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KNOWLEDGE MANAGEMENT IN SMES

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AGENDA

1. Background
2. Why knowledge management in SMEs?
3. Challenges and areas of activity
4. Knowledge management in SMEs
5. Case studies



BACKGROUND

Internal considerations (pull)

- The exploitation of knowledge can contribute to improved performance: “knowledge as a strategic asset”. This can express itself in the areas of competency, efficiency, productivity, decision-making, learning behaviour, also increased motivation
- This is critical, especially for SMEs, as they experience considerable pressure from large companies and customers

External considerations (push)

- Global competition is on a constant rise, intensive competitive pressure
- In some fields, SMES are in direct competition with large companies
- Large companies expect certain KM systems from their suppliers
- Creditworthiness (Basel III)

BUSINESS CHALLENGES AHEAD

- Aging workforce and shortage of skilled workers
 - To improve succession planning/people replacement
 - To secure skills and competences of experienced employees
 - To retain employees
- Operation management
 - To control the handover of duties and tasks
 - Preservation of experience/lessons learned, avoidance of errors and duplication
 - To structure operational data needs-based
- Sustainability of organization
 - Location of valuable knowledge sources
 - To better evaluate customer and market potential
 - To strengthen customer loyalty

WHY KM IN SMES?

Exploitation of knowledge can ensure the survival of SMEs

Due to limited resources SMEs cannot compete with large companies in the areas of physical and financial resources

Knowledge plays a key role, in particular when change (renewal), innovation and growth has occurred or is to be achieved



- Most SMEs have no KM strategy and tend to treat KM on an operational level
- Most knowledge is being kept in the minds of the owner and some key employees
- Knowledge sharing may happen in corridor conversations or at organization members' events (e.g. birthday party) 
- Weaker than larger firms on formal and systematic discussion in order to share tacit knowledge
- Most SMEs adopt short-term unstructured ways towards organisational learning
- They rely on external knowledge creation sources (e.g. secondary data and personal contacts (network))

KM IN SMES: OPPORTUNITIES AND CHALLENGES I

Opportunities

- Smaller number of staff
- Stronger personal relationships
- Simple organizational structures
- Flat hierarchies
- (Often) dominant managing director/owner-manager
- Distinctive personal communication flow to all stakeholders
- Slow staff turnover (at least in some parts of the world)



KM IN SMES: OPPORTUNITIES AND CHALLENGES II

Challenges

- Limited personnel capacity and financial resources
- Lack of KM expertise
- Lack of awareness regarding the strategic meaning of KM in organizations 
- Dependence on owner-manager and (if relevant) a problematic company succession
- Dependence on a few number of key organization members
- Short-term orientation
- Day-to-day business operations require close attention

GENERAL CHALLENGES REGARDING KM IMPLEMENTATION

- Conflicts as knowledge barriers
- Employee acceptance
- Lack of exchange with external partners
- Inadequate integration of employees
- Imprecise information needs
- Lack of willingness to share knowledge
- Unclear business strategies
- Weaknesses in the information and communication structures
- Targeted use of organizational knowledge
- Transfer of project/order experience

A HOLISTIC APPROACH TO KM IS NEEDED I

- Human, technical and organizational factors should be addressed

Human factors

- **Advantages of SMEs**

- Entrepreneurial personality and generalist knowledge
- Corporate culture and communication, strong personal connection to all stakeholders

- **Disadvantages of SMEs**

- Lack of transparency and missing awareness for functions
- Accumulation of functions and generalist orientation complicate a clear identification and categorization of knowledge
- Missing link between knowledge and the different stakeholders
- Lower degree of professionalization: skill gaps remain undetected
- Psychological factors: Knowledge means power
- Greater dependence on the knowledge of individual employees/managing director/owner

A HOLISTIC APPROACH TO KM IS NEEDED II

Organizational factors

- **Advantages of SMEs**

- Flatter structures and wide span of control
- Bundling of general knowledge among a few persons
- Shorter and more direct communication
- Intensive personal flow of communication with all stakeholders

- **Disadvantages of SMEs**

- Accumulation of functions hampers knowledge creation and reflection
- Lack of a designated person for KM
- Missing employee acceptance towards IT-based KM systems

A HOLISTIC APPROACH TO KM IS NEEDED III

Technical factors

- **Disadvantages of SMEs**
 - Limited financial resources
 - Software solutions that are designed for large companies, SME specific characteristics are considered to a limited extent only

CASE STUDIES (BASED ON CEN, 2004) I



Field: Mechanics, hydraulics, electronics, pneumatics, optics and computer

The firm develops and manufactures high tech products. It operates in a **rapidly changing market** with highest requirements. In order to compete with their competitors, two KM initiatives were started:

- (a) Development of a knowledge database. By making use of already existing solutions costs related to production delays were expected to be reduced;
- (b) competence mapping, in order to optimise decision making processes in the firm

Lessons learned

The **crucial point is** not the extent of the database but rather **the actual utilisation**. As **not all knowledge can be stored**, **competence mapping** is of major significance.

CASE STUDIES (BASED ON CEN, 2004) II



Field: IT integration / software development

The company is a worldwide provider of collaborative software solutions for CRM. In a period of growth the aim was to preserve and protect the knowledge of its staff effectively. The long-term goal was to build a central knowledge base that meets the needs in all areas of operation.

The decision was taken to focus on one area at the beginning. This area was communications and the exchange of knowledge between the product design team and a group of persons from sales and consulting.

Informal communication was the practice and diffusion of knowledge happened through internet, intranet, email and telephone conferences.

CASE STUDIES (BASED ON CEN, 2004) III



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The installation of a central server as joint knowledge base made possible access to past and current projects, sales initiatives, marketing campaigns and administrative procedures.

The company-owned software involves a knowledge base module which served for the storage of software development information. A critical aim of the KM strategy was to integrate this module in the KM initiative.

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Lessons learned

The broadening of knowledge concerning KM via **specific seminars and workshops** helped **to overcome initial oppositions to the changes**. KM was considered as an opportunity of keeping the standing as a leading CRM software provider. In order to defend this position also in the future, the communications' efficiency and effectiveness was to enhance. The installation of the central knowledge memory formed the necessary condition.

CASE STUDIES (BASED ON CEN, 2004) IV



Field: Software development

The software firm had two conditions regarding the KM implementation:

- (a) an expert system for recording departing experts;**
- (b) a motivation system for those employees willing to develop their career in the firm**



In one department a KM project was implemented which was accompanied by four main processes: a pilot study identified knowledge gaps and knowledge needs; areas were selected in which more in depth analyses of staff competences should be conducted; a competence supporting tool was developed and later implemented. After having evaluated a number of existing solutions an IT system was selected and implemented. At the same time a number of benchmark aims were specified.

CASE STUDIES (BASED ON CEN, 2004) V



Lessons learned

The conversion of implicit knowledge to electronically stored explicit knowledge will always lead to a loss of information. Therefore, it is important to ensure that a **high degree of engagement** is given through the **active assumption of procedure and practices**.

Additionally, it is important that those **employees** who create and share knowledge **are recognised**. Questions such as How does it affect me? and What do I get out of it? require clear answers. A further critical aim was to produce **much support from the project area** as a necessary basis for the KM initiative's extension to the overall organisation.

CASE STUDY: ALLRESIST GMBH I



The company develops, manufactures and sells light-sensitive paints (resist), they are required, among other things for microchip production.

The company is based in Strausberg near Berlin; in this region also the majority of customers are located. The company distributes its products nationally as well as to Asia, Italy, France and Switzerland.

Challenge: To hand over knowledge and to continuously develop it
ALLRESIST is successful in a market niche which is characterized by specialized and knowledge-intensive products. Because of this the employees are highly skilled professionals who have extensive specific expertise.

Questions posed:

What happens with the knowledge when an employee leaves the company?

What can the company do to keep as much knowledge as possible, and to make sure that it continues to be available?

How can the company in general ensure that employees have the (relevant) latest know-how?

CASE STUDY: ALLRESIST GMBH II



Steps undertaken:

The company responded with a comprehensive and systematic knowledge transfer of the special expertise of the employees concerned. This involved the systematic review of the extensive literature collections of the former Photochemical Works: Books were cataloged and archived, outdated literature was sorted out. The result was an electronic bibliographic database, which provides initial access to a new topic.

In addition, transfer training took place. The knowledge of retiring individuals was structured in topics to which two categories were assigned: 1. Technology and Maintenance of measuring instruments and 2. resist training. In the course of the training, participants also developed question-answer combinations along the line "What if ...?", which completed the transfer of factual knowledge.