

# CONTAINERS OF KNOWLEDGE AS A BASIS FOR KNOWLEDGE MAPS

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## Abstract

The heart of most knowledge management (KM) strategies was and often is in technologies as data warehousing, dokument management, etc. The so called „second generation of KM“ is based on a knowledge life cycle with both demand and supply side. Many discussions of KM are on theoretical and conceptual level and that´s why many practitioners do not consider the KM as a significant contribution to competitive advantage. It is necessary to make the knowledge more concrete, readable and user friendly. For knowledge collection and codification we use knowledge maps – schemas or models of how we understand the problems and how we take actions. The knowledge maps can be expressed in texts, charts, pictures, etc. The character of knowledge map is closely connected with appropriate containers of knowledge. The containers perspective is important in the implementation strategy of organizational learning.

## Key Words

Containers of Knowledge, Mapping Knowledge, Knowledge Life Cycle, Knowledge Management.

## 1 Introduction

The maintenance of sustainable development faces today not only the challenges of the technical barriers as well as problem with nature and environment protection but there are also crucial problems connected with the necessity of nonviolent coexistence of different nations, cultures, religions. All enterprises are facing a strong global competition and the innovation process employed by the firm must be sustainable. The innovation process both in product sense and in process sense is based on using and creating knowledge. The knowledge management (KM) is a systematic approach to knowledge and experience from elsewhere.

In many cases the KM was not as successful as it was declared and that's why many practitioners are rather suspicious. The main reason is by our opinion in over estimation of the supply side of the KM. The suppliers of knowledge in the first generation of KM are managers and teacher who are presumed to possess the *wisdom* needed to determine *who* should have *what* knowledge, and *when*. The assumption is that the knowledge already exists (McElroy 2003).

According to this assumptions the KM workers try first of all to find, collect, organize and transfer the knowledge. The users (i.e. the demand side in the concept of second generation of KM) often are not ready or willing to take the active role in knowledge sharing and transfer. They think that they do not need the offered knowledge and that this way of learning activity is a waste of time and money.

In idea of possibility of organizational knowledge creations has led to formulation of principles of the second generation of the KM.

One of key ideas of the second generation of KM are the

containers of knowledge which are important for knowledge mapping. The knowledge maps as shared mental model are of miscellaneous forms and contents. Because of strong text orientation of majority of the society other than text containers are often ignored.

## 2 History of Knowledge Management

The history of KM as a scientific discipline begins in the 1990's and the number of articles and books has grown rapidly. There are more theories on how the KM is developing, one group tends to focus on knowledge sparing, and the other on knowledge making. According to (Gorelick, Milton and April 2004) there are 4 phases of KM:

**Phase 1: Information to Support Decision makers** (prior to 1995)

The focus was on information flu to support decision makers. Typical applications:

- Executive information systems.
- Data warehousing.
- Process reengineering.

**Phase 2: Tacit and Explicit Knowledge** (since 1995)

It emphasizes the conversion of tacit and explicit knowledge in order to translate the individual knowledge into public or collective knowledge.

**Phase 3: The Use of Narrative in Organizations** (since 2000)

The phase 3 and 4 is corresponding with the term second generation of the KM in (McElroy 2003).

One of the basic principles of Phase 3 and 4 is that the process of moving from knowing to saying and to writing (recording) involves some loss which might be massive. The narrative

management is managing the process of conversation as a tool of knowledge sharing process.

Very important is telling stories that describes experiences and events. The storytelling has been recognized as important management skill which increases insight and understanding.

#### **Phase 4: An Integrated Knowledge Management Framework**

Phase 1,2,3 can be seen as building blocks for an integrated model.

Definition:

*KM is a framework for applying, structures and processes at the individual, group, team, and organizational levels so that the organization can learn from what it knows to create value for its customers and communities. The KM framework integrates people, processes, and technology to ensure performance and learning for sustainable growth.*

The second generation of KM has according to (McElroy 2003) following main ideas:

- The Knowledge Life cycle.
- KM versus Knowledge Processing.
- Supply versus Demand Side KM.
- Nested Knowledge Domain.
- Containers of Knowledge.
- Organizational Learning.
- The Open Enterprise.
- Social Innovation Capital.
- Self-Organization and Complexity Theory.
- Sustainable Innovation.

### **3 Knowledge Life Cycle**

For enabling the knowledge to play a role in innovation of organizations we have to take in mind both demand and supply side of the KM -see Picture 1. Using the knowledge life cycle (KLC) we characterize an organization's current knowledge processing environment. Using KLC we do not assume that some knowledge already exists. The cycle begins with the production of knowledge. The new knowledge generation is based on natural, spontaneous interaction between people which leads to formulation of a knowledge claim. The knowledge claim arises on the demand side of the knowledge cycle what means new knowledge is created on the demand side. In the second phase the knowledge is distributed and shared.

#### **3.1 Containers of Knowledge**

The containers are made up of agents (individuals and groups) and artifacts (documents, computer systems, etc.). The knowledge in artifact has been codified somehow, so they bring the explicit knowledge. The way of codification is not necessarily the text; not necessarily linguistic, it might be also music or dance.

The knowledge container holds and reflects the knowledge claim produced in KLC. In addition, they can be seen as an interface between knowledge processing outcomes and the business processing environment (McElroy 2003).

#### **3.2 Mental Models and Knowledge Maps**

Mental models are deeply ingrained assumptions, generalizations, pictures or images that influence how we understand the world and show we take actions (Senge 2006). The mental model is an internal representation of the situation. It can be expressed also as a database or mathematical model.

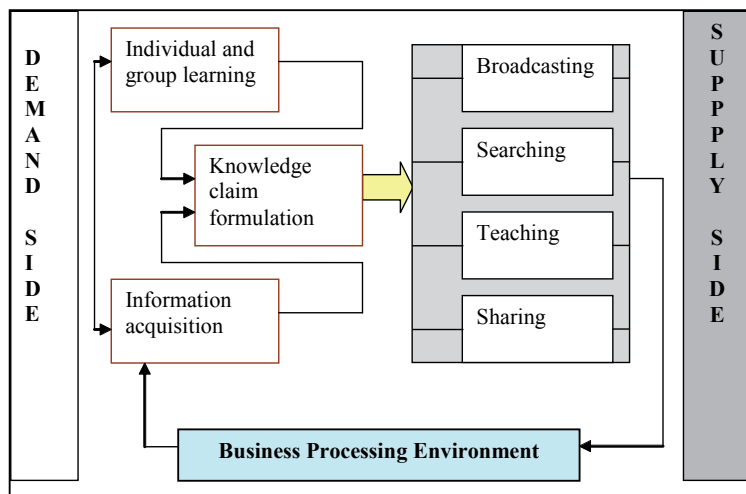


Figure 1: Demand Side and Supply Side of Knowledge Management (according to McElroy 2003)

The shared mental model contains shared vision and goal of a team. Building the shared mental model calls for thinking together a speaking to each other.

Shared mental models are hypothetical cognitive structures that broaden the individual mental model into a team context (Orasanu 1993).

The knowledge maps are mental models designed for knowledge collection structuring and sharing.

### 3.3 Organizational Learning Cycle

The organizational learning cycle (see Figure 2) has according to (2007 Our View on Knowledge Management) four main phases:

- **Mobilising knowledge before and during activities**

Knowledge will only add value when applied. Gathering, validating and structuring knowledge will have no value when the results of these activities are not used in a day-to-day practical context. A closed learning cycle requires all available internal and external knowledge to be mobilised at the start of a new project or any activity that requires knowledge.

- **Learning and applying knowledge in practice**

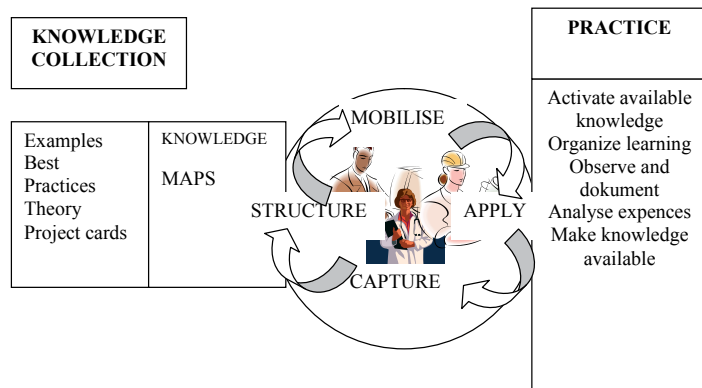
All people learn while acting. They reflect on the effects of their actions and might change their mental models and ways of working based upon the outcome of these reflections. This reflection might not always occur consciously and systematically. An organisational learning cycle however will benefit from practitioners who reflect consciously and systematically on their actions and the effects of their actions.

- **Capturing and validating knowledge**

To leverage individual learning an organisation or network should organise processes to integrate new knowledge in its existing 'body' of knowledge.

- **Structuring knowledge**

The product of the capturing and validation process requires rework, annotation, and explanation to make it suitable for the target group.



**Figure 2: Organizational Learning Cycle (according to 2007 Our View on Knowledge Management)**

The knowledge maps have their position in the organizational learning cycle in the phase of structuring knowledge. The maps are important in transferring the sense of the knowledge content to the users.

## 4 Conclusions

The concept of containers of knowledge is one of the key ideas of the second generation of KM which is based on a closed KLC. The attributes of the containers are important for construction of the knowledge maps. Different containers calls for different way of searching and collecting the knowledge. All these activities should be oriented towards the demand side of the KLC, to the knowledge claim. The knowledge maps support learning in the way of apprehension. Language, symbols, schemas, stories, models etc., are building blocks of the knowledge maps. The knowledge map should respect concrete problem situation,

the user or users and the knowledge container on which it is implemented.

## 5 Acknowledgement

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