

# Exercise Sheet 1

## Knowledge Management Foundations

*Submit your solutions until Monday, 27.02.2012, 12:00 noon by either bringing them to the exercise or leaving it in the mailbox in B6 26 on the first floor. The deadline in both cases is the beginning of the lecture. Later submissions won't be considered. Every solutions need to contain the respective **names**, **email addresses** and **matriculation numbers** of its editors. If (and only if) you are asked to email a solution the subject should look like "ex #, name1[, name2]" with # being replaced by the exercise number.*

### 1 Terminology (6 Points)

Explain in your own words the distinctions between each of the term pairs *Data & Information*, *Information & Knowledge*, and *Knowledge & Wisdom* .

You are free to use everyday examples to illustrate the differences.

### 2 Explicit vs Tacit Knowledge (4 Points)

Which of the following concepts do you consider as tacit and which as explicit knowledge? If you are in doubt, give an explanation for your decision. Also mark if the knowledge is individual or collective.

1. *Personal notes on the Desktop*
2. *A movement a worker has to do on a machine every day*
3. *Outdated wiki entries*
4. *An instructions manual for a machine*
5. *The time a departement usually is out for lunch*
6. *The network of friends on facebook*

### 3 The Knowledge Spiral (20 Points)

Explain the phases *Socialization*, *Externalization*, *Combination*, and *Internalization* by the means of an example. Make clear how the respective phase is producing explicit/tacit knowledge.

A suggestion for an example would be a child that learns how to participate in urban traffic over the years, but you are free to use any other setup.

If you are unsure where to start, read Nonaka's *The Knowledge-Creating Company* (which you should do anyways): <http://www3.uma.pt/filipejmsousa/ge/Nonaka,%201991.pdf>

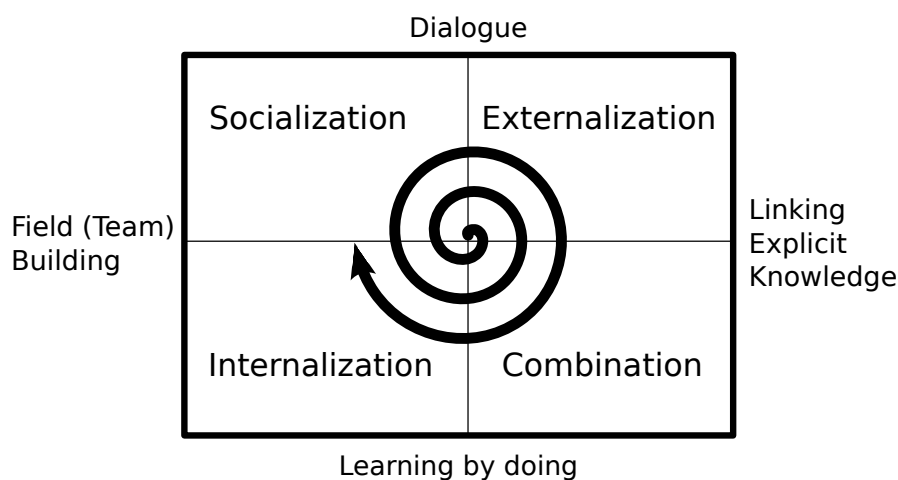


Figure 1: The Knowledge Spiral

### 4 Knowledge Distribution Factors (16 Points)

#### 4.1 (5 Points)

Which of the following factors facilitate knowledge sharing and which hinder it? If you are in doubt, give an explanation for your decision!

*power, independence, curiosity, recognition, idealism, social relations, position, revengefulness, introversion, empathy*

#### 4.2 (7 Points)

Think of actions a company could adopt to minimize a factor's negative or maximize its positive effects in order to optimize the amount of shared knowledge within the organization. Propose at least 4 actions in total and make clear which factor is tackled by your solution.

### 4.3 (4 Points)

Which technologies or methods can support your ideas?

## 5 Comparison of Production Factors (14 Points)

Land, labor and capital are the classical production factors. Knowledge emerged as a new factor of production depending on the branch of the economy. Rehäuser and Krcmar (1996) compared the classical production factors to information and knowledge:

	<b>Classical Factors</b>	<b>Information</b>	<b>Knowledge</b>
<b>Ownership</b>	individual ownership only	collective ownership possible	collective ownership possible
<b>Use</b>	loss of value due to usage	gain of value due to usage	gain of value due to usage
<b>Sharing</b>	loss of gain of value depending on situation	loss of gain of value depending on situation	loss of gain of value depending on situation
<b>Reproduction</b>	high costs	low costs	potentially high costs
<b>Dissemination</b>	difficult and costly	simple and cheap	difficult and costly

Table 1: Comparison of production factors by Rehäuser and Krcmar (1996) (translation)

Knowledge as a production factor can have considerably different properties than classical factors but it's importance may vary from company to company.

**A fictional example:** We are in the year 2020. The company *Robot Productions* wants to set up the production of a new robot that supports humans in their households. Therefore, the company needs to buy material from the *Steel and Plastic AG*. Further, the software of every robot needs to be copied on the hardware several times, each for one robot. This task is fulfilled by the *Data Transfer GmbH*. Last but not least, the company *Training AG* offers courses to teach the usage of the new robot to the customers.

Discuss the different production factors of the three suppliers. What advantages or disadvantages do they have with the *ownership, use, sharing, reproduction and dissemination*?

## References

- J. Rehäuser and H. Krcmar. Wissensmanagement im Unternehmen. *Managementforschung*, 6: 1–40, 1996.