Lecture 03:

KM Concepts and Frameworks

Learning objectives

Students should

- understand the role and the function of KM concepts and frameworks and be able to name the most important approaches
- be able to explain the core knowledge activities and their role in KM frameworks
- become familiar with the basic KM concepts
- know several frameworks in detail
- have a basic understanding of the evolution and the role of KM frameworks for management activities in practice

Content

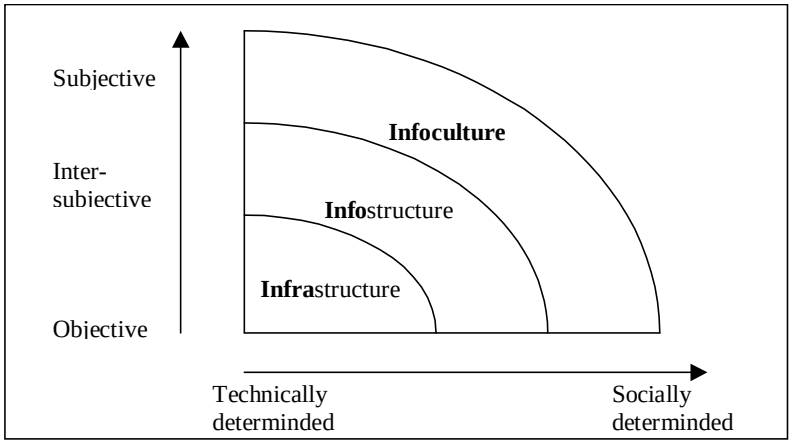
- Emergence of KM and KM perspectives
- Core Knowledge Activities
- Basic KM concepts and views
  - SECI model
  - Sende-making KM model
  - Knowledge market
  - Process oriented KM
- KM Frameworks
  - Why KM frameworks?
  - Selected KM Frameworks
  - Summary

(1) Emergence of KM and KM perspectives

Evolution of KM Theories

- Historical Roots: Durkheims school of sociology
- Late 70´s, early 80´s: simple structural theories, knowledge representation (AI), group remembering
- Late 80´s, 90´s: Transactive Memory System, Organisational Memory, OM Architecture and Technical Approaches of OM, Organisational Intelligence (OI)
- Late 90´s: Growing Importance of Knowledge Architectures and KM Frameworks – primarily as a base for the implementation of KMS
- At present: Social media, focus on interaction and communication - but also the attempt to consolidate the heterogenious results and to measure performance

Socio-technical Perspective of KM



Process- vs. Product-centered approaches

Product-centered

- Product-centered approach focuses on knowledge documents, their creation, storage and reuse in computer-based corporate memories.
- It is called also IT-based approach.
- The typical goal is to take documents with knowledge embedded in them and store them in a repository where they can be easily retrieved.

Source: MOCURIS

Process- vs. Product-centered approaches

Process-centered

- Process-centered approach mainly understands Knowledge Management as a social communication process.
- Knowledge is closely tied to the person who develops it and is shared mainly person-to-person.
- The main purpose of IT in this approach is to help people communicate with knowledge, not to store it.
- The underlying strategy here is to facilitate connections between those people who possess knowledge and those who need knowledge.

Source: MOCURIS

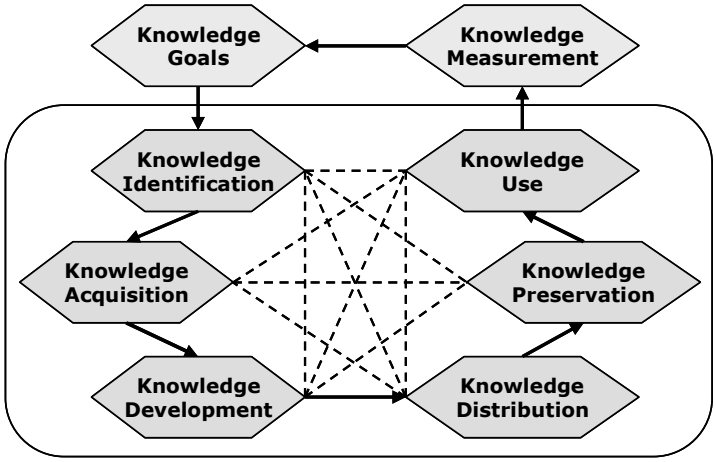
Relation to IT and Software

Product-centered	Process-centered
Knowledge as product	**Knowledge as process**
Technologies supporting knowledge storage:	Technologies supporting knowledge transfer, communication and cooperation:
■ Intranet ■ Knowledge maps ■ Semantic analysis ■ Structured document analysis ■ Full text retrieval ■ File management systems	■ White boarding ■ Net conferencing ■ Discussion groups ■ Real-time messaging ■ E-mail ■ Shared files

Source: MOCURIS

(2) Core Knowledge Activities

KM Life Cycle Model according to Probst



Probst et al., 2003)

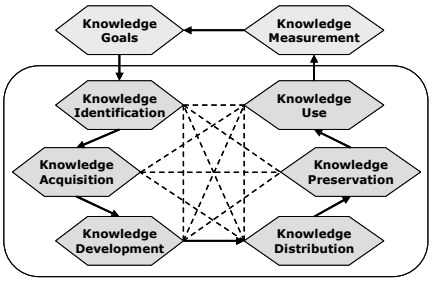
KM Life Cycle Model

- Developed by action research
- Defines several knowledge-related activities on strategic and operational level
- The activities constitute the management tasks of KM
- Support for locating KM problems and searching for solutions

Probst et al., 2003)

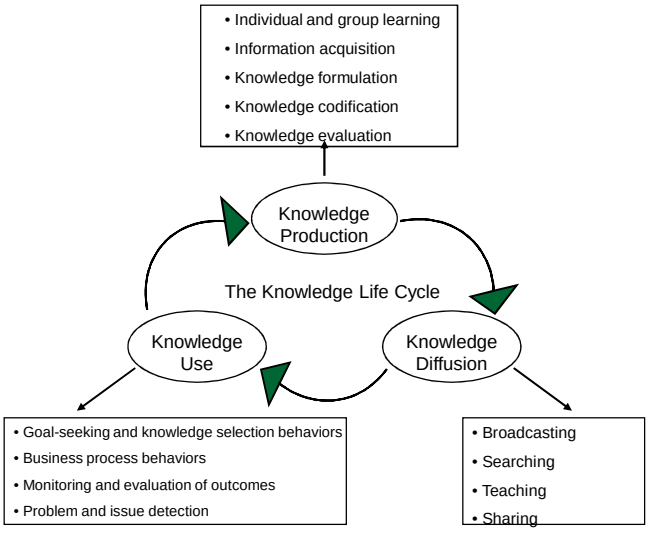
Core Knowledge Activities

- creation, building, anticipation or generation
- acquisition, appropriation or adoption
- identification, capture, articulation or extraction
- collection, gathering or accumulation
- (legally) securing
- conversion
- organization, linking and embedding
- formalization
- storage
- refinement or development
- distribution, diffusion, transfer or sharing
- presentation or formatting
- application, deploying or exploiting
- review, revision or evolution of knowledge



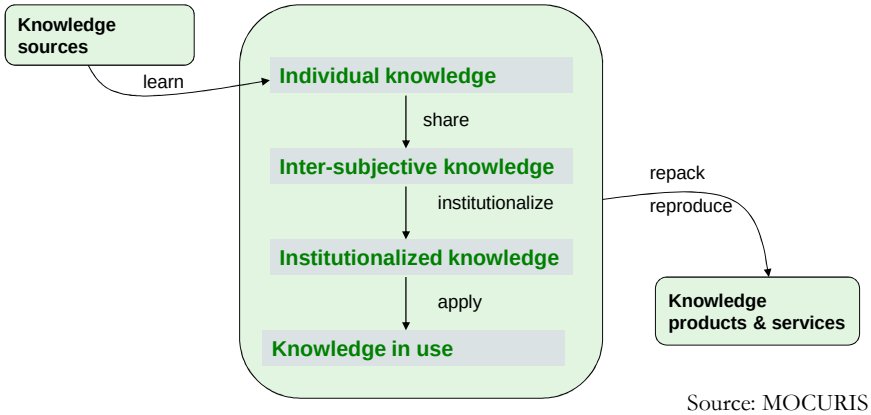
(Maier, 2004)

Further Knowledge (Life) Cycle Models



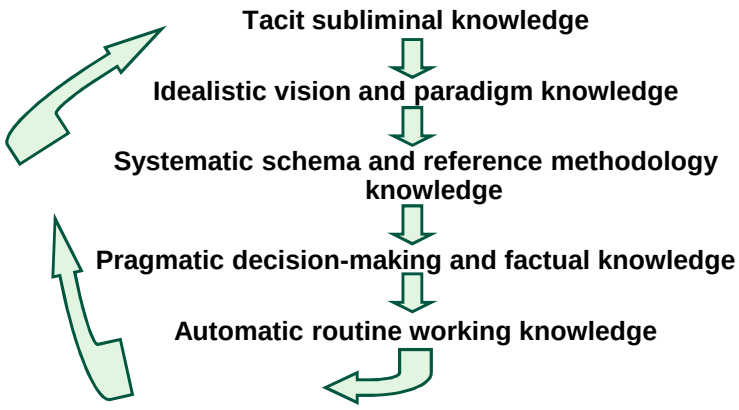
source: McElroy 2002

The knowledge life cycle in organizational learning processes



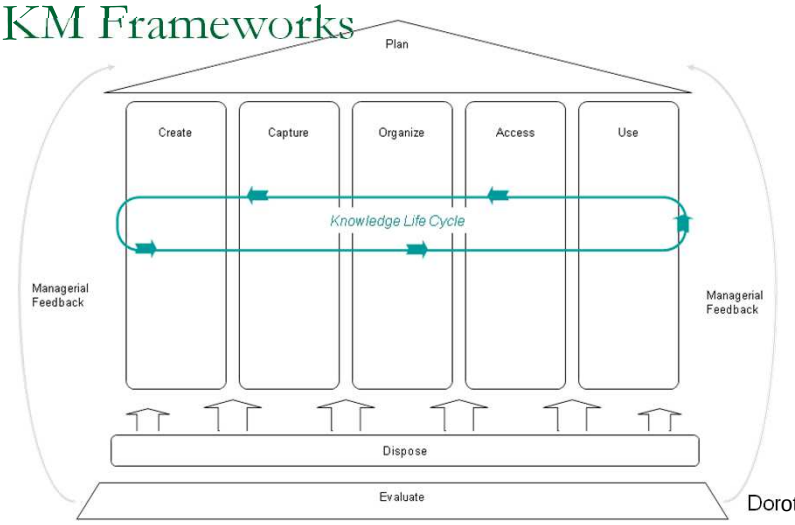
Source: MOCURIS – MOdern CURriculum in IS

Personal knowledge evolution cycle



Source: MOCURIS – MOdern CURriculum in IS

Integration of the Knowledge Cycle in KM Frameworks

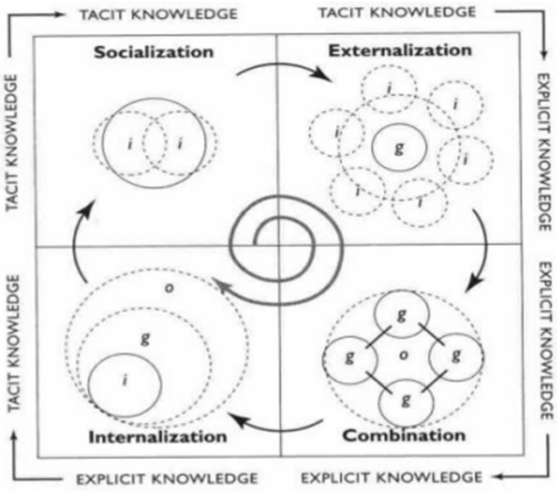


Dorothy Russel

(3) Basic KM Concepts and Views

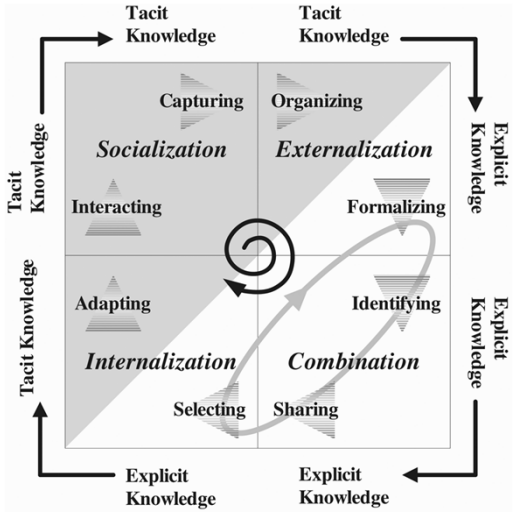
- SECI model
- Sense-making KM model
- Knowledge market concept
- Process oriented KM

The SECI model

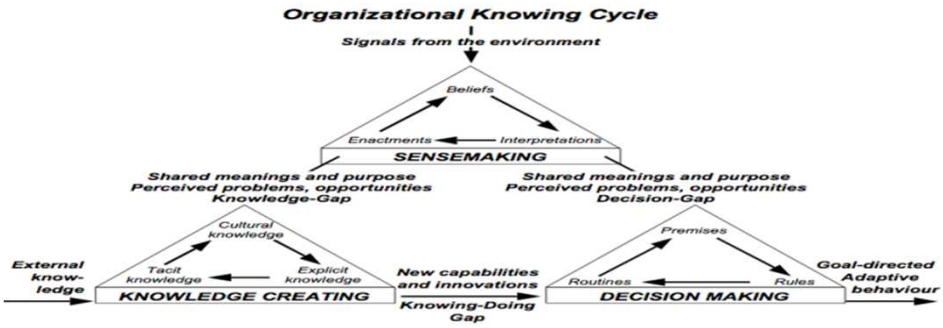


(Nonaka and Takeuchi 1995)

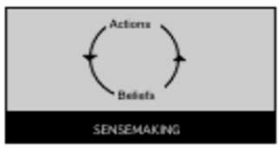
SECI Model (Nonaka & Takeuchi, 1996)



Sense-making KM model (Choo 1998)



Sense-making KM model (cont.)

Model	Process	Dynamic
SENSE-MAKING	Environmental change—> Enactment, selection, retentic Enacted interpretations • Belief-driven processes • Action-driven processes	

Sense Making Model (Choo, 2002)

Knowledge Market Concept

A market is a location – real or virtual – where buyers (demand-side) and sellers (supply –side) interact to trade goods.

The knowledge market model is a holistic concept for practically implementating Knowledge Management. It is an outcome of action research within firms.

The main idea is the creation of an organization-wide, internal market based on the fact that knowledge has a value and is a limited resource.

Buying and selling of knowledge shall promote cooperation and knowledge exchange.

Knowledge Market

Preconditions

- Anchoring the value and importance of knowledge in the corporate strategy and vision
- Explicit description of expected behaviour for management and operational staff
- Description of roles and competencies for all employees
- Remunerating cooperation as part of the incentive system

Actors & Rules

•Create the knowledge market by setting goals and providing a technical infrastructure

•Invite and activate „market players“

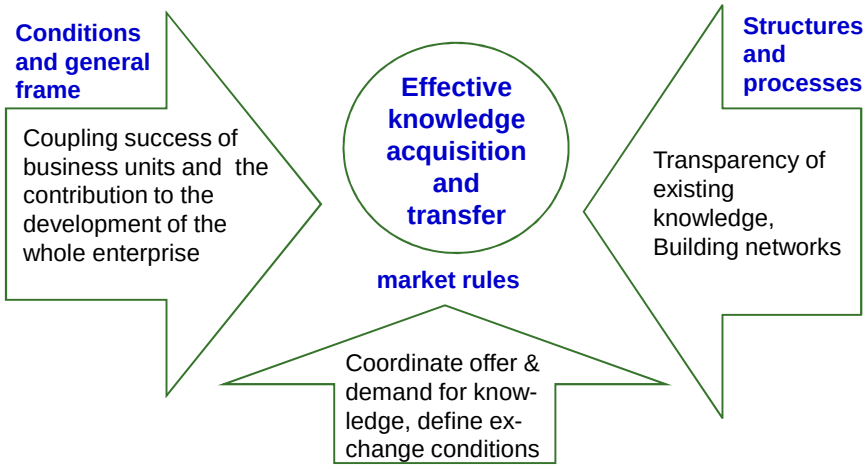
•Define and implement market rules (eg. Push or pull supply, buyer or seller market, price mechanisms, determining value of knowledge)

Instruments

- Integrating KM in workflows and processes (project or process oriented KM)
- Implementing media and appropriate organisational structures
- Implement IT infrastructure

comp. K. North

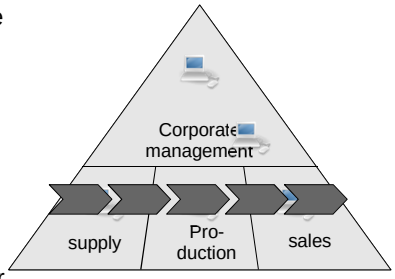
Conditions for a successful Knowledge Market



Process-oriented Knowledge Management

Organisations are seen from the **perspective of core processes**

- A **Business Process** is a collection of activities that takes one or more kinds of input and creates an output that is of value to the customer. A business process has a goal and is affected by events occurring in the external world or in other processes (Hammer & Champy, 1993)
- **Business Process Management** (BPM) is a management discipline responsible for modeling, controlling, supervising and improving the core processes of a firm.



Business Process Management

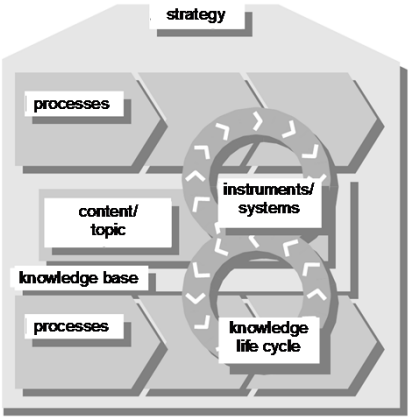
Business process management (BPM) has been referred to as a "holistic management" approach to aligning an organization's business processes with the wants and needs of clients.

It promotes business effectiveness and efficiency while striving for innovation, flexibility, and integration with technology.

BPM attempts to improve processes continuously. It can therefore be described as a "process optimization process."

Process Types

- knowledge-intensive (operative) business process (core process)
  - denotes a business process that relies substantially 'more' on knowledge regarding organizations core competencies on the operative level: e.g., design products and services, produce products and services.
- knowledge process
  - refers to a dedicated service or support process which supports the flow of knowledge within and between knowledge-intensive (operative) business processes: e.g., search, acquisition.
- knowledge management process
  - kind of a 'meta'-process that is responsible for the extensive implementation of the knowledge management initiative: e.g., organizational instruments, ICT instruments, controlling.

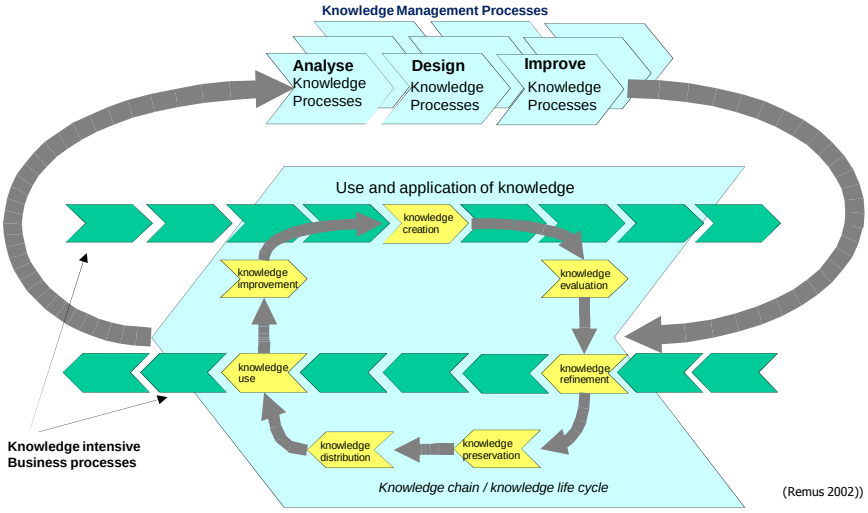


(Remus 2002)

The Challenge: Key process classes

- Managing knowledge-intensive business processes
  - Which specialized knowledge is required by the business processes ?
  - How to capture process-related knowledge?
- Managing knowledge management processes
  - How to support business processes?
  - How to improve knowledge activities?
- Implementing knowledge management projects
  - How to plan and implement knowledge processes?
  - How to integrate business and knowledge processes?

Process-oriented Knowledge Management



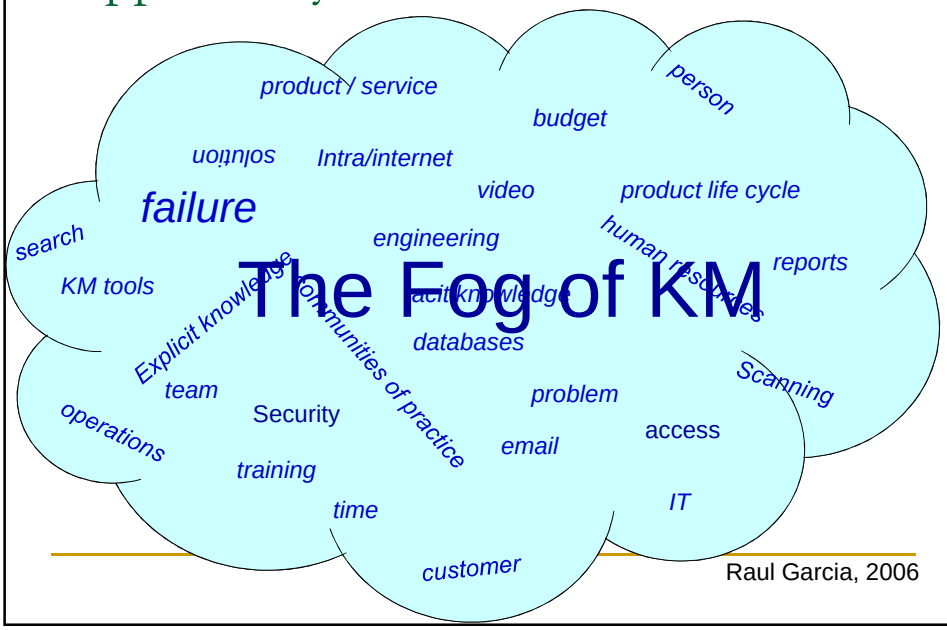
(Remus 2002))

(4) KM Frameworks

Why KM Frameworks?

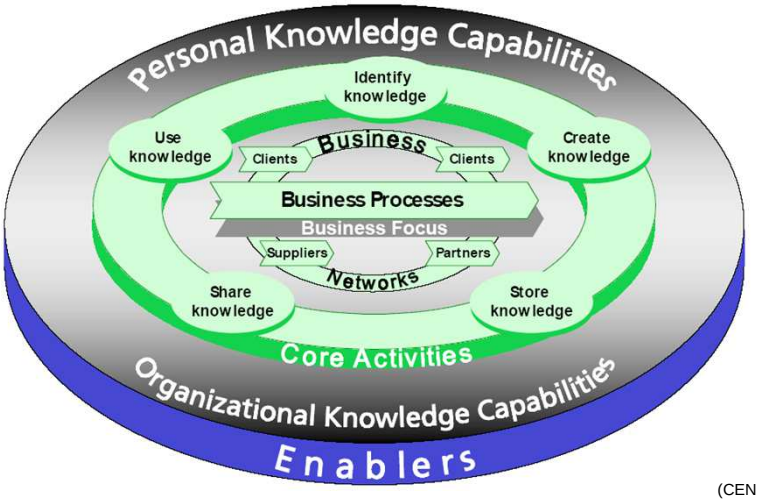
- The ultimate goal of KM ... planned and systematic use of knowledge in organisations that should lead to benefits or organizational efficiency
- **Roles of KM frameworks**
  - **Description**: Which tasks are covered by KM? Typical functions, best practices …
  - **Explanation**: How is new knowledge created? Are there any regularities or laws? Which factors support or hinder knowledge sharing between people?
  - **Design / Implementation**: How shall KM be implemented in practice?

Opportunity !



Raul Garcia, 2006

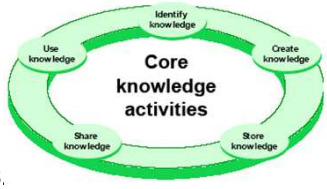
Knowledge Management Framework



(CEN 2004)

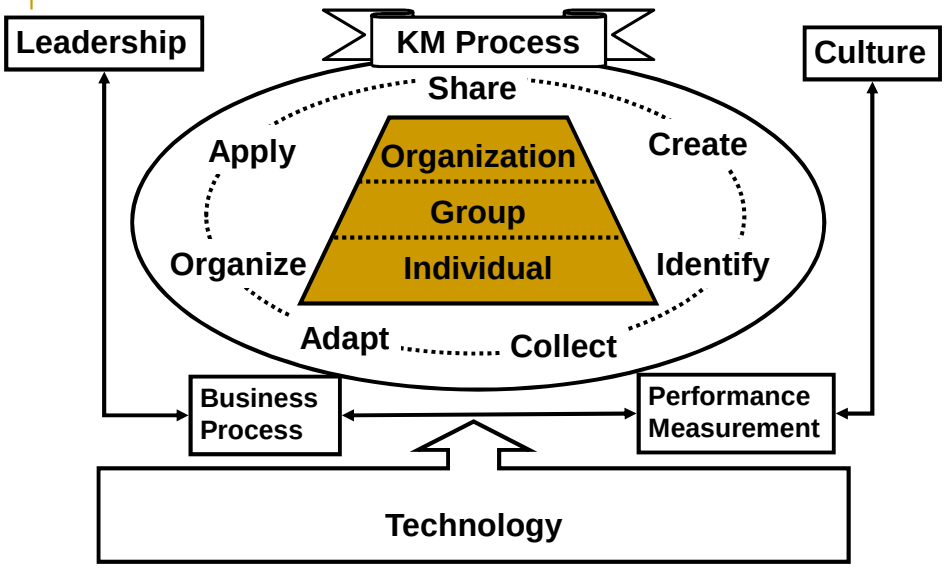
Knowledge Management Framework

- Two important requirements have to be fulfilled to achieve improvements from these core knowledge activities:
  - First, the core activities have to be aligned or integrated into the organizational processes and daily tasks.
  - Second, the core activities have to be carefully balanced in accordance with the specificities of each business process and organization. A KM solution should not focus only on one or two activities in isolation.



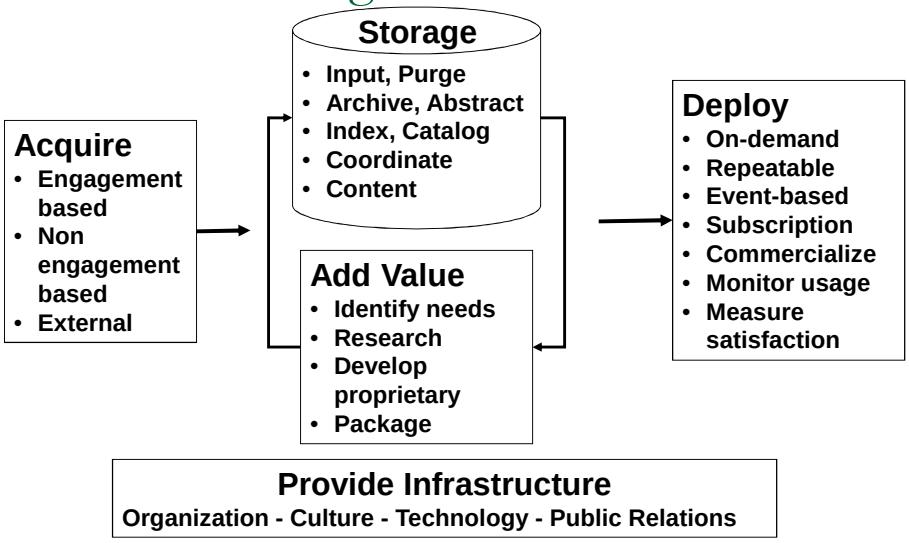
(CEN 2004)

Organizational Knowledge Management Model



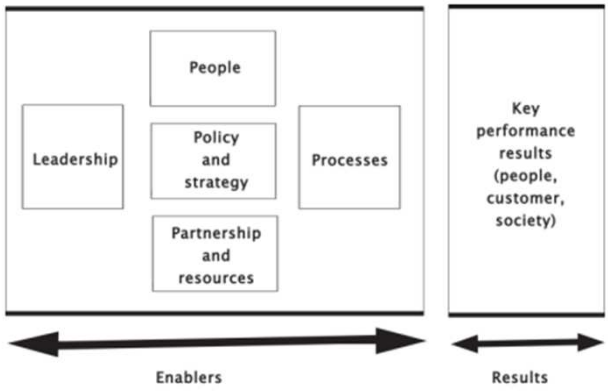
Source: Adapted from Arthur Andersen and the American Productivity and Quality Center

Ernst & Young's Framework for KM



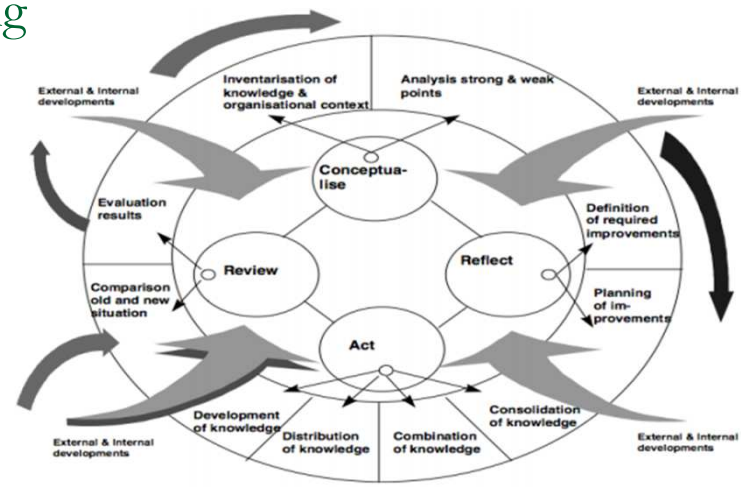
Source: Ernst & Young, and "A Note on Knowledge Management," Harvard Business School 9-398-031, 1997

EFQM Knowledge Management Model



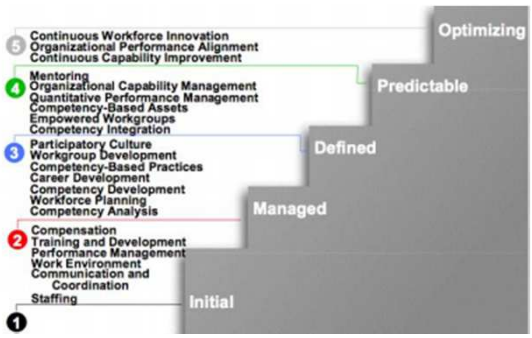
Major components of the EFQM KM model (Dalkir, 2011)

Knowledge management task model by Wiig



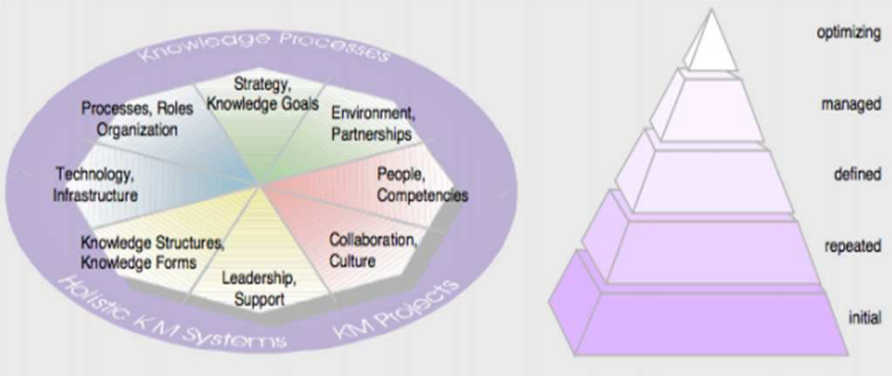
Wiig et al. (1997)

KMMM – Knowledge Management Maturity Model



Process areas of the Capability Maturity Model (Curtis, Hefley & Miller, 2001)

Structure of the KMMM Model



Analysis Model

Development Model

(Ehms & Langen, 2002)

(5) Summary

KM concepts – current state

- Inflation of KM „approaches“
- No prevailing utilisation of KM approaches neither in practice nor in academia
- No common understanding and terminology
- No or only partial empirical validation

But:

- There is a clear demand for a holistic or integrated and standardized approach

Demand for an integrative or standardized KM approach

- Demands from practice
  - General orientation and framework for practical issues
  - Situative selection of appropriate methods, measures etc
  - Support of good / best practice
- Demands from research
  - common framework
  - Cumulative research
  - Closing gap between theory and practice

The Managerial Perspective

People only see what they are prepared to see

Emerson

Recommended readings

- Kimiz Dalkir, (2005), Knowledge Management in Theory and Practice , Burlington/Oxford
- Lehner, F. (2007): Tacit Knowledge Management (T-KM): The Hidden Agenda of Knowledge Management. In: Tochtermann, K., Maurer, H. (Eds.): I-KNOW´07, Conference Proceedings, Graz 2007, pp. 497-502.
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- Heisig P. (2009). Harmonisation of knowledge management - comparing 160 KM frameworks around the globe. J. Knowledge Management 13(4): 4-31.