

## MANAGEMENT IN KNOWLEDGE NETWORKS

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**Abstract:** Complexity of knowledge services in business requires involvement of various competencies. This is a reason, why are many services offered nowadays by networks. By creating a network, individual firms can concentrate on their distinctive competencies and by combining them with the distinctive competencies of partner firms, such a network is in the position to offer complex knowledge services of high quality and at acceptable prices. The success of such a network depends significantly on the effective and efficient combination and use of the distinctive competencies of the network partners. The ability to combine and to employ distinctive competencies represents the key advantage and crucial competence of the network as a whole and can be considered as a management task in knowledge sharing. Engaging in a network brings certain problems with it, especially the evasion of knowledge that can finally damage the network's core competency. Such a threat can be faced by a clear identification of the phases in the knowledge service production process and by developing solutions for the particular problems during each phase. The objective of our paper is to indicate the problems occurring in the process of knowledge generation, knowledge transfer, knowledge storage and knowledge application in knowledge service networks. Recommendations on how to reduce and eliminate problems arising among partners in the network have been developed in the personal, technological, organizational and cultural aspects. The research was conducted in the framework of the project VEGA 1/0612/12.

**Keywords:** knowledge services, knowledge management, knowledge network, distinctive competence.

**JEL Classification:** M 15

### 1. INTRODUCTION

The nature of knowledge has been examined in many different disciplines, such as philosophy, sociology, psychology or business sciences. Two distinctive concepts of the nature of knowledge have been created: a cognitivist and a constructionist concept.

The cognitivist concept understands knowledge as a representation of the world that consists of a number of objects or events, which are represented in the human brain. In this concept knowledge is explicit and objective, and can therefore be stored or transferred between persons or organizations relatively easy.

The constructionist concept understands knowledge not as an act of representation, but as an act of subjective creation of reality by an individual person. Michael Polanyi, who has set rudiments to research about knowledge and knowledge management, is using a constructionist concept of knowledge. Polanyi describes knowledge as consisting of two complementary parts: „What is usually described as knowledge, as set out in written words or maps, or mathematical formula, is only one kind of knowledge; while unformulated knowledge, such as we have of something we are in the act of doing, is another form of knowledge“ (Polanyi, 2009).

Polanyi later explained this distinction between explicit and tacit knowledge with his famous, often cited statement „We know more, than we can tell“, describing the tacit part of knowledge (Polanyi, 2009). It is important to note that knowledge is never completely tacit or completely explicit. In this article we use the term „knowledge“ as an individual subjective construction based on information and experience with the aim to solve problems.

The management of knowledge is obviously seen as a process. This process of knowledge management incorporates the phases of knowledge generation, knowledge transfer (dissemination), knowledge application (use) and knowledge storage. Considering a network structure, this means that the knowledge of all network partners must be identified in order to combine it to a desired result. Missing parts of knowledge have to be developed internally or obtained from outside the network. Combination of the distinctive competencies among the partners and transfer of knowledge is the crucial task for the network management. Knowledge held by individuals or by small groups of individuals within the network could be transferred, while organizational knowledge of the network partners could not be transferred. Organizational knowledge does not seem to be transferable, because it cannot be gripped as a whole by an individual (Jarillo, 1998).

### 2. OBJECTIVES OF KNOWLEDGE NETWORK

The core competence of the knowledge service networks consists in the ability to combine the distinctive competencies of the network partners with the external factors in order to produce unique services for the customer. It can take a form of a simultaneous combination of the network partners' competences at the time when the service is produced or a transfer of knowledge that enables the network partners to provide needed tasks (Kusá, 2011).

Examples of knowledge services executed by networks can take a form of various counselling and advisory business services, focused on management consultancy, and provided by a network through the combination of distinct capabilities. The ability of the network to combine the distinctive competencies of the partners in order to produce special services for the customer can be seen as the core

competence of such a knowledge network. For instance in the business merger / acquisition projects, or internationalisation projects, experts in management, law, finance and international business work together by sharing their knowledge in order to execute successfully certain tasks. Specialized knowledge (e.g. knowledge about finance and markets of the merging companies, knowledge about international relations, etc.) is necessary for successfully completing the process. This knowledge is often individually delivered by management consultants, financial institutions and law firms. These firms sometimes cooperate together on contract basis, but sometimes these specialized firms build a network, in which they work together with each other (Barney, 2001).

An example for knowledge service network, with intensive transfer and knowledge enhancement, is a franchise network. The franchisor and the franchisee are working on a long term contractual basis, providing services. The knowledge of the franchisor is enhanced and disseminated, when the franchisee is providing the same service in different regions. The transfer of knowledge needed to provide these services is the crucial task in this service business model.

### 3. PROBLEMS ARISING IN KNOWLEDGE NETWORK

Management in knowledge network is facing several problems in the process of combining the distinctive competencies of participating partners.

#### 3.1 Knowledge generation

Knowledge is a critical input that helps individuals and, on a higher level, organizations to solve problems and to be competitive. A knowledge service network intends to solve complex problems in order to provide unique services to the customers. The quality of the output depends significantly on the transparency of existing knowledge ownership within the network. The optimal combination of individual knowledge and inputs from the customer can only be achieved if every network partner (if possible every individual in the network, depending on the size of the network) reveals his capabilities. This revelation does not mean that knowledge has to be disclosed completely. But parts of the existing knowledge should be codified and determined explicitly in order to get a clear picture of the abilities, which an individual or a network partner has. An appropriate knowledge revelation is in this sense the necessary condition. The creation of transparency between partners is the condition for an effective combination, transfer and application of knowledge. The importance of the identification of knowledge resources and capabilities is the fundamental factor for effective partner selection. (Barney, 2002). Ignorance regarding the knowledge resource identification was obviously identified as a main barrier for not transferring knowledge within the firm. On the one hand the knowledge holder did not know, that his knowledge is needed, and on the other hand, the knowledge seeker did not know, that somebody else had the particular knowledge, which he was looking for (Lesáková, 2011).

Therefore it is an essential task for a network management to identify existing knowledge resources in the network. As a result all partners involved in the service

production process must have a clear picture of the knowledge-base in the network.

In order to achieve the objectives, network management has to overcome several barriers. One problem could be „hiding of knowledge“, meaning that individuals or organizations do not reveal their capabilities, trying only to profit from the knowledge of other network partners. The other threat is an overestimation of own capabilities. Organizations can declare to be able doing something or having some kind of knowledge in order to become a member of the network. If not all necessary (in order to fulfill the task) knowledge is existent within the network, the missing knowledge must be generated either by transferring knowledge from outside the network or by developing new knowledge internally.

Knowledge generation requires from the network management to overcome some barriers. Typical problems include motivational problems concerning the motivation of the knowledge owner (knowledge source) to make knowledge available. Another kind of problems can arise from the nature of the knowledge, which could cause problems especially for the recipient, who must be able to learn and to use the transferred knowledge.

#### 3.2 Knowledge transfer

Successful transfer of knowledge can enhance and multiply capabilities within the network, because the partner providing knowledge does not lose the transferred knowledge, while the recipient can use that knowledge and build up a useful new capability.

Franchise networks rely on a simple transfer and replication of knowledge. On the other hand the transfer of specialist knowledge is demanding, expensive and time consuming, or sometimes impossible because of the tacitness of individual knowledge and organizational knowledge in particular. Furthermore, the transfer of specialist individual or organizational knowledge could present a threat for the competitive advantage of organizations because the core competency can be imitated. As mentioned before, a fundamental condition for knowledge transfer is the knowledge holder's (an individual) willingness and motivation to share his knowledge. Additionally, the individuals must be able to reveal their knowledge (knowledge holder) on the one hand and to integrate and adapt knowledge (knowledge seeker) on the other hand.

If the transfer of knowledge is not suitable, the goals could be achieved through the collaboration between individual knowledge holders. Through combination of the distinct competencies of the network partners the network can provide superior service based on a unique combination of capabilities and resources within the network. Management of knowledge network therefore has to find the right balance between combination and transfer of knowledge within the network.

#### 3.3 Knowledge application

The responsibility of the management in knowledge networks is to ensure, that the transferred knowledge is applied and the collaboration is smooth. Problems concerning the application can result from the distrust among partners. The distrust syndrome describes the

situation, when the knowledge recipient does not trust the qualities of the network partner, believing that his own capabilities are superior and he could do things better. Unfortunately, there is no objective method of measurement, which could provide arguments to convince the recipient about the quality of the knowledge delivered. Serious problems could also follow from misunderstanding and problems in the cooperation among the network partners.

Collective knowledge comes from individuals working together. Through collective working, shared knowledge and understanding, the network is in stance to solve the problems, which an individual alone would not be able to solve. Therefore network knowledge management has to support a smooth collaboration in order to develop collective knowledge.

### 3.4 Knowledge storage and embodiment

The crucial task for network management in the last stage of the management process is to reduce or eliminate the threat of losing core competencies.

On the level of the network partners, every network partner tends to acquire as much knowledge as possible from the collective knowledge and from the other partners capabilities, and to give back as little knowledge as possible from its own organization. In the activities during the collaboration it is possible that network partners imitate or copy the distinctive competencies of other partners. A successful imitation could lead to the loss of competitive advantage of the particular network partner.

The knowledge network management has also to deal with the knowledge „storage“ problems. The network partners can fluctuate in shorter or longer term and some of them can leave the network. Therefore it is the management task to guarantee that knowledge and capabilities developed during the collaboration can be continuously used, regardless of the presence of the individual partner.

## 4. MANAGEMENT OF KNOWLEDGE NETWORK

Prevention of problems arising in knowledge transparency could be achieved by two different approaches: signaling and screening. Signaling means that each network partner is responsible for determining his knowledge. Positive effects of signaling are low administrative costs. However, there is no guarantee that the method alone can lead to initiating the explication of all relevant and valuable knowledge.

On the other hand screening means that the manager within the network has the duty and is responsible for constantly screening the knowledge base. In spite of the fact, that this approach is more costly, knowledge screening seems to be more efficient than knowledge signaling and is therefore the preferable solution. Only a screening process can provide the complete revelation of knowledge from the partners in the network (Borgatti, Cross, 2003).

The principal task of the network management is to develop regime for processes, to build and hold actual database about the competencies and abilities existing within the network. Network management has to create an environment that motivates sharing of knowledge between the network partners. Knowledge seekers must be able to

get in contact with knowledge holders. The exchange of knowledge could be fostered by technological solutions, like e-mail, intranet and appropriate search and retrieval software, which are known as facilitators of knowledge sharing. These technological solutions can help people to get in touch with each other and to exchange information.

It should be the task of the network management to develop motivational situations, so that knowledge holders are accepting to transfer their knowledge to knowledge seekers within the network. The motivation of a network partner could be either external motivation or internal motivation. External motivation occurs when a partner can satisfy his needs indirectly, through monetary compensation. (Larsson, R., Henriksson, K., Sparks, J., 1998). On the other hand, internal motivation results from an activity which is satisfying the provider by itself. Internal motivation is valued for its own sake.

Additionally to the internal motivation, a balanced use of incentives and sanctions is beneficial. It might be useful to implement an evaluation system in which all network partners can evaluate each other. A positive assessment by other partners can function as a base for financial benefits. Repeating negative assessment can lead to exclusion from the network.

Even if the motivation and coordination problems are settled, it is possible that the knowledge transfer process will fail. The reason for this can be the inability to adapt the knowledge received. The receiver of knowledge has to modify or adapt the transferred information. This process of adaptation is a learning process. Environment supporting the learning process should be established and maintained by the network management in order to support the transfer of knowledge within the network.

If the transfer of knowledge is too difficult because of the tacitness of knowledge, because of learning problems, or because of motivational problems from source or recipient of knowledge, the rotation of personnel - as another form of knowledge combination - could be an effective way of applying the knowledge within the network. The rotation of personnel can be a very effective means of facilitating and enhancing a personal knowledge. By bringing together people with different experiences and abilities, network management can develop a common understanding as well as new innovative knowledge combinations in order to develop and retain competitive advantage for the network as a whole.

Experience indicates that individual knowledge holders have a tendency to resist towards using knowledge created elsewhere (i.e. by their network partners), since they do not trust the quality of the shared knowledge. In this context the main problem facing network management is to find solutions for the syndrome of distrust. Three possible approaches to solving this problem could be identified: influencing the culture in the network; providing the right infrastructure for knowledge sharing; and introducing appropriate incentives at the network level.

Trust towards the quality of the knowledge provided by the network partners is the basis for overcoming this type of problem. Culture of trust is of highest importance to knowledge networks. Since distrust often comes from not knowing the knowledge provider, it is necessary for the

network management to support to know each other better. That can be done by organizing informal meetings or by job-rotation.

## 5. CONCLUSION

Knowledge is the key to developing and retaining competitive advantage, especially in knowledge networks. The task of knowledge network management is difficult. It is more difficult to execute the management in the network than in an individual firm. It is documented that networks have substantial advantages compared to firms, especially in the provision of knowledge services: in uncertain environment it is a necessity nowadays to cooperate between firms in a network. Such a network combines the distinctive competencies of the network partners in order to produce an outstanding network core competency.

Engaging in a network brings certain problems, especially the threat of losing the knowledge that can damage the network's core competency. Such a threat can be faced by clearly identifying the phases of the service production process and developing solutions for the particular problems during each phase. Solutions include personal aspects, technological aspects as well as organizational aspects. Personal aspects are important for efficient transfer and application of knowledge on the individual level. Organizational aspects are relevant to enable smooth cooperation between network partners on an organizational as well as individual level. Technological aspects have an influence in systems of sharing and adoption of knowledge. The role of network's management in these processes and in providing an effective knowledge network functioning is essential.

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