Lecture 01:

Introduction to Corporate Knowledge Management (KM)

Learning objectives

Students should

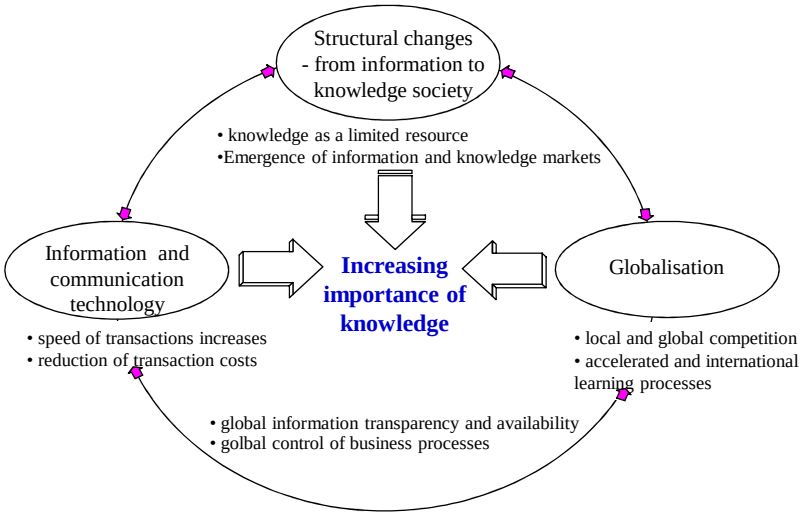
- be able to explain what led to the raise of knowledge management as a new management discipline and also the driving forces
- understand the relationship between information and knowledge and be able to give examples of knowledge intensive products and processes
- be able to differentiate between the organizational and the technological perspective and also their relationships
- have the ability to explain expectations, hopes and barriers related to KM
- know different definitions of KM and their intentions
- be familiar with the multi-perspectivity of the discipline
- be able to explain the emergence of the discipline and also the main differences between technological and human orientation in KM as well as the different demands by research and practice

Content

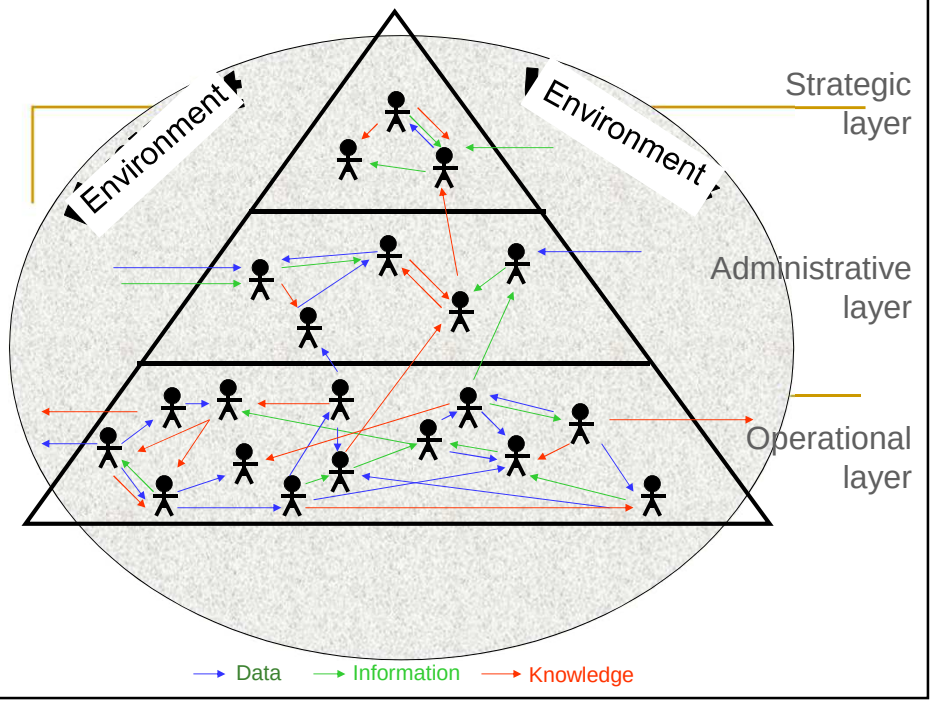
- Introduction and preliminary remarks
- Knowledge Management as a response to new challenges for business
- What is Knowledge Management (KM) about? - Definitions and perspectives
- KM as an emerging discipline
  - Historical view – Roots of KM
  - Conceptual view
  - Managerial view – operational perspective
  - Academic view – research perspective
- Summary

(1) Introduction and preliminary remarks

Driving forces in modern business



source: K. North



Knowledge as key resource

"*Knowledge has become the key resource, for a nation's military strength as well as for its economic strength… is fundamentally different from the traditional key resources of the economist – land, labor, and even capital…we need systematic work on the quality of knowledge and the productivity of knowledge… the performance capacity, if not the survival, of any organization in the knowledge society will come increasingly to depend on those two factors*"

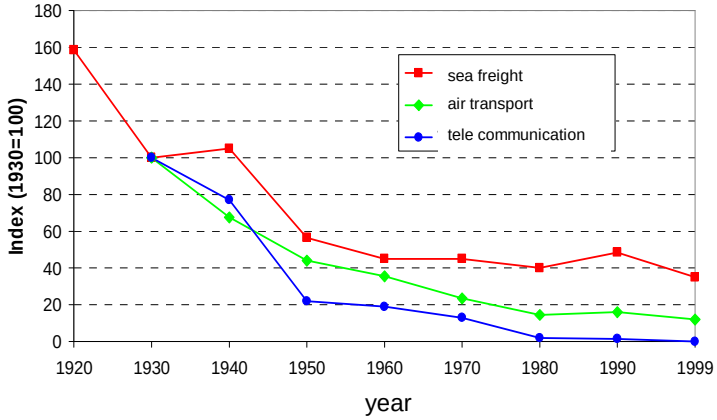
[Drucker,1994]

Knowledge assets may produce long-term sustainable competitive advantage

- **High-technology firms:** Production of knowledge intensive materials and goods. Automobile industry; machine construction; regulation and measurement technology, chemistry etc.
- **Use of new knowledge in product design and creative work processes.** Eg. research, engineers
- **Information- and media industry: Transformation of knowledge into knowledge goods.** Software; databases; radio and TV; culture
- **Transaction oriented enterprise services: Organisation and management of firms' transactions.** Consultants; financial services; insurances

IRS, Kujath / Zillmer

Costs of transport and communication have sunk constantly



Busse (2001), Transaktionskosten und Wettbewerbspolitik

The „information explosion“, about which so much has been said and written is to great extend an explosion of misinformation and badly organized information. ... The digital revolution has only made the problems more acute.

Murray Gell-Mann, „Information versus knowledge and understanding“
(found in Davenport, Th. H., Information Ecology 1997, 3)

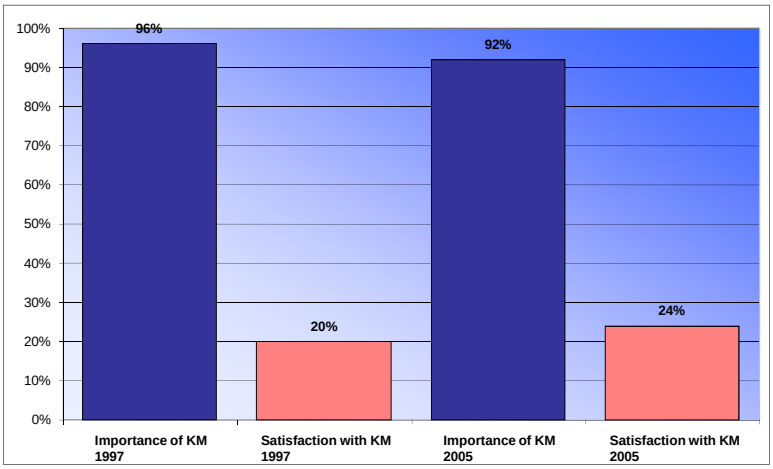
Challenges in modern Business

- Continuous Change and Need for systematic Management of Change
- Still growing Importance of Information and knowledge
- Need for Improving Organisational Efficiency

How do organisations react?

- Adaption of organisational structures
- Process orientation
- Changes in Corporate Culture
- Use of “Management Techniques”

Gap between expectation and practice



Comparison of two KM studies (Fraunhofer Institute 1997 and 2005)
Results from a survey among managers

Knowledge Management: Great Concept ... But what is it?

Article by Jeff Angus of InformationWeek Labs, and Jeetu Patel and Jennifer Harty of Doculabs

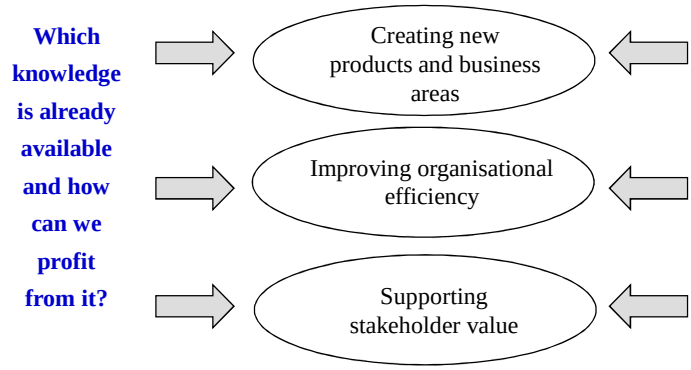
InformationWeek, March 16, 1998

(2) Knowledge Management as a response

What is Knowledge Management?

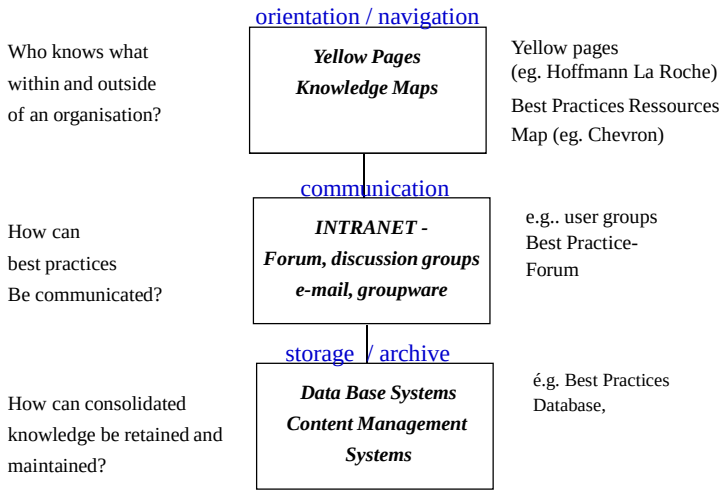
- Knowledge management (KM) may simply be defined as *doing what is needed to get the most out of knowledge resources*.
- In general, KM focuses on organizing and making available important knowledge, wherever and whenever it is needed

Key questions of knowledge-oriented management – organisational perspective

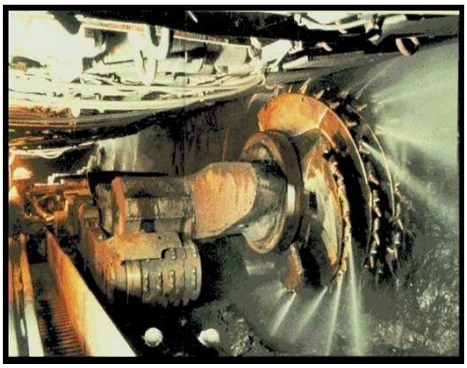


source: K. North

Key questions of knowledge-oriented management – technological perspective



Example: Saarberg Inc – Experience Management Electronic failure documentation system



The case:

- Coal mining is done with the help of complex and expensive machines
- Technical failures lead to a stop of the production and high costs
- Repairing and maintaining the complex systems requires much experience
- Each failure leads to new experiences

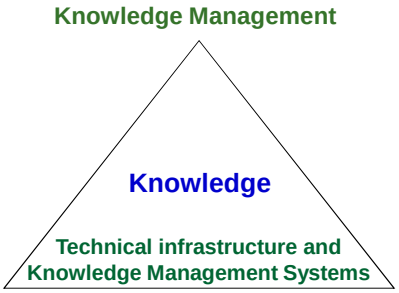
The challenge:

- Exchange of experiences between shifts
- Use and reuse of existing experiences in simulare failure situations (experience sharing)

source:DFKI GmbH

Knowledge Management (KM) …

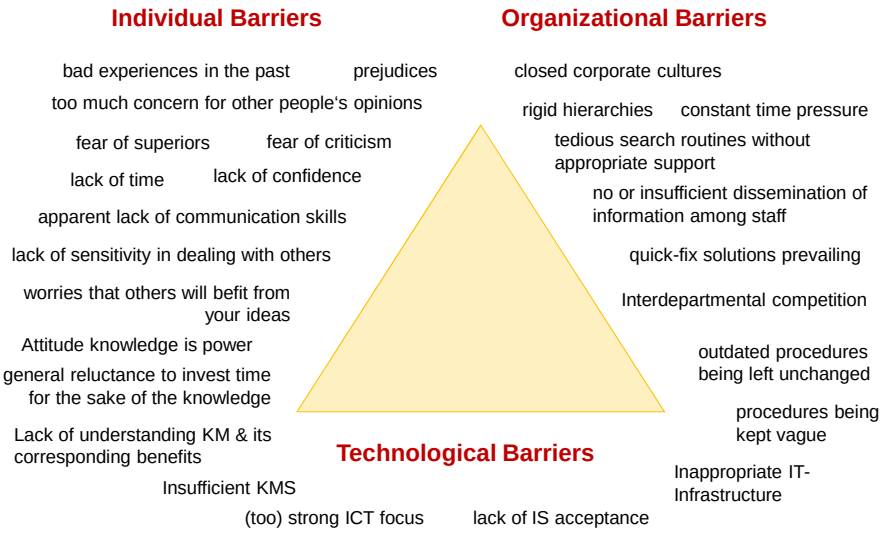
- … is a systematic management approach and a complex discipline, aiming to optimize knowledge processes, in order to improve an organisation´s ability to improve process performance, foster innovation, support change management and organisational learning etc.



A long list of expectations, hopes ... associated with Knowledge Management (KM)

- Time to market, reduce cycle times
- Generating revenues
- Support cost reduction
- Improve or support customer relationship (CRM)
- Generate innovations, new products
- Improve organisational efficiency/performance
- Increase productivity
- Support organisational learning
- ...

Barriers to KM



(3) What is Knowledge Management (KM) about? - definitions and perspectives

The Knowledge Dimension

- *Knowledge* is confident understanding of a subject, potentially with the ability to use it for a specific purpose.
- It can be described as the ability to perform a certain task or to solve problems.

At the moment, it is less important to define knowledge precisely than it is to achieve some understanding of how work gets done. The nature of "productive knowledge" is to guide work.

Productive knowledge is therefore situated, context dependent, embedded – in physical, temporal and social work contexts at various levels, partly tacit

Knowledge Management - Definition

"*Knowledge management is defined as the management function responsible for the regular* ***selection, implementation and evaluation of goal-oriented knowledge strategies*** *that aim at improving an organization's way of handling knowledge internal and external to the organization in order to* ***improve organizational performance.*** *The implementation of knowledge strategies comprises all* ***person-oriented, organizational and technological instruments*** *suitable to dynamically optimize the organization-wide level of competencies, education and ability to learn of the members of the organization as well as to develop collective intelligence.*"

(Maier 2002)

More definitions …

[Hedlund, 1994]	[Davenport and Prusak, 2000]	[Swan, et al., 1999]
KM addresses the generation, representation, storage, transfer, transformation, application, embedding and protection of organizational knowledge.	KM is the process of increasing the efficiency of knowledge markets by generating codifying, coordinating and transferring knowledge.	KM is about harnessing the intellectual and social capital of individuals, in order to improve organizational learning capabilities.

"Planned and ongoing ***management of activities and processes for leveraging knowledge*** *to enhance competitiveness through better use and creation of* ***individual and collective knowledge resources****." (CEN 2004)*

Multiple perspectives of KM

(1) KM as part of the strategic goals

(2) KM as management of human or intellectual capital (IC), intangible assets

(3) Customer oriented KM

(4) KM as knowledge communication and Best-Practice-Sharing

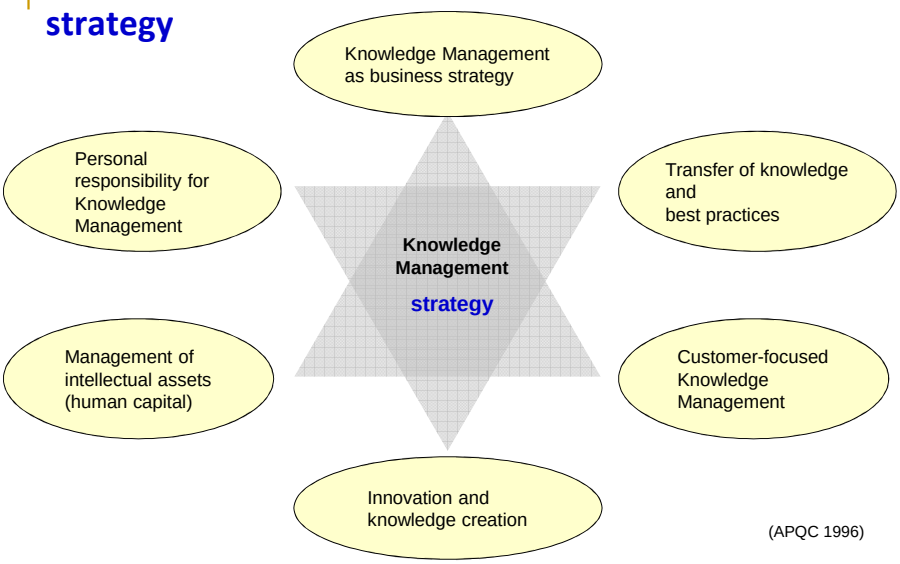
(5) KM as enabler for innovation and generation of new knowledge

(6) Institutionalised KM with role concepts and personal responsibilities

....

-> Situation requires a great variety of reactions or activities

Control and coordination of KM activities by the KM strategy



(APQC 1996)

- **Knowledge management as a business strategy:**
  - most comprehensive and enterprise approach to knowledge management
  - belief that knowledge and KM is central to the ability to grow and compete
  - knowledge is seen as a product; conviction that KM will have a significant and direct impact on the profitability and viability of the enterprise
  - firms pursuing this strategy mostly align their KM strategies closely with the other major directions of the enterprise

- **Transfer of knowledge and best practice:**
  - key strategy: transfer not only has tremendous intuitive appeal and face validity but also leads to rapid, demonstrated successes
  - focuses on systematic approaches to knowledge reuse and transfer for best practices and knowledge to where companies can use them to improve operations or include them in products and services
  - documentation of a practice does not itself produce transfer, but the importance of teams, relationships, and networks is the basis for effective transfer
  - various approaches in this strategy: the learning organization, networking, practice centers and communities of practice, and lessons learned

(APQC 1996)

- **Customer-focused Knowledge Management:**
  - focuses on capturing knowledge about customers, developing and transferring knowledge and understanding of customers' needs, preferences, and businesses to increase sales, and bringing the knowledge of the organization to bear on customer problems
  - belief that if a company could make their customers successful, their own success would be secured as well

- **Innovation and knowledge creation:**
  - emphasizes innovation and the creation of new knowledge through basic and applied research and development
  - example: NSA set aside a multi-million-dollar annual funding pool for high-risk research and development to provide a simple, fast, and streamlined process for sponsoring exploration of technical innovation

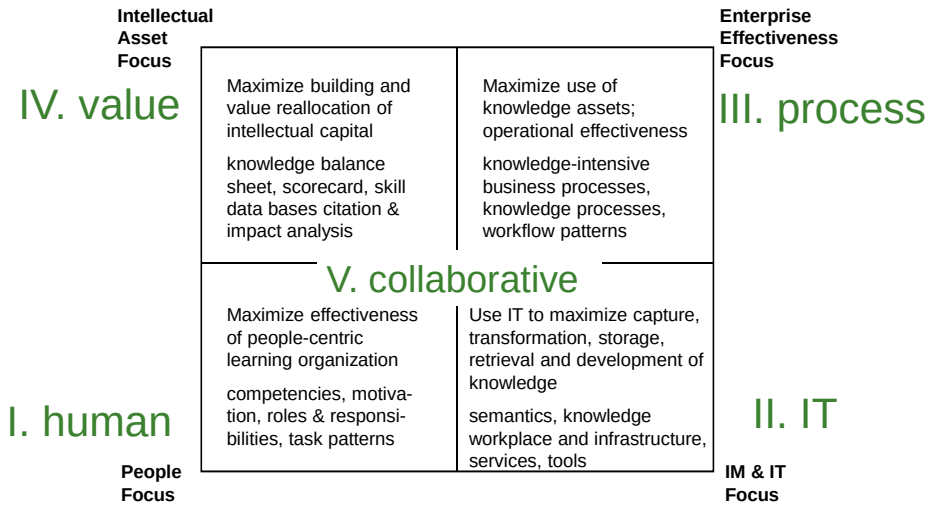
(APQC 1996)

- **Management of intellectual assets (human capital):**
  - emphasizes enterprise-level management of specific intellectual assets such as patents, technologies, operational and management practices, customer relations, organizational arrangement, and other structural knowledge assets
  - management focus may center on renewing, organizing, evaluating, marketing, and increasing the availability of these assets

- **Personal responsibility for Knowledge Management:**
  - belief that people are the engine of knowledge and should be supported as such, and that individuals are personally responsible for identifying, maintaining, and expanding their own knowledge as well as understanding, renewing, and sharing their knowledge assets
  - reasons for this strategy: perception of the value of having employees who are broadly knowledgeable and able to perform competent work, and the understanding that successful development of knowledge in individuals cannot be micromanaged and must be done by the individual
  - strategy is in line with the emerging paradigm that employees are the ultimate source of new knowledge in a firm and that they are responsible for their own knowledge development

(APQC 1996)

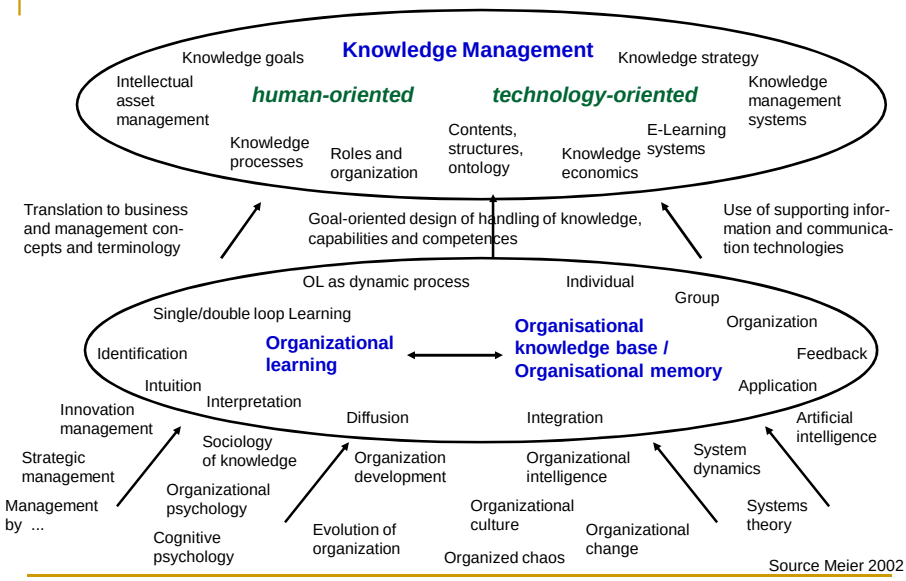
Multiple perspectives of multiple perspectives …



Wiig 1999

(4) KM as an emerging discipline

Roots and history of KM



Source Meier 2002

Human-oriented vs technology-oriented KM approaches

	human-oriented	technology-oriented
knowledge management approach	personalization	codification
comprehension of knowledge	knowledge is contained in peoples head	documented knowledge; detached from employees
actors/roles	knowledge worker, networks, and communities of interest	authors, experts, knowledge broker
knowledge managements systems (KMS)	interactive knowledge managements systems	integrative knowledge management systems
prior knowledge management system functions	communication and co-operation, locating of experts, community-support	publication, structuring and integration, search, presen-tation and visualization of knowledge elements

Knowledge-related Tasks and Tool Support

Human- & structure-oriented "Tools"

- Mentoring
- Open Space
- Job Rotation, Job Enlargement
- Career Planning
- Team Development
- Simulation Games
- Future Search Conference
- etc.

Knowledge Related Tasks

- 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

Source: (Maier, 2004)

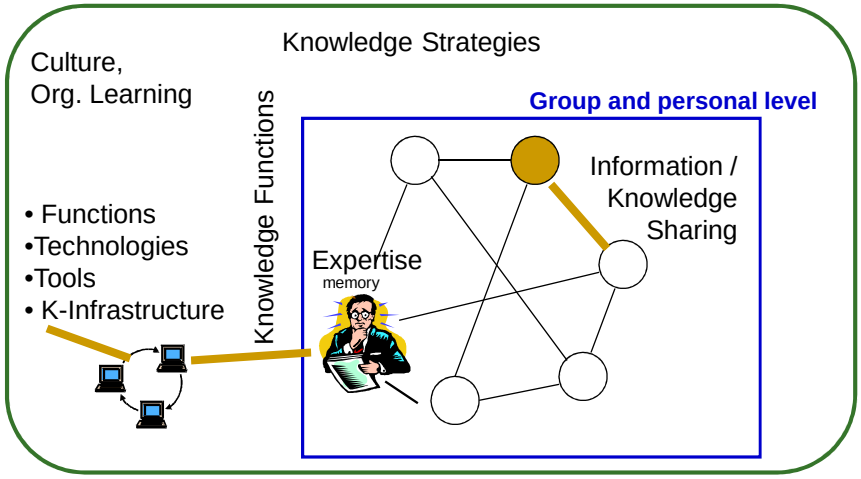
IT-Tools (technical)

- Document Management
- E-Mail
- CSCW
- Search
- Data Mining
- List-Server
- Multi-Point-Videoconference
- News-Channel / News-Feed
- Application Sharing
- Social Software
- etc.

Managerial View – Operational KM Perspective

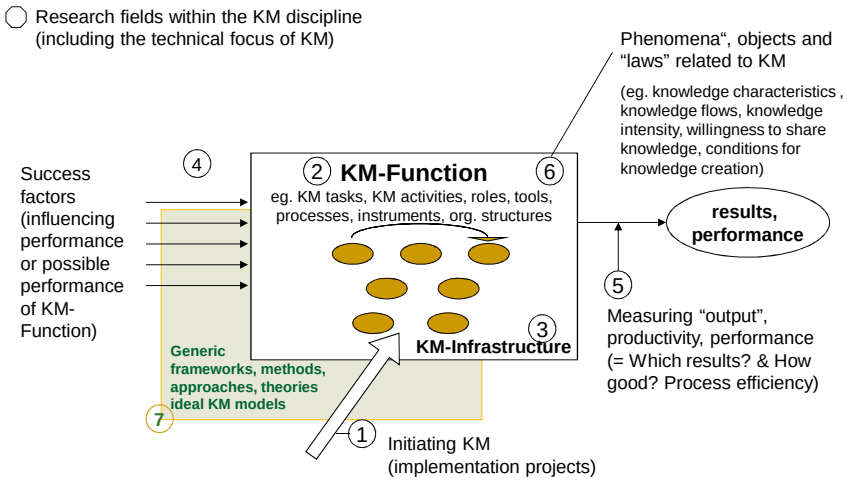
design, implementation and supervision of KM activities

Corporate level



Academic View – Research Perspective

Survey, investigation and KM-related creation of insights

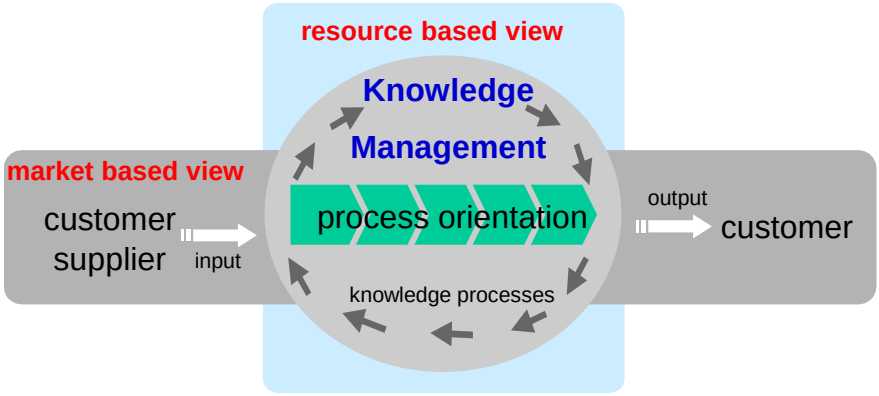


(5) Summary

Knowledge Management for Everybody?

- KM is important for all organizations (profit and non-profit)!
- Today's decision maker faces the pressure to make better and faster decisions in a dynamic environment characterized by a high domain complexity and market volatility
- Knowledge management provides distinct support of knowledge creation, storage and retrieval, knowledge transfer, and knowledge application

Shift of paradigm - towards a knowledge based view (KBV) of the firm



Meanwhile there is a “Knowledge-based View” in the literature of strategic management – mostly as a subset of the “Resource-based View,” arguing that knowledge is the key resource of the firm conferring competitive advantage. Some speak of a ‘competence’ view or a ‘capabilities’ view.

Demand for an integrative or standardised 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
  - Unified (integrated) approach or framework
  - Cumulative research
  - Closing gap between theory and practice
  - ....

Forces Driving Knowledge Management

- **Increasing Domain Complexity:** Intricacy of internal and external processes, increased competition, and the rapid advancement of technology all contribute to increasing domain complexity.
- **Accelerating Market Volatility:** The pace of change, or volatility, within each market domain has increased rapidly in the past decade.
- **Intensified Speed of Responsiveness:** The time required to take action based upon subtle changes within and across domains is decreasing.
- **Diminishing Individual Experience:** High employee turnover rates have resulted in individuals with decision-making authority having less tenure within their organizations than ever before.

Source: Becerra-Fernandez, et al.

All the value of this company is in its people. If you burned down all our plants, and we just kept our people and our information files, we should soon be as strong as ever.

Thomas Watson, Jr. Former chairman of IBM

Recommended readings

- McEvily S, Chakravarthy B, (2002). “The Persistence of Knowledge-based advantage: an empirical test for product performance and technological knowledge”, *Strategic Management Journal*
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- Nonaka, Ikujiro; Takeuchi, Hirotaka (1995). The knowledge creating company: how Japanese companies create the dynamics of innovation. New York: Oxford University Press
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