1. Organisational Memories – What are they, what are they good for?

Why is knowledge a critical issue in the economy? (1)

- shorter time to market
- increased speed of knowledge creation (research, development)
- globalization of economy (more competition)
- fast evolving markets, complex regulations (environmental standards, suit risks, ...)

Why is knowledge a critical issue in the economy? (2)

- knowledge is the most important economic asset in the developed countries
- distributed (even virtual) organisations, complex forms of cooperation

Knowledge needs to be managed

- employees are the primary knowledge source (but change employer)
- lessons learned are often not documented
- knowledge workers use 50-80% of their time for information search
- companies do not know what they know

Definition: Knowledge Management

Knowledge Management means to regard knowledge as one of the most important assets of an organisation and to systematically manage it.

Knowledge Management has two aspects:

- Organisation & Management Theory
- Information Technology

Definition 1: Knowledge

Knowledge is what enables people to act and to deal with their environment in a purposeful manner.

Definition 2: Knowledge

Knowledge is an awareness of the efficiency and effectiveness of different courses of action in producing particular outcomes based on experience.

(R.L. Ackoff, F.E. Emery: On purposeful systems. Chicago: Aldine-Atherton, 1972.)

Organisational Knowledge Areas

Contribution to core processes / Growth Potential	**High Contribution**	**Low Contribution**
High Growth	key knowledge areas	promising knowledge areas
Low Growth	basic knowledge areas	outdated knowledge areas

Promising knowledge areas:

are still in their infancy but have the potential to radically change the execution of some of an organisation's tasks

Key (core) knowledge areas:

distinguish an organisation from others; have the greatest influence on the unique position of the organisation

Basic knowledge areas:

are essential for carrying out the organisation's activities; is widely available in all similar organisations

Outdated knowledge areas:

are no longer or rarely applied in business processes

Examples of important knowledge in a company:

- What is the company's mission?
- What is the structure of the company?
- Why do we do our business the way we do?
- Who is who in the company?
- Who has which expertise?
- What (informal) relationships are there between people?
- How do we actually learn in this company?
- How does our company work (what are its business processes)?

Tacit knowledge

- is acquired through experience (via training)
- very difficult to explicate (if at all)
- often comes close to intuition

Examples:
expert problem solving behaviour,
manual skills like blowing glass

Explicit knowledge

- can be represented in figures, graphs, texts
- can be communicated
- can be learned intellectually (via education)

Examples:
text books, documentation of business processes,
stock market trends

Individual knowledge

- a person's own knowledge
- includes tacit and explicit knowledge

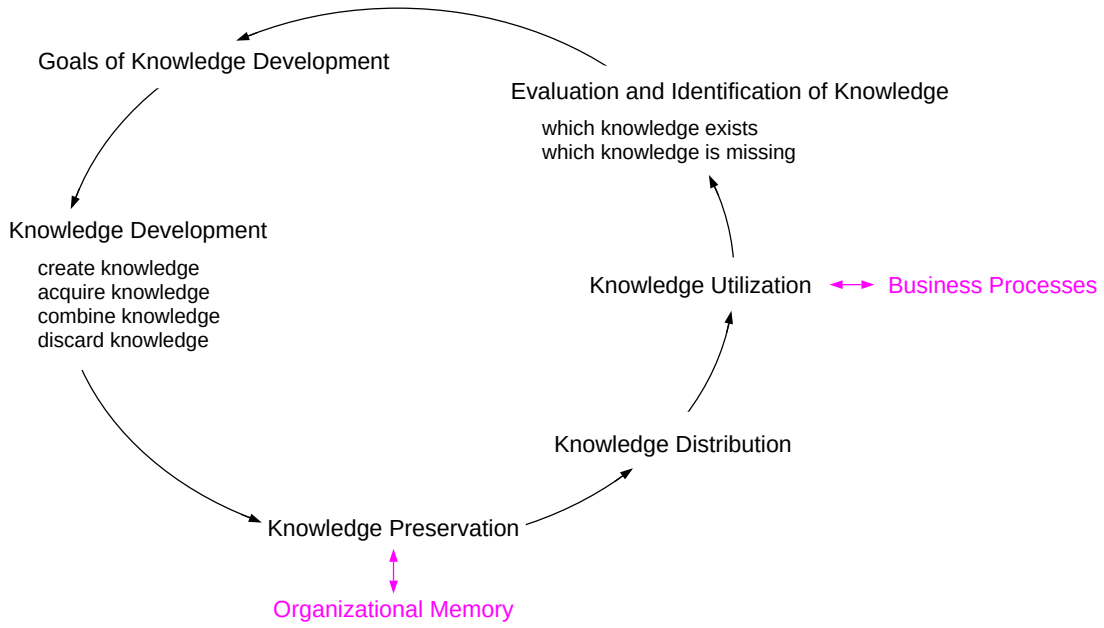
Collective knowledge

- more than the sum of the individuals' knowledge
- arises from the interaction between people of a community, involving their ideas, skills, expertise, cultural backgrounds, etc.
- mixture of explicit and lots of tacit knowledge
- difficult to identify
- is key to competitiveness

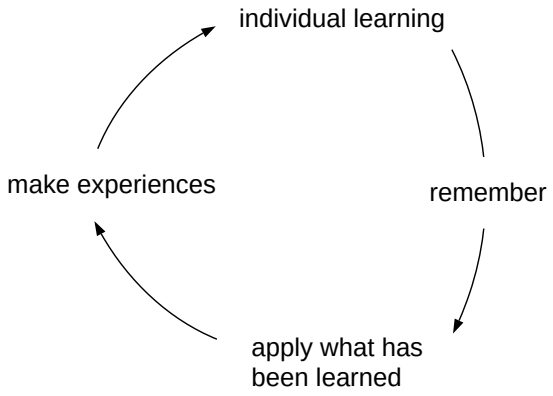
Examples:
established processes (behaviour), routines, group norms, corporate culture, company regulations

Knowledge Management and Organisational Memory

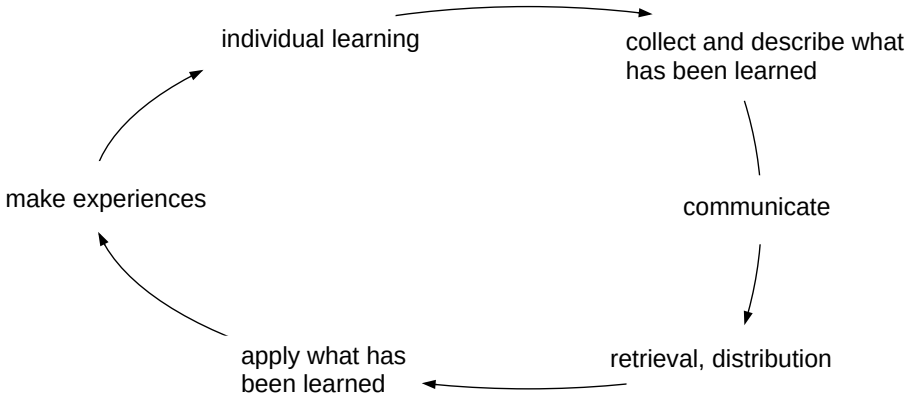
Fundamental Knowledge Management Process



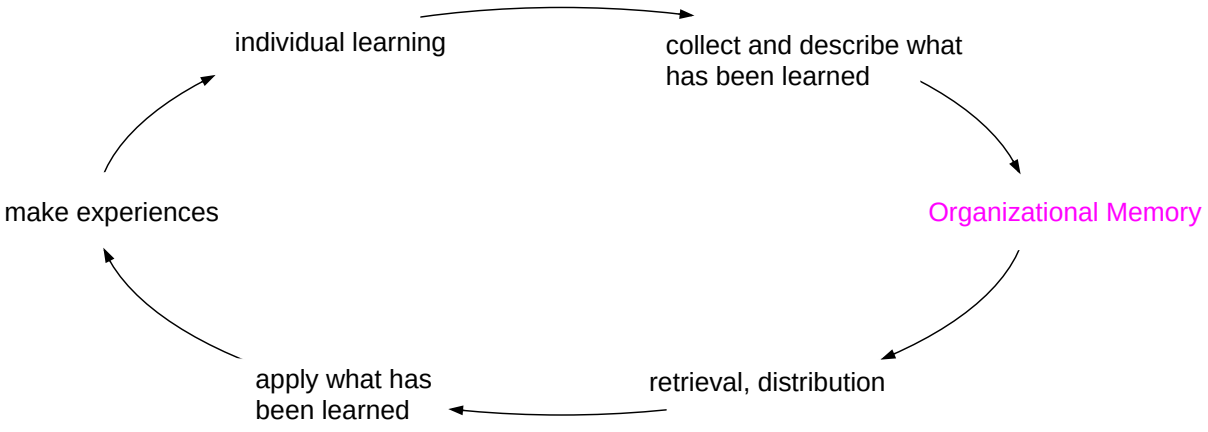
Individual Learning Loop



Collective Learning Loop



Lessons Learned and Organisational Memory



Definition: Organisational Memory

Organisational memory (OM) is the means by which knowledge from the past is brought to bear on present activities, thus resulting in higher or lower levels of organizational effectiveness.

(E.W. Stein: Organizational Memory: Review of Concepts and Recommendation for Management. In: Int. Journal of Information Management, Vol.15, No.2, 1995, pp.17-32.)

Into an OM go all kinds of knowledge, e.g. knowledge

- in documents (informal and semi-formal)
- in data & knowledge bases (formalized)
- in people's minds (informal, possibly tacit)

Types of OM:

	Passive Collection	**Active Collection**
Passive Distribution	knowledge attic	knowledge sponge
Active Distribution	knowledge publisher	knowledge pump

(after: G. van Heijst, R. van der Spek, E. Kruizinga: Organizing Corporate Memories. In: Proc. 10th Banff Workshop on Knowldge Acquisiton for Knowledge-Based Systems, 1996)

Knowledge Attic:

- OM is an archive that is consulted when needed
- is the most feasible one

Knowledge Sponge:

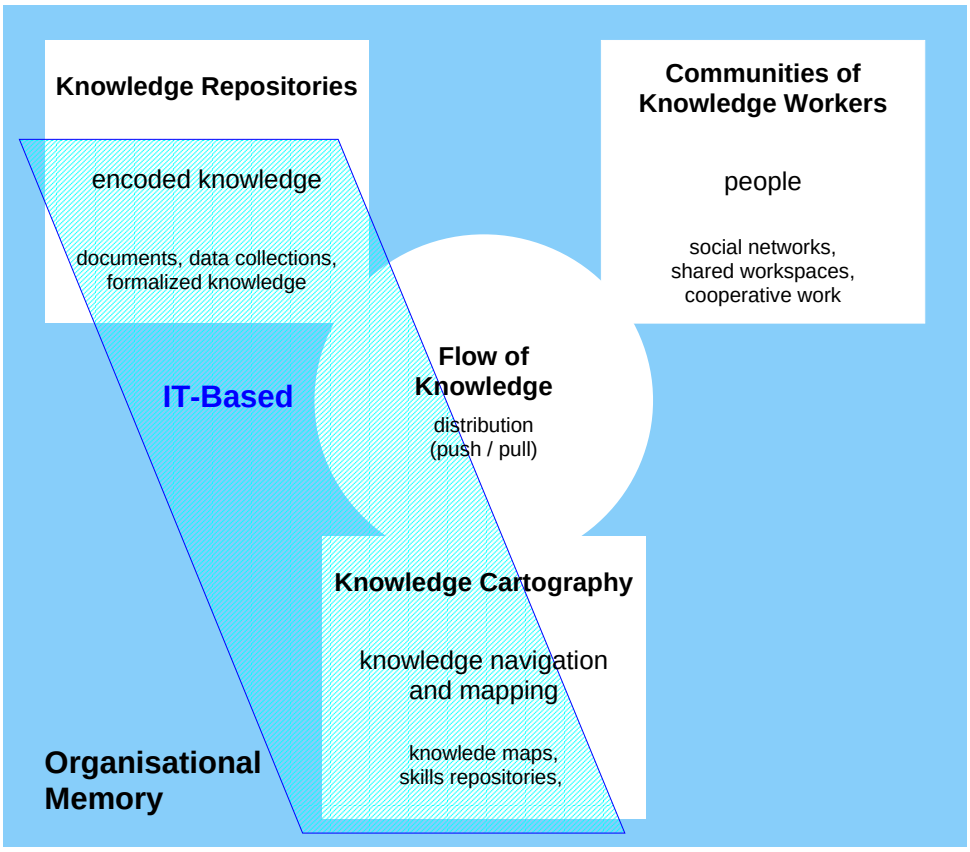
- is meant to incorporate as many knowledge as possible in order to become complete
- whether the OM is actually used is left to the people

Knowledge Publisher:

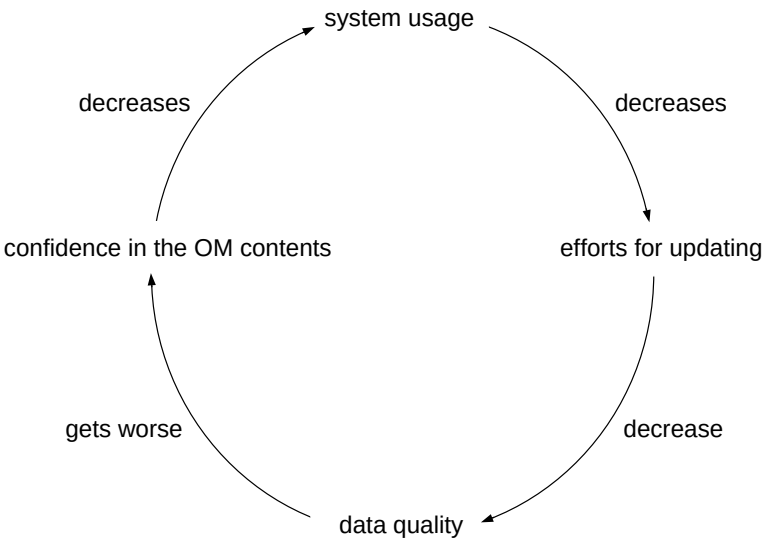
- it is left to the people to put knowledge into the OM
- the OM maintainers analyze incoming information and combine it with knowledge already there
- the OM maintainers forward newly entered knowledge to those people for whom it might be useful (emails, newsletters, briefings, courses, ...)

Knowledge Pump:

- most complex type
- full exploitation of knowledge



The "Death Spiral" of OM Usage:



(after: G. Probst, S. Raub, K. Romhardt: Wissen managen. Zürich: Verlag NZZ, 1997.)