (My Estonia homepage, Facilitator's manual (2009)). The actual number of participants did not meet the optimistic aspiration, but was still more than 0.8% of the Estonian population. Two questions can however be raised when following the metaphoric expressions. Why it is easier to get people to collect physical garbage in a real open space than to involve them in a mental garbage clean up?

Does the open space technology fully meet the aspirations that are created by the open space metaphor?

Our answers to these questions are based on personal experience as think tank facilitators, on analyzing the experience of other think tank facilitators and participants, and also on reflecting the discourse in the traditional media and in virtual forums and weblogs before and after the 1 May 2009. Open space technology focuses on processes during the open space event — the "here and now"— but large-scale civic society initiative organizers had to arrange the process of informing and registering potential participants before the event. At the first stage, the procedure assumed that electronic ID cards would be used by participants for authentication in the self-registration procedure. Although a large part of the population in Estonia is used to identifying themselves electronically in e-banking and in many electronic services provided by the state, there were also people that were concerned that a "big brother" would someday check the identity of all people involved in a civic society initiative. Later the registration procedure was simplified. There were also views that the civic society initiative was trying to take over the political space that in a representative democracy should belong to local municipalities and their elected councils. Especially in rural areas, the idea of using a nice spring day for some kind of "village marketplace of ideas" was considered less natural than being in the physical open space either working in the garden or going to a nearby forest to collect garbage together with other people that care about nature. Some students that had studied knowledge management justified staying away from the My Estonia open space meeting by pointing out that their priorities were to increase the intellectual capital of their own business organizations, and did not believe that in the open space mode anybody would share ideas that may be valuable for their organization.

This paper refers to the think tanks of My Estonia, but the terms *brainstorming session and brainstorming bee* in English and *mõttekoda* (meaning *thought hall* in Estonian) were also used. Some of the think tanks consisted mainly of participants that belonged to the same social community or network and had already discussed similar or identical issues to those raised. This situation posed a challenge to facilitators. Some followed the open space technology guidelines too rigidly and did not offer discussion teams more structured creative thinking tools or new ideas from outside sources during the open space meeting. Such meetings then lacked the broader mental space that would have been useful for participants to explore potential new solutions. In other think tanks, the degree of diversity of the participants was greater, for instance, permanent local residents met people that lived in their area only during the summer months. The diversity of participants broadened the space available for searching out new ideas and allowed the facilitator to follow the original open space technology to attain good results. The 'My Estonia' civic initiative made extensive use of social software, including weblogs and twitter in the preparation of the event and in the follow-up activities. There were also 16 virtual think tanks. Many younger participants feel that virtual space is the real open space for idea generation and dissemination, whereas older participants tend to feel more secure in the open space that utilized face-to-face communication. The website of My Estonia lists 4832 ideas as of 20.10.09. (My Estonia homepage 2009). Many of these ideas have been fine-tuned in follow-up activities and have served as departure points of new projects. The follow-up process demonstrated that some participants were more eager to broaden the time frame of the open space than others. They also initiated online discussions, where they compared the open space technology of Harrison Owen and idea generation and knowledge sharing methods that had already been used in Estonia in the 1980s under another metaphoric label the "*thought bee"* (in Estonian "*mõttetalgud"*). Ruttas (2009) compares one version of the *thought bee,* called a *thought sieve, with* the open space technology. He points out that the thought sieve is effective for consolidating ideas of interconnected stakeholders that have to agree on common ground and priorities for further joint activities, bearing in mind a certain deadline. In contrast, open space tends to produce more diffused ideas. Some veterans of the thought bee approach see a potential problem of the open space technology being that the ideas and initiatives resulting from the exercise have been scattered in directions that are too different. When modifying the open space metaphor, their goal is to create a focused space.

5. Discussion and conclusions

Open space has appeared as a powerful but controversial metaphor in the knowledge sharing and intellectual capital context. In terms of safeguarding their intellectual capital in a competitive environment, organizations tend to draw borders between the knowledge space they are eager to control and the knowledge space they agree to share with outsiders. It is difficult to share and hide knowledge simultaneously.

Comparing the rankings of knowledge management prerequisites from 2001-2004 to 2006-2009 demonstrates the increasing role of the virtual space and related knowledge sharing tools, but also the desire to clarify knowledge spaces for employees as experts. Visual metaphors of knowledge management prerequisites depict networks that have different degrees of openness. The contradiction between increasing the intellectual capital through knowledge sharing and at the same time holding and hiding knowledge was demonstrated in the metaphor analysis scoring process. The scoring tool developed by Andriessen (2006) can be used for revealing controversial intellectual capital development efforts and knowledge management practices that are reflected in preferred verbal metaphors.

In the context of the SECI model and *ba* concept, where Nonaka and Takeuchi have embedded spatial metaphors, the open space technology has to compete with other knowledge sharing and idea generation methods that either focus more on group dynamics or support the more explicit prioritization of ideas for further action. Bowman (2001) has distinguished deeply ingrained tacit skills from tacit skills that can be accessed but cannot be expressed through the normal use of words. He suggests that metaphors and storytelling can serve as tools for articulating such tacit skills. It cannot, however, be taken for granted that people are ready to articulate deeply ingrained tacit skills in the open space event, although they may appreciate the diversity of ideas that are shared in the open space. The "law of two feet" may support diversity and free choice but can simultaneously inhibit the consolidation of teams.

"My Estonia" experience demonstrates that the open space technology can be aligned with the open space metaphor in some situations, but in other situations the technology, at least in its classic format, does not fully match the open space metaphor. Amendments to the open space technology may be needed if the composition of participants does not result in a diverse range of questions and the facilitator has to bring in additional knowledge sources. Open space is a metaphor that reveals the contradictions between traditional knowledge management initiatives within organizations and open space practices as found in civic society initiatives. Constructive use of this metaphor allows discussion in the inter-organizational context of the IT-centred and people-centred basic assumptions that guide knowledge management and the accumulation of intellectual capital.

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