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EXECUTIVE SUMMARY

This document contains deliverable D1.1 of the IST project European KM Forum – European Knowledge Management Forum. The objective of the Network is to establish a well co-ordinated and effective support infrastructure throughout Europe in order to share and exchange the latest developments in the Knowledge Management domain.

This is the first of two tasks in Work Package 1 – Strategies and Visions. The objectives of this work package are to analyse current Knowledge Management practices and results in research and industry, in order to develop knowledge maps of the Knowledge Management landscape in Europe.

The second release of deliverable ‘D1.1 KM Framework’ bases on the first release of D1.1, which described the initial concepts for collecting, structuring and presenting the information. The concrete output of the first deliverable was the collected information in form of abstracts, descriptions, results, contact points, hyperlinks. In other words it provided with an initial overview of the European KM Landscape.

This second release document focuses on **establishing a common terminology and a common KM framework**, thereby defining the basis for ‘**KM made in Europe**’. Refinement of initial postulated ideas came mainly from numerous workshops and online interaction at different occasions.

The task 1.1 identified is to be completed at the end of the project, project month 36.

The task is carried out by IAO, AtosOrigin and Ibermatica and is supported by all nodes of the European KM Forum who contribute by providing information about KM projects.

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1 INTRODUCTION

The task 1.1 – European KM Framework - of the EKMF project is part of Workpackage 1 “Strategies and visions”. It is focused on the collection of current KM practices to create an almost complete overview about the KM domain in Europe. The **main target is, to develop a KM framework in Europe.**

This work is the basis for further activities of WP2 “KM application models”, WP3 “KM implementation approaches” and WP5 “KM portal” since it provides basic contents for these and establish a clear framework to co-ordinate future activities.

The results of this work are:

- an **overview** on existing KM frameworks and KM definitions (terminology)
- **structuring** and **comparison** of existing KM terminology and frameworks
- build up of **common ‘KM made in Europe’ terminology**
- first **visualisation** of a common KM terminology
- reflection of **feedback** from the European KM community
- build up of **common ‘KM made in Europe’ framework**
- **evaluation** and **modification** (through iterative cycles in the KM community) of common terminology and framework.

This document is divided in different chapters, of which the main ones are chapter four on terminology and chapter five on frameworks.

2 EKMF STANDARDISATION APPROACH

2.1 Goals of Common approaches in KM

Within the overall context – namely to support the industrial uptake and academic research in KM - the following requirements and goals for Common approaches, especially a KM framework in Europe have to be mentioned:

- To provide a holistic view of the KM domain (in the sense of ‘KM in a nutshell, what is KM, what is the mission/message and what are the typical elements’)
- To address all stakeholders in KM (SMEs, large organisations, consultants, academics, vendors, policy makers, etc.)
- To be based on broad consensus and give a neutral, non biased, and well accepted view on KM
- To address the information needs of KM beginners as well as the need for a point of reference for KM experts
- To provide recommendations and links for the first steps (where to start)
- To include a core KM terminology
- To represent the specific challenges and advantages of KM made in Europe
- To be able to hook in other existing and/or emerging KM standards
- To talk a simplistic and serious language
- To be short and comprehensive
- To be public domain.

2.2 Concept of European Common approaches in KM

Based on the above mentioned arguments, the European KM Forum sees the standardisation approach as a holistic approach involving a spectrum of standard levels for specific components of KM. The following figure shows the holistic standardisation approach of KM within the European KM Forum.

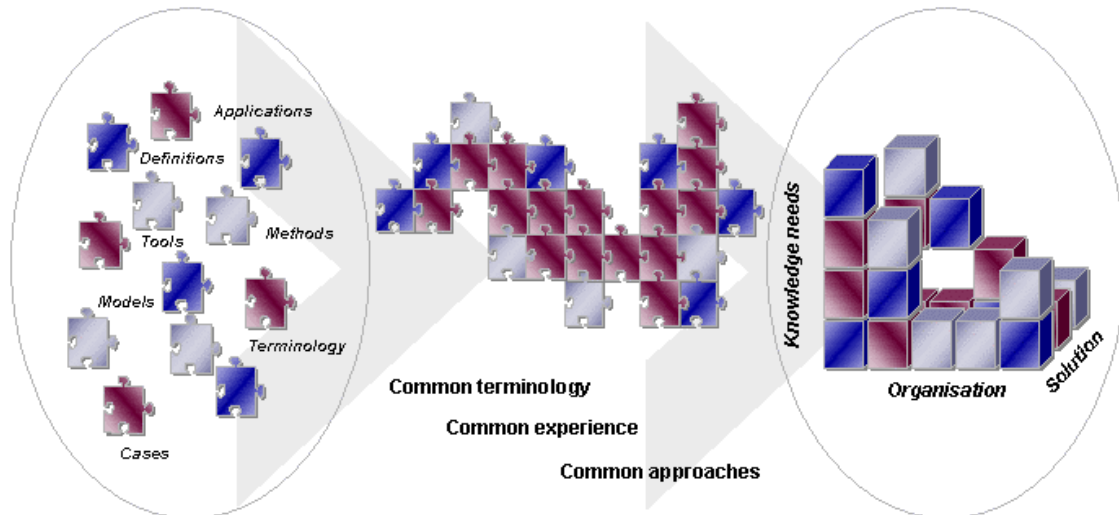


Figure 1: The way to common approaches

Due to the broad distributed, single solutions in different KM aspects of the field - representing a broad diversity of 'isles' of experience, competence - at this time (presented in the left side), some approach towards commonality seems to be relevant. In a first step of this holistic process, the most appropriate and relevant pieces are extracted and put together in a systematic, structured way to develop a common terminology based on common experiences leading to common approaches. This builds the KM framework. Out of this framework, guidelines and standards are built. Thereby different standards could be thought of for different components of the framework, like e.g. a EFQM-similar model for the holistic management approach, VDI guidelines for KM processes and CEN-ISSS workshop agreement for KM technology architectures. With this set of solutions, different organisations with various needs of knowledge will be able to solve their specific problems.

The overall process has to be considered as a holistic cycle, that is enriched every time by cycling through this process and is refined through the contribution of all involved partners, e.g. the European KM community as well as business and research partners.

How this work toward common approaches or even standards in KM will be realised is shown in the following figure, where the operational process of the European KM Forum is represented.

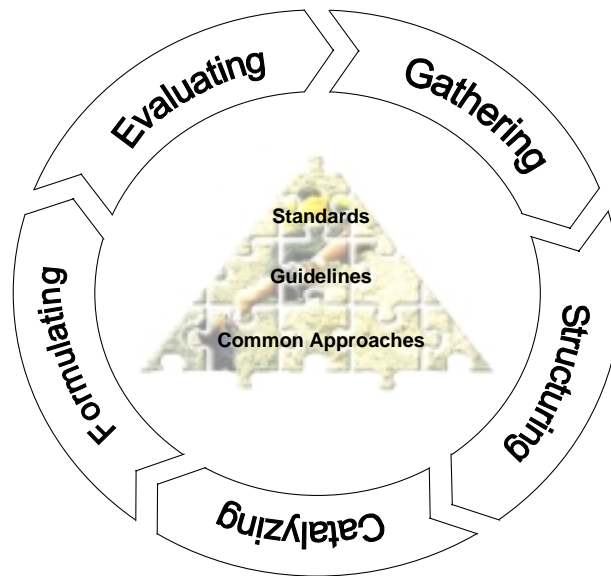


Figure 2: Cycle concept to European common approaches in KM

Gathering

The first step includes the research and state of the art about existing KM frameworks and terminology and the individuals, companies, institutes, bodies, etc. that are supporting or promoting this approaches to KM.

Structuring

Within the second step, all the gathered information about the KM framework and terminology will be clustered and structured. The result of this step is a clear overview over the KM frameworks and terminology according to a future common approach.

Catalysing

Step three uses the EKMF community infrastructure to catalyse the foregoing steps. The result consists of a common approach about the KM framework and terminology.

Formulating

The fourth step integrates both views on KM frameworks and terminology: The EKMF project team view and the community view on this subject. Out of this, the KM framework and terminology will be exactly formulated.

Evaluating

Within this last step of the common approach cycle, the KM frameworks and terminology will be validated, for example in the form of any type of standard or guideline, and the same cycle according to “common approaches” will be gone through.

3 WHAT DOES THE COMMUNITY THINK ABOUT THIS?

The following gives an overview on general results from workshops, meetings and comments. The detailed comments are integrated in the chapters on terminology and framework.

3.1 Brussels, 14th June 2001 ⁴

This workshop was carried out within the session on “Organisational Knowledge Management” at the European Commission’s IST Key Action II Concertation Meeting, 14 June 2001, in Brussels.

The workshop was attended by European KM experts from different organisations, in particular consultancies, research institutes and universities, industry and the European Commission.

Objective of the workshop was to collect the opinion of European KM experts about the development of common approaches and standards for KM. In particular, the workshop aimed to identify

- the most relevant issues for standardisation in KM
- the major areas of concern with respect to standardisation

The workshop participants emphasised with broad consensus the need for common approaches and standards for KM. A **common KM framework**, **common KM terminology** and **common KM implementation approaches** were considered as the most relevant issues for standardisation.

The relevance of standardisation for KM was hardly questioned. Consequently, it can be concluded that the concerns do not question the overall objective to develop standards for KM, but instead pinpoint the difficult issues which must be taken into account. In order to ensure the success of the standardisation process, the concerns must be considered by defining special counter measures from the beginning.

The usage of the term *standardisation* was discussed. It was felt that the term is somewhat too hard and bureaucratic for a soft subject like KM and that the term *common approaches* would be more suitable with respect to the character of the foreseen standards. However, it was also felt that the term common approaches leaves somewhat too much space for interpretation and does not communicate the standardisation aspect good enough. Thus, it was recommended to use both terms in parallel, i.e. to talk about *common approaches and standards* in order to achieve a balanced meaning.

3.2 Bremen, 19th June 2001 ⁵

This workshop was about the potential for standardisation of KM, held in Bremen and hosted by KoNuS - Bremen/Niedersachsen des BVMW (Kommission für Normung und Standardisierung im Landesverband Bremen/Niedersachsen des Bundesverband mittelständische Wirtschaft e. V.) and BIBA (Bremer Institut für Betriebstechnik und Arbeitswissenschaft and der Universität Bremen).

Participants were representatives of small and medium sized firms from the Bremen area. The participants of this workshop are partly strongly involved in the field of standardisation.

⁴ This text is based on the Workshop Report “Common Approaches and Standardisation in KM” written by Frithjof Weber and Jeroen Kemp

⁵ This text is based on „Workshop Bericht: Normungspotential des Wissensmanagement“ written by Frithjof Weber and Michael Wunram

Objective of the workshop was to introduce representatives from SMEs to the topic of KM. Another objective was to ask organizations for their opinion on standardization⁶ of KM.

In detail the following issues were discussed:

- Which elements are most relevant to be standardized first
- What concerns regarding standardisation in the field of KM are present.

The representatives of the workshop have overall emphasised the need for KM standardisation. As the topic of KM is unknown territory for small companies, they especially expect a clear guidance and orientation in this very broad and softly defined field. The biggest need was identified within the area of standardizing the **terminology**, in order to provide a coherent picture of the domain. Concerns in standardization were identified especially regarding the limitation of creativity, flexibility and effort.

3.3 Venice, 17th October 2001 (EBEW)⁷

This workshop was carried out at the E-Business and E-Work Conference, 17 October 2001, 17:30 – 19:00 in Venice, Italy. The workshop was attended by people with interest and/or expertise in KM coming from different organisations, in particular consultancies, research institutes and universities, industry and the European Commission.

The workshop participants emphasised with broad consensus the need for a **common KM framework**, that will reflect *an interdisciplinary approach* towards knowledge management.

Next to the different objects, that a common KM framework will consist of, the participants stated key characteristics for the framework. The statements pointed out especially aspects like ease of use, simplicity as well as recognition and quality .

One of the most important results from the workshop session is the fact, that on one side, there are many deviations between individuals concerning the content of such a framework and that on the other side the overall areas named are rather consistent with existing frameworks in Europe. While comparing the given answers as well as the discussion, it can be said, that the participants stated some aspects, that have not been considered in the first draft (of the European KM framework as proposed by the EKMF) yet and need to be considered for the refinement, e.g. the emphasis on different views and specific characteristics like ease of use.

3.4 Den Haag, 29th November 2001 (KM Europe)⁸

The European Commission Information Society Directorate-General's team responsible for Knowledge Management within the New Methods of Work and Electronic Commerce programme brought together key members of the Information Societies standardisation field on the last day of the KM Europe 2001 conference to discuss how best to work together to promote KM standardisation initiatives.

⁶ The use of the word 'standardisation' contains here also especially soft standards like guidelines, framework, etc. (compare e.g. VDI-Richtlinien)

⁷ This text is based on "Workshop Report: Towards a common KM framework in Europe", written by Marc Pudlatz, Bernd Bredehorst and Jeroen Kemp

⁸ This text is based on "KM Standards – What Next? Report from the Meeting held at KM Europe 2001", written by Paul Hearn, Anne Jubert (EC – IST) and Martin Bryan (Diffuse)

Some 30 participants attended. 5 participants issued position papers and a lively discussion ensued on the subjects of content for KM standardisation, main players who should be involved in a KM standardisation process, and which should be the next steps.

It was felt that any projects must have **measurable impact**. They must concentrate on the **promotion of good methods, suitable for adoption by companies of any size**. The work needs to have **management buy-in from SMEs, large companies and interested administrative bodies**. It should seek to record the **success factors of KM projects** developed by early adopters in such a way that they can be capitalised on by later adopters.

It is important to manage expectations as to ambition of such an exercise. Are we aiming at full standardisation or identification and promotion of good practices? It was suggested that actors involved in the KM standardisation process should include some or all of the following (in no particular order): *people who can clearly define the needs of SMEs, standards communities, SMEs, user communities, umbrella groups close to SMEs (including chambers of commerce, branch organisations particularly in NL, other regional players), KM networks, industry groups and trade associations, actors who deal with different aspects of KM (not only tools, but also people and process issues), early adopters, successful (and unsuccessful!) implementers, leaders in innovation, organisations of CEOs, CKOs and CIOs.*

A balance is needed between public and private sector interests, between early adopters and newcomers, and between different types of actors in different countries.

3.5 Other channels (diverse)

On the KnowledgeBoard (www.knowledgeboard.com/community/zones/fs.html):

- John Burger (24.01.2002) notes: *“After a quick read of the article [EKMF standards position statement – Eds.] my personal conclusion was that the argument for standardisation of KM is not strong. It is a young field; if it is forced to solidify into a current consensus view of what it should be like, we close the road to healthier alternatives too soon. Deconstruct a complex system and you're left with dead components.”*
- Stoyan Baev (31.01.2002) answers: *“I have been involved for the past 10 years in standardisation activities on the technology front. Of course there are differences but what I have learned, and I believe it is relevant here too, is that standardisation is not something that puts another brick in the wall, rather it is something that builds another mile of the road. Of course views change, but standards change too. And another wisdom I learned - nobody owns the best view, alias the truth - that is the next mile of the road may well be a crossing point from where more than one roads could be built. Hence do not be afraid from standardisation - what it means today is an activity that brings people together to talk about an issue and try to find common understanding, which ultimately time will change.”*

3.6 Summary of opinions

4 BUILD UP OF A COMMON EUROPEAN KM TERMINOLOGY

4.1 Introduction to a common terminology

The objective to propose a common terminology for knowledge management is really ambitious. Several different definitions of the KM key-terms exist through the literature; an absolute definition of so generic concepts is unfortunately impossible, as most of them may refer to a different conceptual vision regarding the context of their use. Therefore, these definitions must not be regarded as an exhaustive and dogmatic way to qualify all these terms, by fixing them definitively in the marble. On the contrary, they must be envisaged as a first step of an iterative process, to which all the community of the KM FORUM must contribute, through many refinement steps. This iterative process is expected to bring the KM European community to fruitful and fascinating exchanges. That is a first objective of this attempt.

An second important objective, is to offer solid conceptual and committed basements to future works of the KM FORUM. Promoting a common vision of the knowledge management through the whole Europe, requires a common vocabulary, and then a common conceptualisation. Our underlying thought that will be revealed through many chapters of this document, is to apply knowledge management theories and practices, to the knowledge management area itself. And the first step of this introspective meta-process, is to capture the terminology, to acquire the tacit key-knowledge, to provide elicited representation of these concepts that represent the core of the knowledge management field.

4.2 Structuring of existing KM definitions

In the previous release of this deliverable, we gathered which is the core number of words relating the KM terminology. We have tried to choose only the principle terms referring KM. Now we want to structure these terms to better understand and to show the relationship between them.

We propose two different structuring ways. First we are going to clustering them according to their contexts. And second we want to remark the meaning relationship between the different terms.

Cluster structure

This first structure answers the necessity of dividing the terms in contextual group. Some of these groups are very obvious, like knowledge or competence and arise from the gathering process.

Others groups refer to the company and their internal process or to the same term address it. We propose the next groups.

Domain Cluster	
KNOWLEDGE	Data, Information, Knowledge, Explicit Knowledge, Tacit Knowledge, information management, knowledge management, knowledge representation.
COMPETENCE	Competence, Human Capital, Intellectual Capital, Know-How, Know-What, Know-Why, Expertise, Skill, Intelligence.
MEMORY	Corporate memory/Organizational Memory, Society memory, Profession memory, Individual memory, Project Memory.
LEARNING	Learning, Organisational Learning.

Domain Cluster	
PROBLEM	Problem, Wicked Problem, Tame Problem.
ORGANISATION	Learning organisation, Knowledge-intensive organisation, cross-cultural communication.
OTHER	Expert, Data mining, Data warehousing, Ontology, Stakeholder, Knowledge asset, Knowledge Source, Knowledge Base, Knowledge hardware, Knowledge brain ware, Knowledge groupware, agent, communication, knowledge economy, taxonomy, change management, brain ware, interoperability, community, Stakeholder management, Active knowledge model technology.

Data definition structure, a Card Definition

This second structuring way is address to the problem of represent the terminology and to remark the meaning relationship between the different terms. We have prepared a card to represent each of the terms. The principle field is the European KM definition but also is going to show other relevant definitions of the term. It's really difficult to decide what is the definition that best explain the term.

Others important fields of the card are the "Is used to define", "Synonymous", "Terms associated" and "domain". The "Is used to define" field is a list of the terms that use in their definition, the term we are defining. "Domain" collect terms that belong to the same context or domain and "terms associated" collect terms that have an strong relationship referring to the global understanding.

<i>The TERM</i>	The definition with hyperlink in the word that are already in the glossary.
<i>first definition</i>	
<i>second definition</i>	
<i>third definition</i>	
<i>Is used to define</i>	Terms
<i>Synonymous terms</i>	Terms
<i>Domain cluster</i>	Domain
<i>Other terms associated</i>	Terms

Table 1: Example of a "terminology Card"

4.3 First Steps towards formulating a common terminology

We have gathered the principal terms, structure in contextual groups and prepare a card to represent them. This is the result of the work. All the terms are represented here using the card definition.

4.3.1 Data

Data	
Definition 1 (Weggeman, 1997)	Symbolical representation of numbers, quantities, magnitudes or facts
Definition 2 (leman, 1998)	Statements of facts that are raw material and have no tangible meaning until used
Definition 3 (HTTP://KMX.TOTALKM.COM/WHATISK.HTML#DEMOPT1)	Discrete, unorganised, scattered statements about reality
<i>Is used to define</i>	Information, Data mining
<i>Synonymous terms</i>	Fact
<i>Domain cluster</i>	Knowledge
<i>Other Terms associated</i>	Symbolic data, Numeric data, Data warehousing

4.3.2 Information

Information	
Definition 1 (Weggeman, 1997)	Data which are situational structured in order to arrive at a message that is significant in the given context
Definition 2	Interpreted data
Definition 3 (csuisse, 2000)	Data that have been arranged into intelligible meaningful patterns
Definition 4 (leman, 1998)	Data with value added
Definition 5 (HTTP://KMX.TOTALKM.COM/WHATISK.HTML#DEMOPTL)	Information is organised data, meaningful and contextually relevant. The criteria for organising data could be either objective or subjective.
<i>Is used to define</i>	Knowledge, Data mining, information management
<i>Synonymous terms</i>	
<i>Domain cluster</i>	Knowledge, legal entity
<i>Terms associated</i>	information management, information system

4.3.3 Knowledge

Knowledge	
<i>Definition 1</i>	Information transformed in understanding and into capability for effective action or a combination of instincts, ideas, rules, and procedures that guide actions and decisions
<i>Definition 2</i>	Information that is transformed into a combination of instincts, ideas, rules, and procedures that guide actions and decisions
<i>Definition 3</i>	Information transformed in understanding and into capability for effective action
<i>Definition 4</i> (Kemp, 2001)	Ability to act
<i>Definition 5</i>	Knowledge may also be described as a set of models that describe various properties and behaviours within a domain.
<i>Definition 6</i> (On the Management of Knowledge - Position Statement by Karl M. Wiig, February 6, 1996)	the insights, understandings, and practical know-how that we all possess
<i>Is used to define</i>	Competence, explicit knowledge, tacit knowledge, expertise, Learning
<i>Synonymous terms</i>	
<i>Domain cluster</i>	Knowledge
<i>Terms associated</i>	Human capital, knowledge management, Knowledge base, asset & source, elicited knowledge

4.3.4 Competence

Competence	
<i>Definition 1</i>	A set of capabilities that use the knowledge enabling to act properly
<i>Definition 2</i>	In the case of all other sciences, arts, skills, and crafts, everyone is convinced that a complex and laborious programme of learning and practice is necessary for competence.
<i>Definition 3</i>	A set of capabilities that use the knowledge
<i>Definition 4</i> (EKMF)	A set of skills or capabilities requested to achieve a set of activities and related to a specific role into a human organization
<i>Is used to define</i>	expertise - individual memory
<i>Synonymous terms</i>	Competence
<i>Domain cluster</i>	Intelligence, legal entity
<i>Terms associated</i>	skill, capability, ability, know-how

4.3.5 Intellectual Capital

Intellectual Capital	
<i>Definition 1</i> (Edvinsson/Malone 1997)	Human capital + structural capital = intellectual capital
<i>Definition 2</i> (T.A. Steward)	Is the sum of everything everybody in a company knows that gives it a competitive edge
<i>Definition 3</i>	Intellectual capital, comprised of intangible assets including employee knowledge, patents, research, is rapidly entering mainstream use as an effective tool to increase corporate competitiveness.
<i>Definition 4</i>	Intellectual Capital as an economic discipline - the emerging business, legal, financial and auditing requirement
<i>Definition 5</i> HTTP://WWW.SIMS.BERKELEY.EDU/COURSES/IS213/S99/PROJECTS/P9/WEB_SITE/GLOSSARY.HTM# E-J	the sum of everything the people of an organization know which can be converted into value or formalized, captured, and leveraged to produce a higher-valued asset. This is actually one of a family of terms--such as social and process capital used to identify types of knowledge assets
<i>Definition 6</i>	The value of an organization that is not captured in traditional financial accounts. It represents the intangible assets of an organization and is the difference between market and book value. Commonly defined components are human capital, structural capital and customer capital.
<i>Is used to define</i>	
<i>Synonymous terms</i>	
<i>Domain Cluster</i>	Competence
<i>Terms associated</i>	

4.3.6 Knowledge Management

Knowledge management	
<i>Definition 1</i>	an approach to improving an organization's capabilities through better use of the organization's individual and collective knowledge resources. Knowledge Management is a discipline that uses technology to share and leverage information for innovation.
<i>Definition 2</i>	an approach to improving an organization's capabilities through better use of the organisation's individual and collective knowledge resources.
<i>Definition 3</i>	is a discipline that uses technology to share and leverage information for innovation
<i>Definition 4</i> AMERICAN PRODUCTIVITY AND QUALITY CENTER	is the broad process of locating, organizing, transferring, and using the information and expertise within an organization
<i>Definition 5</i> (Rob van der Spek)	Knowledge Management consists of managerial activities that focus on the development and control of knowledge in an organisation to fulfil organisational objectives
<i>Definition 6</i> HTTP://WWW.SIMS.BERKELEY.EDU/COURSES/IS213/S99/PROJECTS/P9/WEB_SITE/GLOSSARY.HTM#E-J	the strategies and processes of identifying, capturing, and leveraging knowledge to enhance competitiveness
<i>Is used to define</i>	
<i>Synonymous terms</i>	
<i>Domain Cluster</i>	Knowledge
<i>Terms associated</i>	knowledge, know-how, know-what, know why.

4.3.7 Explicit knowledge

Explicit knowledge	
<i>Definition 1</i>	Knowledge easy to document and to convert into procedures
<i>Definition 2</i> HTTP://WWW.SIMS.BERKELEY.EDU/COURSES/IS/213/S99/PROJECTS/P9/WEB_SITE/GLOSSARY.HTM#E-J	knowledge that has been expressed in words and numbers and shared in the form of data, scientific formulae, specifications, manuals, etc. It is easy to distribute and it is "slippery". Explicit knowledge, which is also known as "codified" knowledge, is the opposite of tacit knowledge.
<i>Is used to define</i>	Learning
<i>Domain cluster</i>	Knowledge
<i>Synonymous terms</i>	Codified knowledge, tacit knowledge
<i>Terms associated</i>	

4.3.8 Tacit knowledge

Tacit knowledge	
<i>Definition 1</i>	knowledge difficult to document and to convert into procedures, is the one in relation to the experience and can evolved from expert resources
<i>Definition 2</i>	knowledge difficult to document and to convert into procedures
<i>Definition 3</i>	knowledge in relation to the experience and can evolved from expert resources
<i>Definition 4</i> (Tecs 1999)	Knowledge deeply embedded into a person consciousness)
<i>Definition 5</i>	Tacit knowledge shapes the way the leaders of the organization perceive their industry and their firm's place within it...
<i>Definition 6</i>	Tacit knowledge determines how the organization makes decisions and shapes the collective behaviours of the members.
<i>Definition 7</i> <small>HTTP://WWW.SIMS.BERKELEY.EDU/COURSES/IS213/S99/PROJECTS/P9/WEB_SITE/GLOSSARY.HTM#E-J)</small>	Knowledge that is not made explicit because it is highly personal, not easily visible or expressible, and usually requires joint, shared activities in order to transmit it. Examples of tacit knowledge include subjective insights, intuitions, and hunches. Also known as informal knowledge, it is the opposite of explicit knowledge.
<i>Is used to define</i>	Learning
<i>Synonymous terms</i>	Informal knowledge
<i>Domain cluster</i>	Knowledge
<i>Terms associated</i>	Know-how, know-what, know-why

4.3.9 Intelligence

Intelligence	
<i>Definition 1</i>	Mental capability involving ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience.
<i>Definition 2</i>	Ability to learn and adapt to the experience of every day life
<i>Definition 3</i> [Gould]	The ability to face problems in an un-programmed creative manner
<i>Definition 4</i> [Gould et. Al]	Intelligence exists as a very general mental capability involving ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience
<i>Definition 5</i> [Sternier]	The ability to apply existing knowledge to solve new problems
<i>Is used to define</i>	
<i>Domain cluster</i>	competence
<i>Terms associated</i>	competence, expertise

4.3.10 Expert

Expert	
Definition 1 HTTP://WWW.SIMS.BERKELEY.EDU/COURSES/IS213/S99/PROJECTS/P9/WEB_SITE/GLOSSARY.HTM#E-J	Individual with expertise in a certain subject area; within the context of KM, this person may be seen as an authority and act as the gatekeeper of knowledge for their particular subject area.
Definition 2.	Those who have a expertise
Definition 3	A person with a high level of combined education, experience, and skill
<i>Is used to define</i>	
<i>Synonymous terms</i>	specialist
<i>Domain cluster</i>	Other
<i>Terms associated</i>	Skill, competence, expertise

4.3.11 Learning

Learning	
Definition 1 [csuisse, 2000]	Acquiring knowledge
Definition 2 [Tecs,1999]	Change in the state of knowledge, a change in understanding, decision or action
Definition 3 [Hawk, 1987]	Gaining knowledge by study or experience or by being taught”
<i>Is used to define</i>	
<i>Synonymous terms</i>	
<i>Domain cluster</i>	
<i>Other terms associated</i>	

4.3.12 Organisational learning

Organisational Learning	
Definition 1 [Morgan,1996]	Creation, adoption, or acquisition of knowledge by an organization with the objective of enhancing its performance”
Definition 2 [Argyris,1978]	Detecting and correcting an error in ways that involve the modification of an organization’s underlying norms policies and objectives
Definition 3 [Pekalska]	Continual review of the assumptions, values and manner of carrying out activities”
Definition 4	The process that changes the range of its potential behaviours
<i>Is used to define</i>	
<i>Synonymous terms</i>	
<i>Domain cluster</i>	
<i>Other terms associated</i>	Learning, learning organisation

4.3.13 Learning organisation

Learning Organisation	
Definition 1 [Dodgson, 1993]	Firms that purposefully construct structures and strategies so as to enhance and maximize organizational learning
Definition 2 [Senge, 1992]	Organizations that continually expand their ability to shape the future
Definition 3 [Kemp, 1999]	Firms that make continual learning a way of organisational life, especially improving the performance of the organisation as a total system
Definition 4	An organization with an ingrained philosophy for anticipating, reacting and responding to change, complexity and uncertainty
<i>Is used to define</i>	
<i>Synonymous terms</i>	
<i>Domain cluster</i>	
<i>Other terms associated</i>	Learning, organisational learning

4.3.14 Knowledge-intensive organisation

Knowledge-Intensive Organisation	
Definition 1 [Ieman1998]	An organization where knowledge is a competitive production factor and where knowledge is of primary importance for the achievement of the business objectives
Definition 2 [kemp1999]	An organisation where humans with high degree of knowledge are critical for the primary work of the organisation]
Definition 3 [Weggeman1996]	An organisation with mainly knowledge workers in the primary process or at least in the technical staff when this has a dominant influence on the functioning of the primary process
Definition 4	An organisation in which each worker will transform itself to a knowledge intensive organisation based on the company-specific KM value proposition derived previously.
<i>Is used to define</i>	
<i>Synonymous terms</i>	
<i>Domain cluster</i>	
<i>Other terms associated</i>	knowledge

4.4 Towards Conceptualising and Visualising a common terminology

4.4.1 Introduction

The necessity to provide a first conceptualisation of knowledge management has appeared when we investigated the different possibilities to offer to interested people a relevant graphical mechanism that would enable visualising, browsing and navigation through the common terminology. It appeared that a good way to provide such a visual mechanism was to rely on some semantic graphical representation of this terminology. Then it has been decided to analyse the different KM definitions available through the whole literature, and to identify the most important semantic relationships existing between the different main concepts. The main results of this work are presented in the following sections.

4.4.2 UML representation

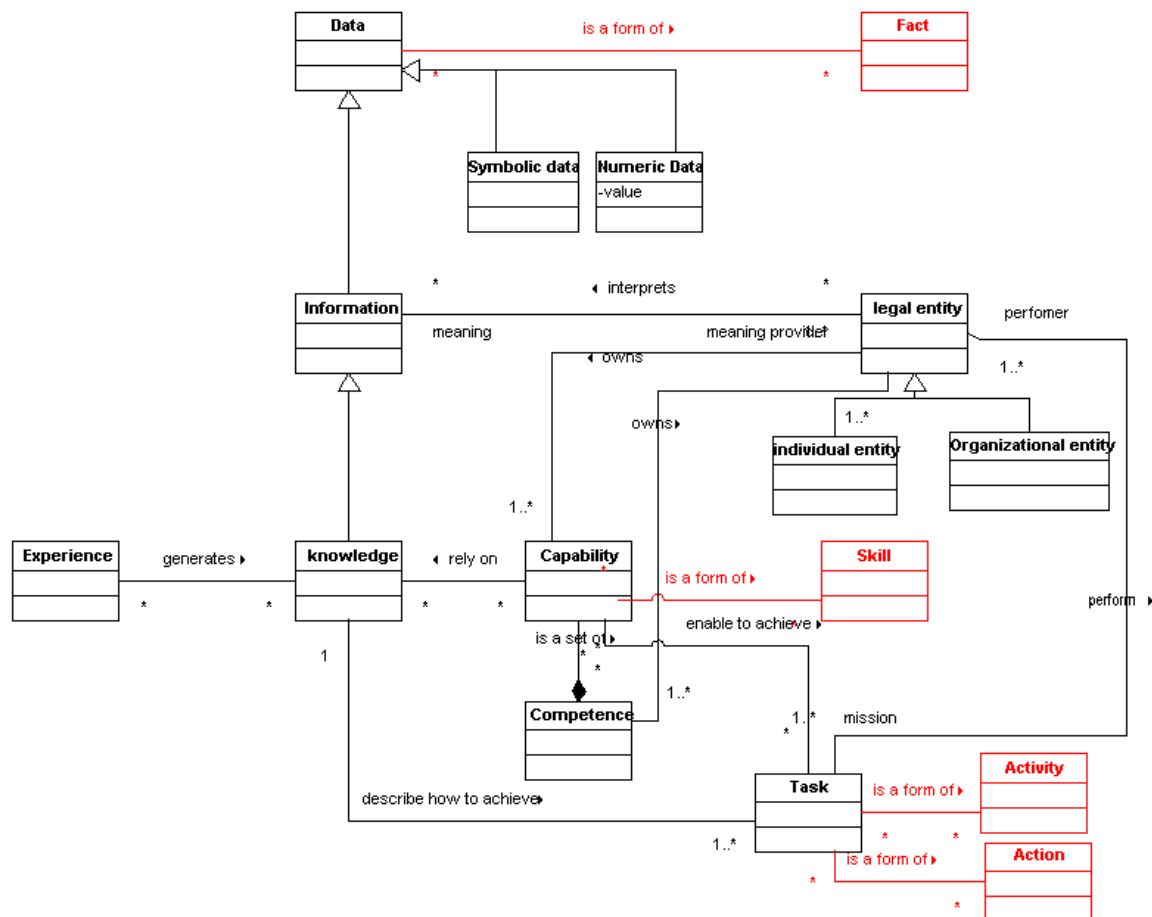


Figure 3: UML representation of the core terminology

4.4.3 Graph explanation

In the previous graph, the red relation “is a form of” indicates a kind of synonymous relationship between two terms. The expression “is a form of” has been preferred to “is synonymous to” because the former is less strict than the latter. However in the following paragraphs “synonym” will be used to avoid possible ambiguity (i.e. with the inheritance relation that could be seen as a “is a form of” relation as well).

The synonymous entities are supposed to have the same properties and the same relationships that are not redundantly mentioned in the graph above.

In the following text, concepts are underlined and relationships are in *italic>*.

4.4.3.1 The terminology basics

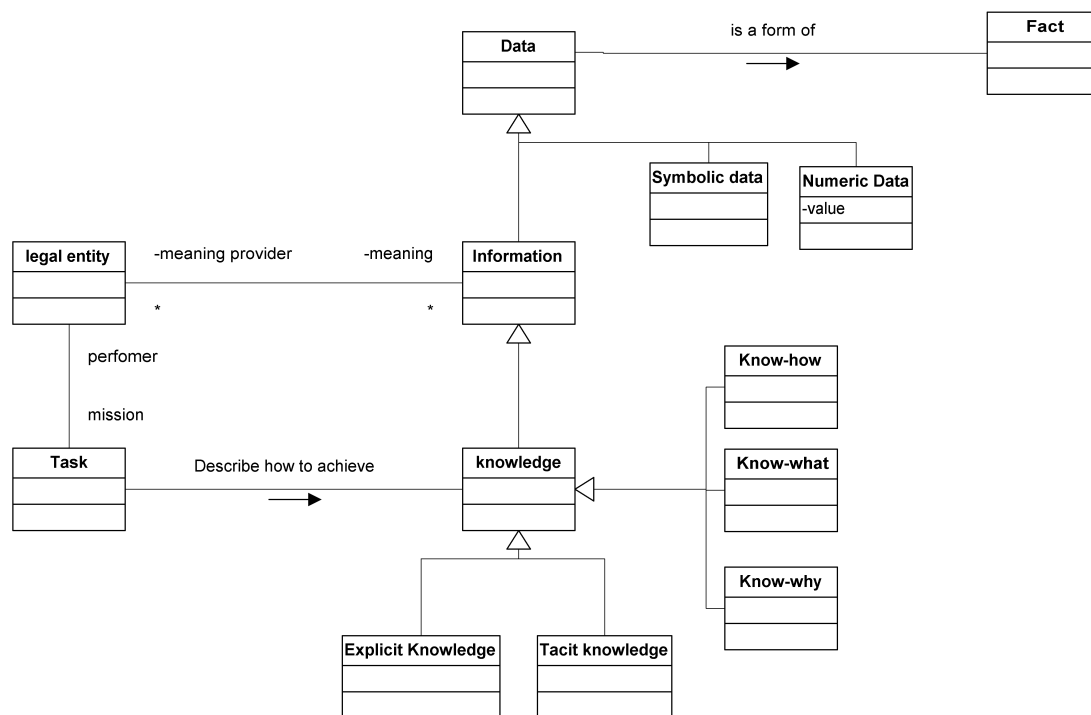


Figure 4: The basics

Data is inherited by Information that is inherited by Knowledge. Here the inheritance relation must be seen as an “enrichment relation”:

- Information is interpreted data (by some legal entity in the context of knowledge management).
- Knowledge is information related to task (or activity); the nature of the relation is given by some definitions (c.f. 4.3.3 Knowledge). Knowledge can elicit Knowledge or Tacit Knowledge. It can be also:
- **Know-How:** How to perform a given task?
- **Know-Why:** Why does a given task give such a result?
- **Know-What :** What are the potential tasks required to obtain a result?

A **Fact** is a synonym of **Data**.

Capability is strongly related (*owned by*) to a Legal Entity (people, company...) and *enables to achieve* a Task. A Skill is a synonym of a Capability.

A set of Capabilities is called “Competence”. Competence *is also owned* by Legal entity.

Expertise *inherits from* Capability. Expertise could be defined as a high level of Capability. The question to rather define the Expertise as a high level of Competence is still opened. An expert is a Legal Entity (i.e. Individual or Organization) who possesses at least one Expertise.

4.4.3.3 Around knowledge

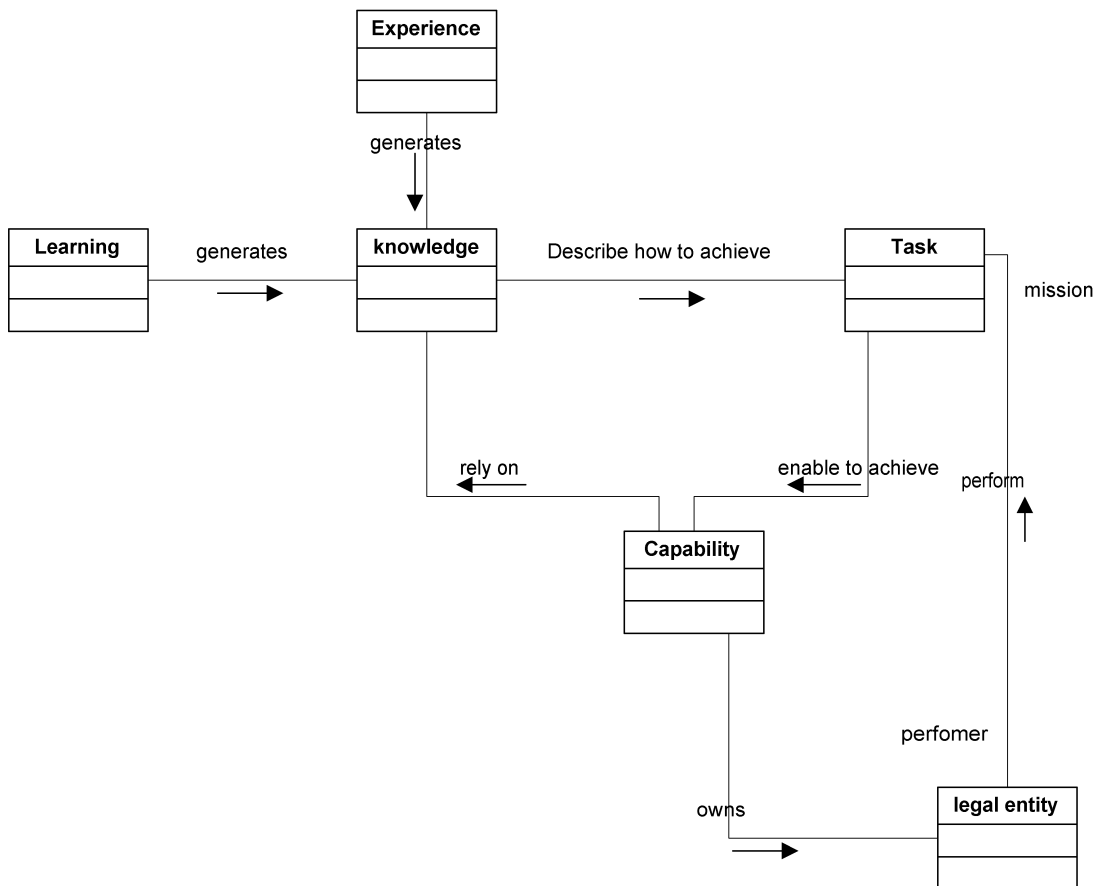


Figure 6: The knowledge concept

Knowledge is generated by Experience or by Learning. Other way to generate knowledge must be investigated. Knowledge is support for Capability. Some other issues are raised:

- What are the exact relation between experience and learning? Is Experience just a specific way to learn?
- What kind of knowledge is generated by experience or learning? Tacit knowledge, explicit knowledge or both?
- If we consider that the knowledge is an output of a process called experience or learning, can we consider the input of this process as information or explicit knowledge? In this case learning can be defined as a process that turns information (or explicit knowledge) into knowledge.

The above graph enlightens the strong relationships between the four entities “legal entity”, “task”, “capability” and “knowledge”:

- Legal entity (either people or organization) has to perform well identify tasks related to its business.
- To be performed, these tasks required some capabilities. The more capable stakeholders are, the better they will perform these tasks.
- These capabilities rely on knowledge.

These statements emphasize the role of knowledge management within a company that could be defined as a set of task that consists in improving the capabilities of an organization by a better management of the related knowledge as illustrated in the following model.

4.4.3.4 Knowledge Management

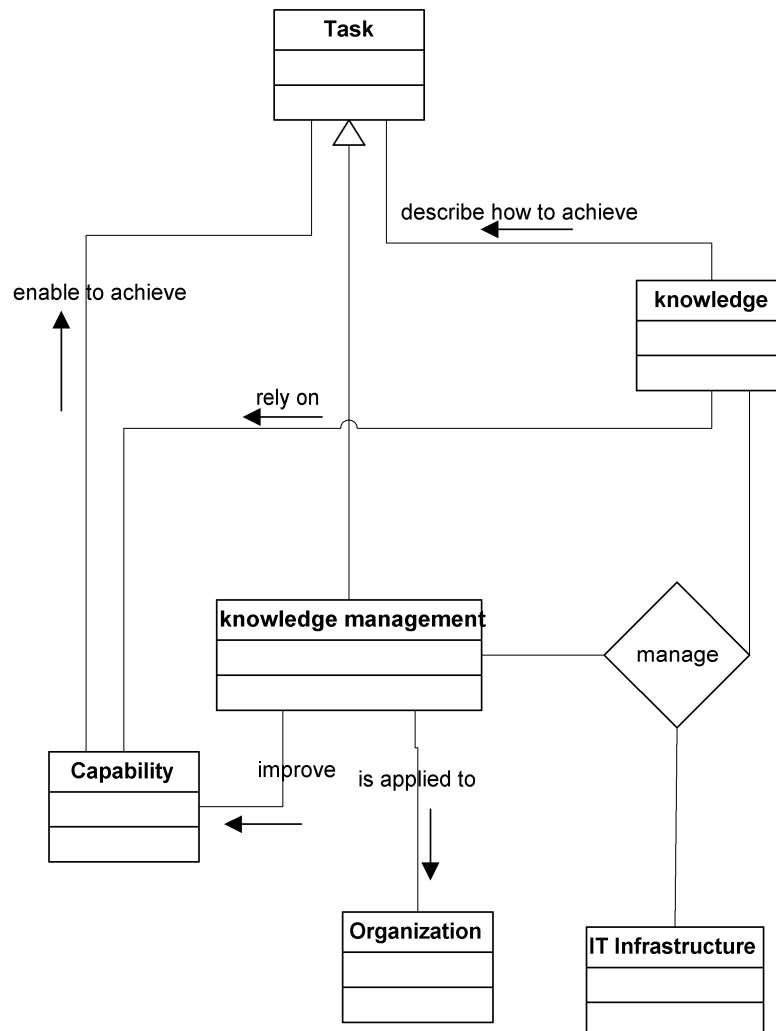


Figure 7: Knowledge management

Improving a capability means “to turn it into an Expertise”. This improvement can be related to individual capabilities or to organization capabilities. The relation between capabilities of individuals and the general capabilities of their organization must be investigated: Knowledge management can

be envisaged as a specific activity that consists in turning Individual capabilities into organization capabilities.

The tautological relationship “manage” between the knowledge management concept and the knowledge concept must be clarified. According to the different available definitions (c.f. 4.3.6) of knowledge management, this relation encompasses the different following meanings:

- Identifying,
- Locating,
- Capturing,
- Sharing,
- Leveraging,
- Organizing
- Storing,
- Transferring,
- Retrieving.

Knowledge management relies on IT infrastructure(s).

4.4.3.5 Notion of problem

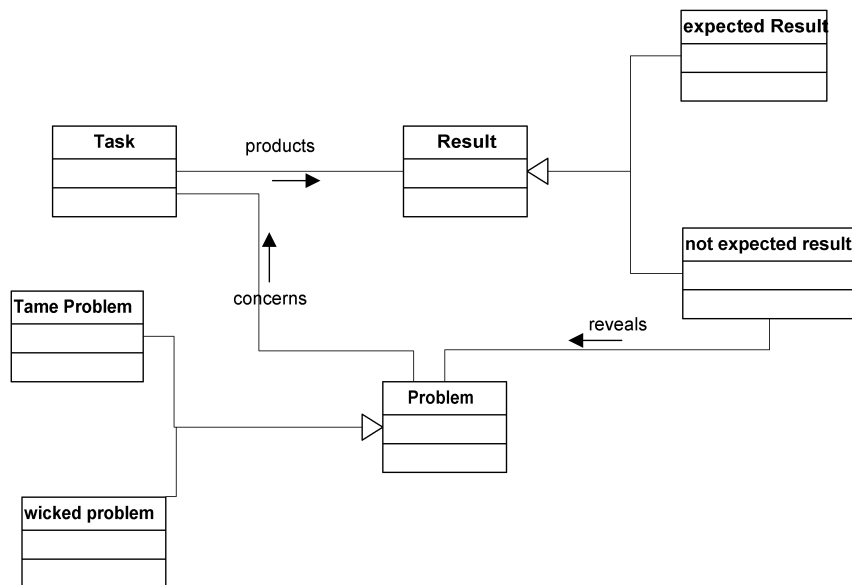


Figure 8: Notion of problem

To define the concept problem we need to assign a result to each task performed by an individual or an Organization. A result can be very concrete (e.g. a product, a deliverable, a contact with a new customer...) or more abstract (an idea on a new product, a decision after a meeting,..). The result can be expected (i.e. compliant with the task objectives) or unexpected (bad product, not accepted deliverable, failure of an offer...). In this case, it is a pointer of some problem that must be investigated and solved. Tame problem and wicked problems are distinguished, according to existing definitions.

4.4.4 Conclusion

This conceptualisation is a first draft of what an ontology of the knowledge management area could be. After this first proposal, it is time for discussing, refining, agreeing, committing the different concepts and relations that have been proposed, and to provide new definitions based on this work. This activity will be long and iterative and will involve the whole community of EKMF. This will give the opportunity to have exciting and fascinating discussions across this community and to reach one major objective of EKMF: to make all European KM experts closer and closer.

4.5 What does the community think about terminology? (Catalysing)

4.5.1 Brussels, 14th June 2001

Figure 9 shows a mind map with the most relevant issues for standardisation as they have been prioritised by the participants. The need for a common *KM framework* was rated highest (24 points). The definition of a common *implementation methodology* was seen as second most important (23 points). In particular it should support SMEs in implementing KM. The definition of a common *KM terminology* was given third priority (16 points). The close interconnection between the terminology and the KM framework was emphasised in the discussion. *Training and education* was also seen to be relevant for standardisation (7 points). Besides the actual ‘objects’ to be standardised, it was felt important that the process of standardisation is evolutionary and driven by user problems. Other relevant issues are listed in the mind map.

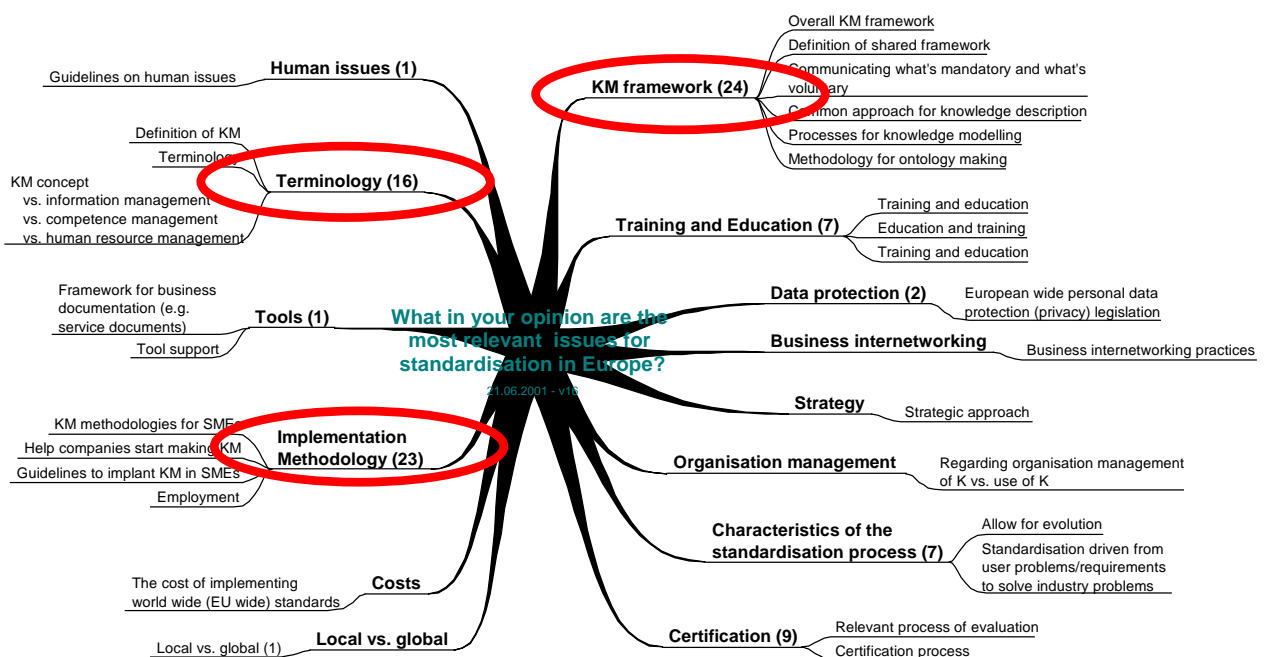


Figure 9: The most relevant issues for standardisation (rated 1st level priorities)

Figure 10 shows the extended mind map with relevant issues for standardisation in KM. It is based on Figure 9 and extended with issues which had been rated as 2nd and 3rd priority by the individual participants. It confirms the statements from Figure 9 in such a way that additional statements have named the need for a *KM framework*, *implementation methodology*, *terminology*, and *training and education*. The need for *certification* was stated in particular with respect to the certification of KM services and a reference authority. Common *KM metrics and measurements* are desired for measuring the benefits of KM. Common *KM tools and technologies* are seen as relevant for inter company integration and knowledge sharing. With respect to the process of standardisation itself, the restriction to a *feasible and accepted minimum* was recommended.

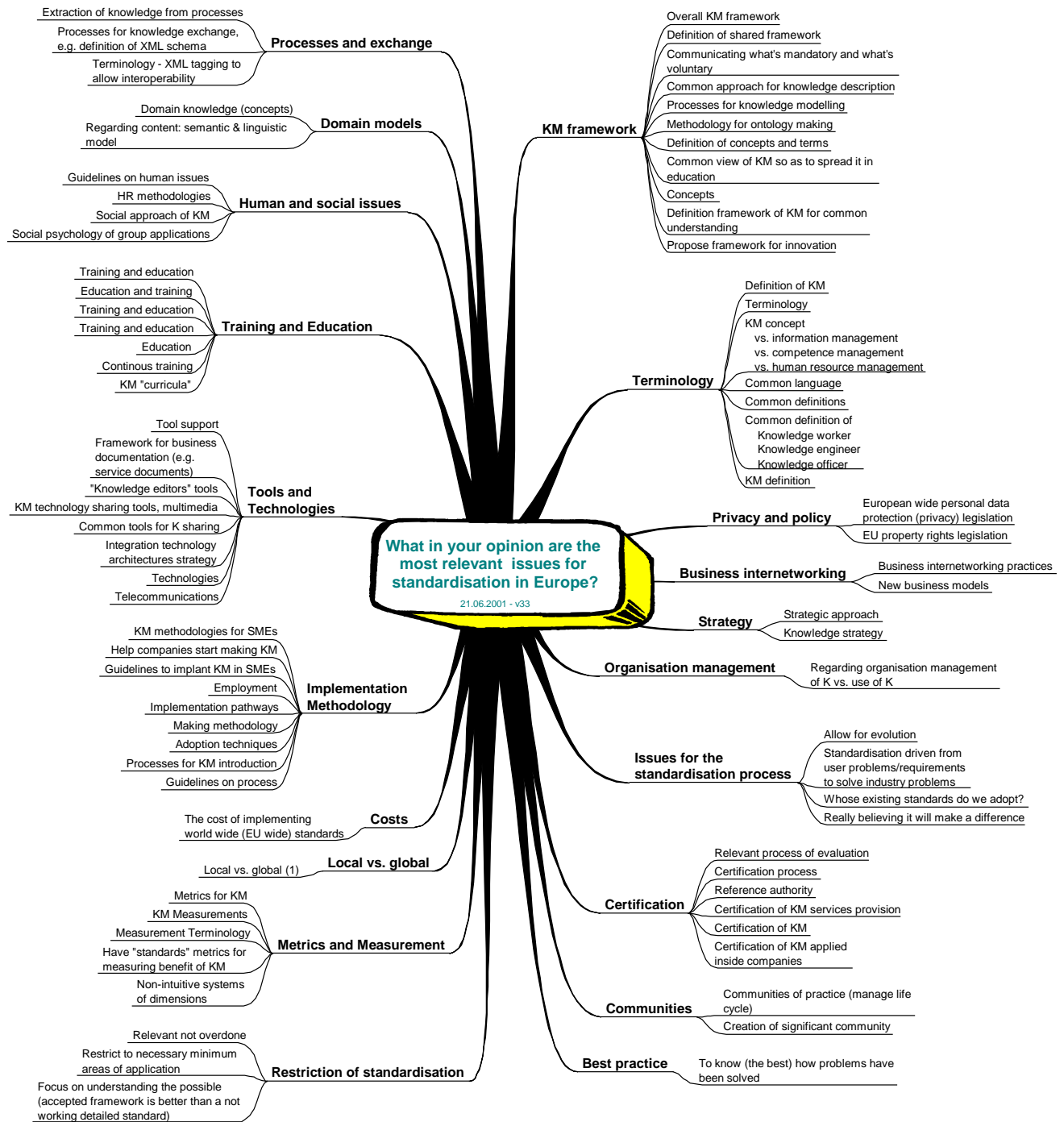


Figure 10: The most relevant issues for standardisation

4.5.2 Bremen, 19th June 2001

Figure 11 shows the most important aspects, which should be standardised in the area of KM. Highest priority was given to terminology (*Begriffe*, 11 points), as these are used in a broad number of ways. Second most important rules for classification (*Regeln zur Klassifizierung*), i.e. for knowledge structuring (9 points). Process for knowledge sharing (*Prozesse der Wissensverteilung*, in the sense of capturing and transfer) were identified as third most important. Some identified standardization as not necessary (*kein Standardisierung*).

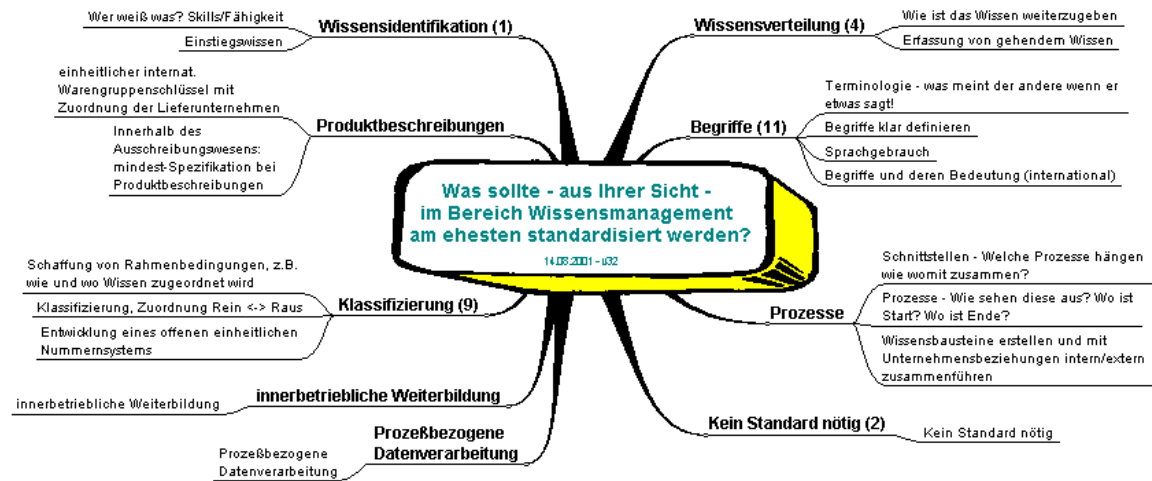


Figure 11: In the area of KM, what should be standardised first?

4.5.3 Venice, 17th October 2001

Objective of the workshop was to collect the opinion of European KM experts about the development of among others a core KM terminology in Europe. In particular, the workshop aimed to identify the major terms of a KM core terminology.

After a short introduction into the subject of a common European KM framework, the workshop applied a variation of the Metaplan technique: Every participant had to state three major KM terms considered as important. A limitation of terms was set by the moderator, such that the terms “data, information, knowledge, knowledge management” should not be named as they were seen as obvious and mandatory. The terminology cards were only collected, but not clustered or discussed.

The statements of the participants are listed in alphabetical order. Due to time restrictions, the terms could not be discussed during the workshop session. In some cases, there have been given already definitions by the author of the term.

Term	Definition (stated by the author)
Active knowledge models	
Agent	
Brainware	
Change management	
Communication	
Community	
Competence levels	
Cross-cultural	
Expert	
Explicit	
Extended enterprise	
Human Resource Component	
Implicit	

Term	Definition (stated by the author)
Interoperability	
KM System	
Knowledge	Procedural knowledge + fact knowledge
Knowledge asset	
Knowledge Economy	
Knowledge modules	Operable knowledge for an intelligent automation = execution agent
Knowledge representation	
Knowledge representation	
Media-encoding	
Ontology	
Passion	
Semantics	
Skill	
Tacit	
Taxonomy	
“time status” of knowledge	Status encompassing knowledge module status + retrieved current facts
“trusted” agents	
Trust	
Virtual enterprise	
Virtual knowledge	
Visual languages	

Table 2: Identified relevant terminology

5 BUILD UP OF A COMMON EUROPEAN KM FRAMEWORK

This chapter builds up an overview on some existing KM approaches (including frameworks, application instruments and implementation instruments).

We understand a framework as a holistic and concise description of the major elements, concepts and principles of a domain. It aims to explain a domain and define a standardised schema of its core content as a reference for future design implementations. A KM framework explains the world of KM by naming the major KM elements, their relationships and the principles of how these elements interact. It provides the reference for decisions about the implementation and application of KM.

In a more abstract sense, a framework is a set of ordered representatives of cooperating objects and their relationships that provide an integrated solution within an application domain. It is directed towards explanation of a domain and making its behaviour understandable and predictable. In contrast to a theory it leaves certain space for interpretation, and in contrast to a method it does not describe complete steps yet, but only gives indications about a direction and a normative message. For practical usage it requires an instantiation.

In a practical sense, a framework is common agreement within a group of stakeholders about 'how things shall be done'. It is one side an introduction for beginners and self explanatory, and on the other side a reference for the experienced when decisions about the 'how' need to be made.

Within the overall context – namely to support the industrial uptake and academic research in KM - we can define the following requirements for a KM framework in Europe:

1. To provide a holistic view of the KM domain (in the sense of 'KM in a nutshell, what is KM, what is the mission/message and what are the typical elements')
2. To address all stakeholders in KM (SMEs, large organisations, consultants, academics, vendors, etc.)
3. To be based on broad consensus and give a neutral, non biased, and well accepted view on KM
4. To address the information needs of KM beginners as well as the need for a point of reference for KM experts
5. To provide recommendations and links for the first steps (where to start)
6. To include a core KM terminology
7. To represent the specific challenges and advantages of KM made in Europe
8. To be able to hook in other existing and/or emerging KM standards (namely 2nd and 3rd level standards as named in chapter 1.2)
9. To talk a simplistic and serious language
10. To be short and comprehensive (e.g. 15 pages)
11. To be public domain.

At the same time, we can also define what a KM framework does not need or should not need to do. This is necessary within the specification phase in order to avoid different interpretations and wrong expectations from a KM framework:

1. To provide a complete KM implementation approach up to the deepest level – as this would be instead the objective for e.g. a KM implementation standard, and even this still requires customisation
2. To describe a standardised, one-fit-all enterprise model – as there is no such existing
3. To be mandatory in its approach and to define an exclusive set of methods and tools for KM – as a set of typical principles, approaches, methods, tools is more appropriate.

The European KM Forum considers the building up of an European KM framework as the major KM ‘standardisation activity’ that has to be pushed (at least in the first phase). In parallel to this, the EKMF recommends to develop an European common language in KM – a KM terminology. Therefore, the EKMF has developed a first draft of a KM framework including modules seen as most relevant in KM future.

5.1 Gathering of existing holistic KM frameworks

5.1.1 Knowledge Value Chain Framework

5.1.1.1 Framework Source

Mathieu Weggeman: Wissensmanagement. Der richtige Umgang mit der wichtigsten Unternehmens-Ressource, 1. Auflage 1999

5.1.1.2 Framework Description

The Author has divided the Framework into 3 individual Platforms: Strategical level, Operational level and Tactical level. The need for implementing KM in an organization is determined at Strategical level during which Mission and Vision for any intended change are fixed. Aims derived from Strategical level are directed to Operational level. Operational level is considered as a Knowledge Value Chain consisting of following chain modules: Knowledge development (knowledge need and structuring), knowledge sharing, knowledge application and knowledge evaluation. The whole process is being depicted as closed spiral loop of knowledge acquisition and knowledge enhancement which has to be implemented in a stipulated amount of time. In order to optimize the operational Process feedback as control signal is provided from at every step to the strategical level. In order to implement these conceptual tools at organizational level methods like Knowledge information system, talent Promotion programs, Culture generating synergy effects have been suggested which occurs at 3rd Level (tactical level). External inputs in the form of market, technological and competition changes are adding dynamic effects to the Framework which are also being effected by internal inputs like changing ambition and competence of the organization.

Operational knowledge process:

1. Determining the needed knowledge (based on the organisation’s strategy)
2. Determining the available knowledge
3. Developing the missing knowledge
4. Sharing the developed knowledge (with the employees who need the knowledge to perform their job well)
5. Using the shared knowledge (most important process)
6. Evaluating the previous knowledge processes (whether the

Mission, vision, goals and strategy of an organisation drive the knowledge value chain. Value chain: the further knowledge is held in the chain, the more value it has for the organisation. The value chain can form a good basis for developing a plan related to KM.

5.1.1.3 Framework Graphic

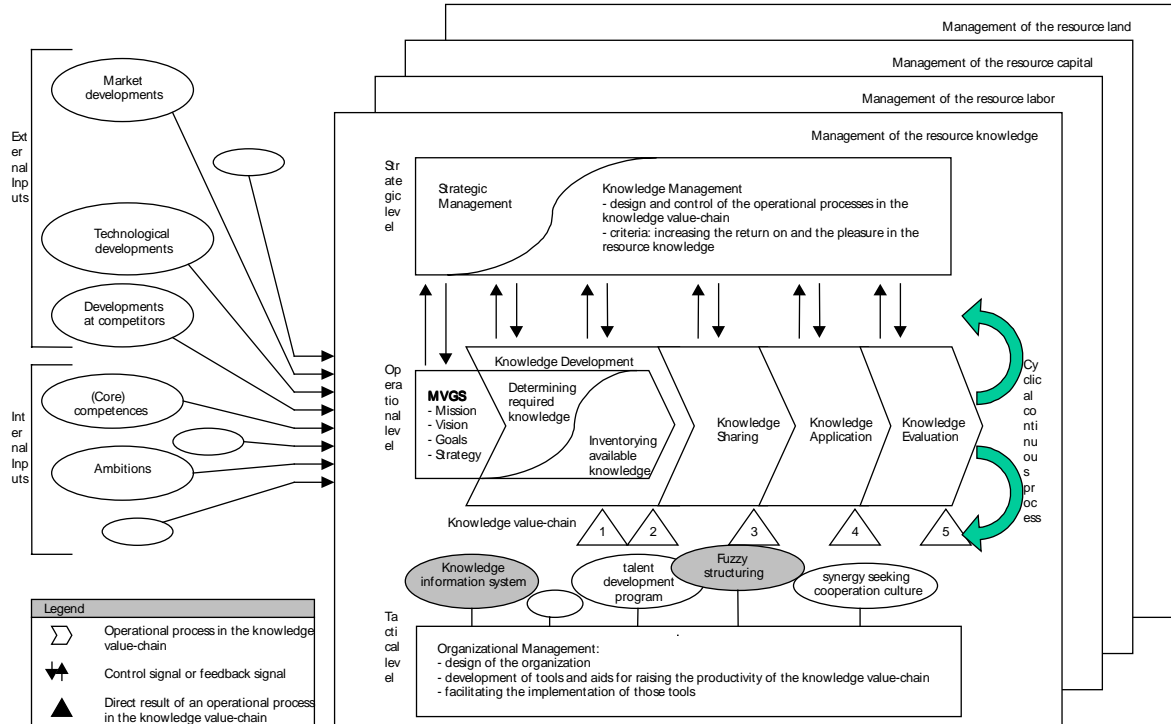


Figure 12: Knowledge Value Chain Framework (Weggeman)

5.1.2 Knowledge Management Framework

5.1.2.1 Framework Source

A.G. MENON ET AL.: CREATING TOMORROW'S BUSINESS: MANAGING KNOWLEDGE. LEARNING CENTER FOR STRATEGY AND ENTREPRENEURSHIP „LE MANAGEUR“, ROTTERDAM 1998.

5.1.2.2 Framework Description

Dividing KM into four steps in order to implement KM in the company: initiating KM, strategic Management, tactical KM and operational KM in order to manage the knowledge workers and their knowledge work.

KM: „planning for and facilitating, leading and controlling the knowledge workers within an organization and the ongoing set of tasks and activities they perform, the knowledge work. This definition stresses out that the knowledge workers and their knowledge are managed, not the knowledge itself.“ (book see above, p. 101).

5.1.2.3 Framework Graphic

"lemanageur": The Knowledge Management Framework

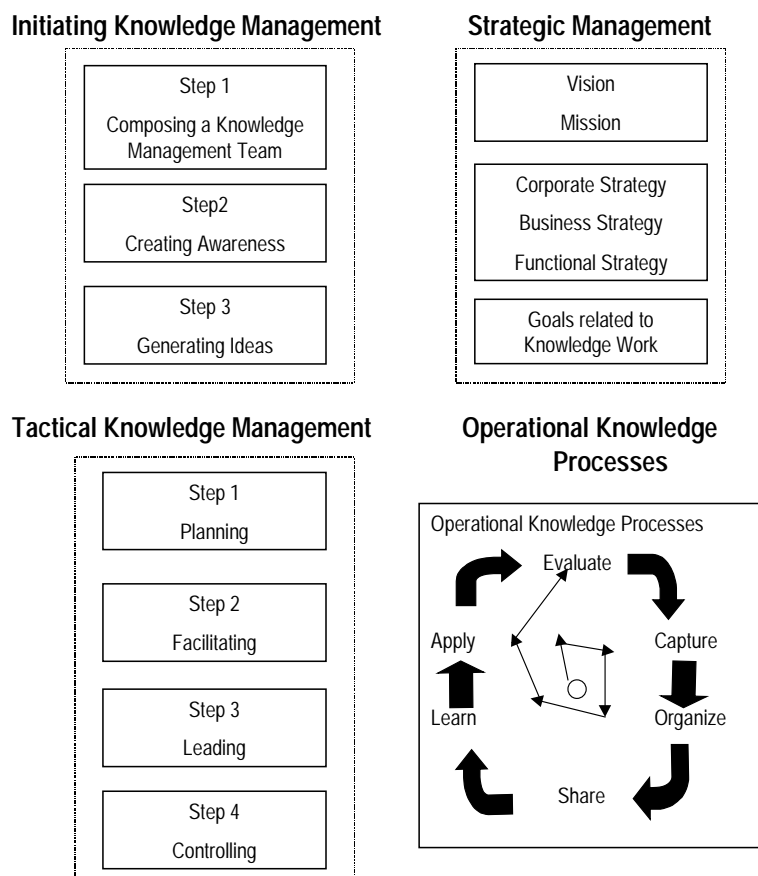


Figure 13: The Knowledge Management Framework

5.1.3 Knowledge Management Process Framework (KM Fieldbook)

5.1.3.1 Framework Source

Wendi R. Bukowitz, Ruth L. William: The knowledge management fieldbook. London: Prentice Hall.
<http://www.kmfieldbook.com/>

5.1.3.2 Framework Description

The framework is a simplified way of thinking about how organisations generate, maintain and deploy a strategically correct stock of knowledge-based assets to create value.

Every element in the process has to be managed in relation to one another in order to achieve the right mix and amount of knowledge-based assets and the capability to deploy them.

The tactical process: each step requires the participation of everyone in the organisation

- Get: making efficient the process of finding the right information
- Use: how can members of the organisation combine information in new ways to create innovative solution?
- Learn: finding ways to embed the learning process into daily work
- Contribute: convincing people that contribution will pay off both for the organisation and for themselves

The strategic process: the goal is alignment of the organisation's knowledge strategy with the overall business strategy.

- Assess: defining the mission-critical knowledge, mapping current knowledge-based assets against future needs.
- Build and sustain: keeping the organisation competitive. Building intellectual assets through relationships

Divest: examining the knowledge-based assets in terms of costs and alternative sources of value

5.1.3.3 Framework Graphic

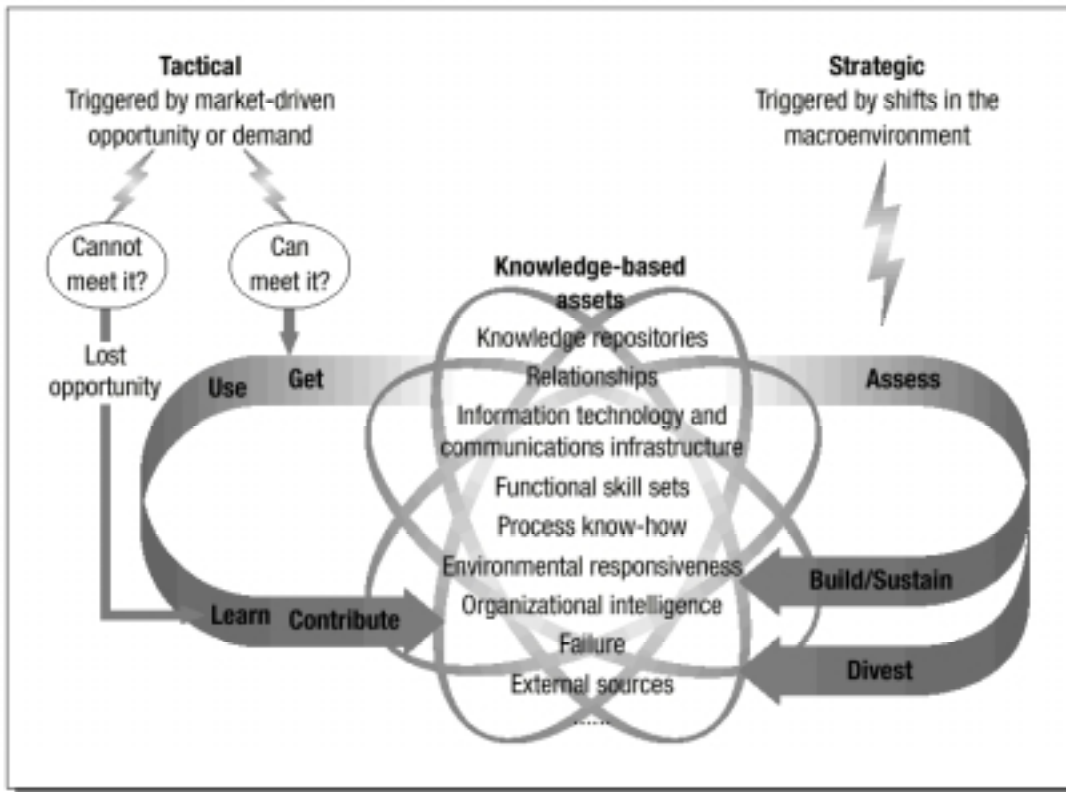


Figure 14: The Knowledge Management Process Framework

5.1.4 Knowledge Ecology Framework

5.1.4.1 Framework Source

<http://www.co-i-l.com/>; <http://www.knowledgeecology.com/>

5.1.4.2 Framework Description

The interdisciplinary field of augmenting and mobilising intelligence is called „knowledge ecology“. A corporate knowledge ecosystem consists of: **people** (network of productive conversations and connections), **knowledge** (network of who, what, how, why, when) enabled by **technology**. These three components create business value for stakeholders.

Knowledge ecology (KE) is an interdisciplinary field of studying the relationships, tools and methods for simultaneously creating, integrating, sharing and using knowledge.

It is a complex adaptive system of people in communities co-located in the same space, physical and / or virtual, in which they cultivate relationships, tools and practices for knowledge creating, integrating, sharing and using.

Knowledge ecology builds a triple network (see figure below: triple network):

1. Knowledge network: connections and interactions of people's knowledge and insights, supported by the technology network.
2. Technology network: all technological means supporting communication and collaboration for knowledge creation, sharing and utilisation (knowledge bases, virtual worlds, web-conferencing, etc.)
3. People: productive conversations facilitated for continuously creating a knowledge network

These factors depend on and influence one another. They generate business and social value through the action of its members by the intelligence of the whole ecosystem.

Knowledge exists in ecosystems where information, ideas, insights and thoughts feed one another. The image of an knowledge ecosystems draws on natural ecosystems and their balance. Knowledge is put into a context where it is connected to other knowledge. It is dynamic, influencing and being influenced. Knowledge ecology's (KE) primary domain of action is the design and support of knowledge ecosystems.

The simplest form of a KE is a network of conversations (face-to-face, electronic meetings etc., dynamic conversations) fed by knowledge repositories of what, who, why how, where, when (relatively static knowledge bases) (see figure below: bi-focal lens). Knowledge communities and communities-of-practice co-evolve.

KE are self-sustaining, self-regulating and self-organising. They have boundaries through which they can interact with other ecosystems.

KM wants to accumulate and leverage knowledge. KE aims at developing and mobilising collective intelligence.

5.1.4.3 Framework Graphic

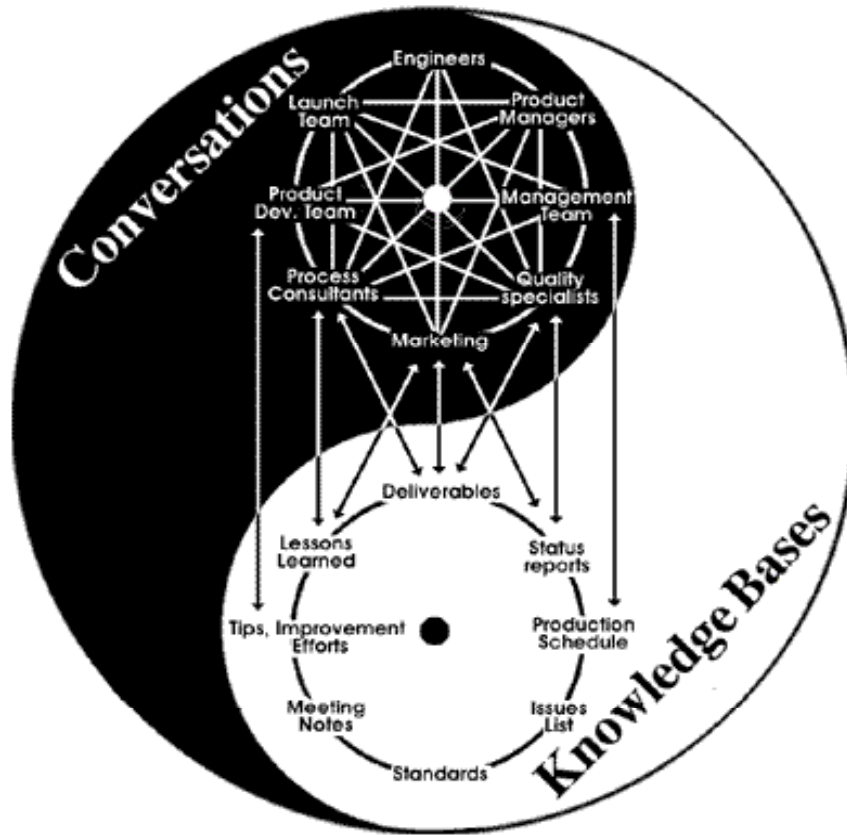


Figure 15: KM Framework Knowledge Ecology

5.1.5 Knowledge Management Framework

5.1.5.1 Framework Source

APQC: Using information technology to support knowledge management. Consortium benchmarking study. Best-practice report. Houston, 1997. <http://www.apqc.org/>

5.1.5.2 Framework Description

APQC describes five stages of the KM implementation process and the handling of important KM patterns (communities of practice, corporate culture, measuring methods, IT).

KM enablers are:

1. Strategy and leadership
2. Culture
3. Technology
4. Measurement

The enablers support the KM process:

- Create
- Identify
- Collect
- Organise
- Share
- Adapt
- Use

5.1.5.3 Framework Graphic

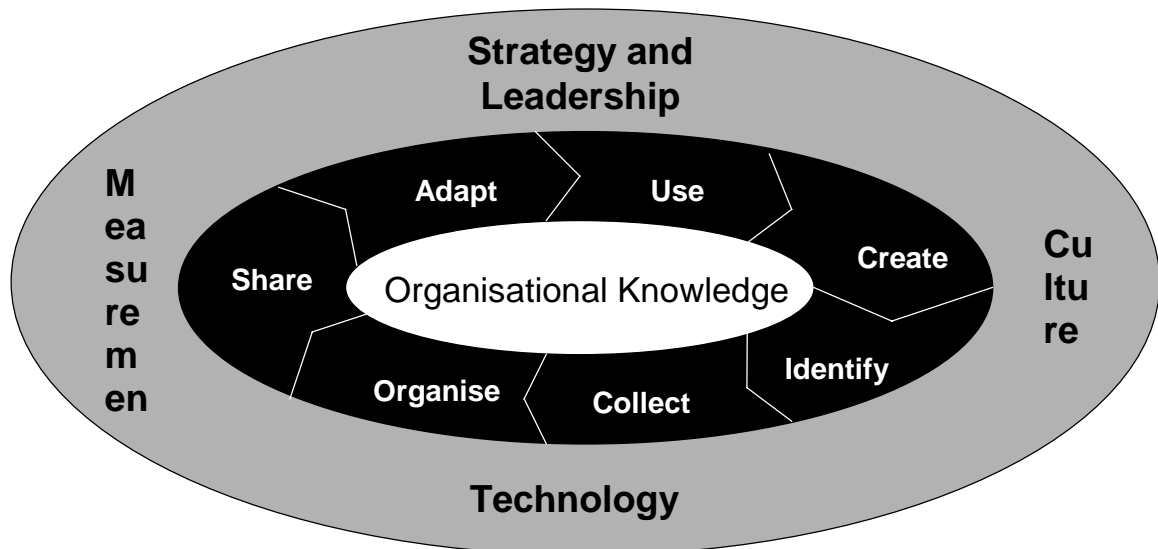


Figure 16: Framework for Knowledge management

5.1.6 Know-Net Framework

5.1.6.1 Framework Source

Fiel:///HI/privat/know-net framework.htm

5.1.6.2 Framework Description

Know-Net considers knowledge management as “the ways to create, retain, share, account and leverage knowledge - at all levels, from the personal level, to the team level, the organisational level, the inter-organisational level, and the global level”. Know – Net focuses on knowledge as a crucial production factor and treats knowledge management as the set of activities which aim at an optimal use and development of knowledge, now and in the future.

In order to help managers have a clear view on Knowledge Management Know-Net has developed a holistic conceptual framework that can be used as a roadmap for ensuring integrity of the knowledge management effort.

The Know-Net framework represents the following types of elements:

- The business-related knowledge assets of a company.
- The knowledge strategy, processes, structure and systems a company develops in order to facilitate knowledge creation and leveraging among and between
- The knowledge interaction networks at the individual, team, organisational and inter-organisational levels.

5.1.6.3 Framework Graphic

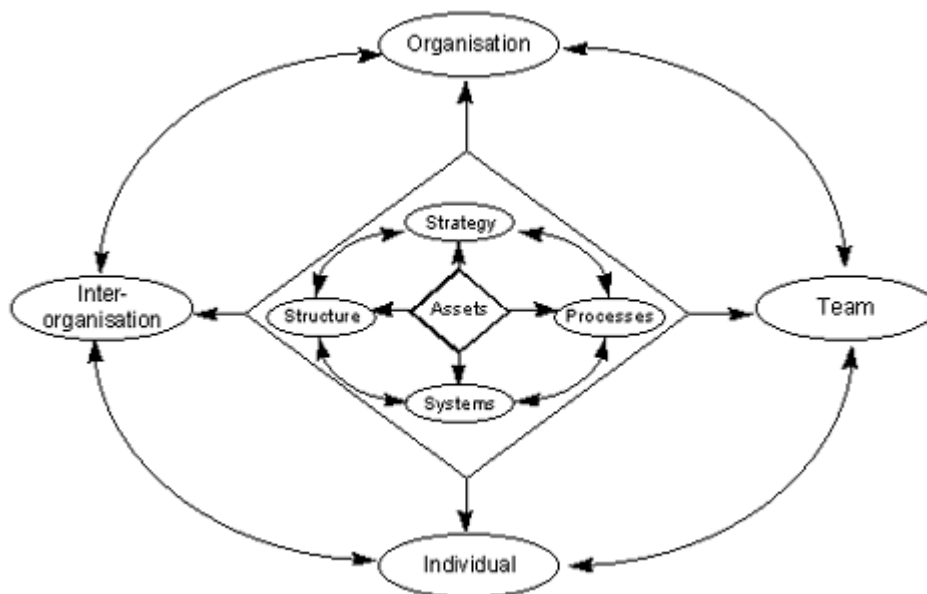


Figure 17: Know-Net Framework

5.2 What does the community think about Frameworks? (Catalysing)

5.2.1 Venice, 17th October 2001

Objective of the workshop was to collect the opinion of European KM experts about the development of among others a common KM framework in Europe. In particular, the workshop aimed to identify the most relevant aspects of a KM framework for Europe.

After a short introduction into the subject of a common European KM framework, the workshop applied a variation of the Metaplan technique: Every participant had to state five objects, that should be part of the KM framework. These objects were written on cards, that were collected by the workshop moderators. Every card was presented to all participants and a clustering of the statements was done. During the clustering, the participants discussed about details of the statement on the specific card.

The different colours represent different clusters of the statements. The participants decided together in a discussion, which card should be part of which cluster.

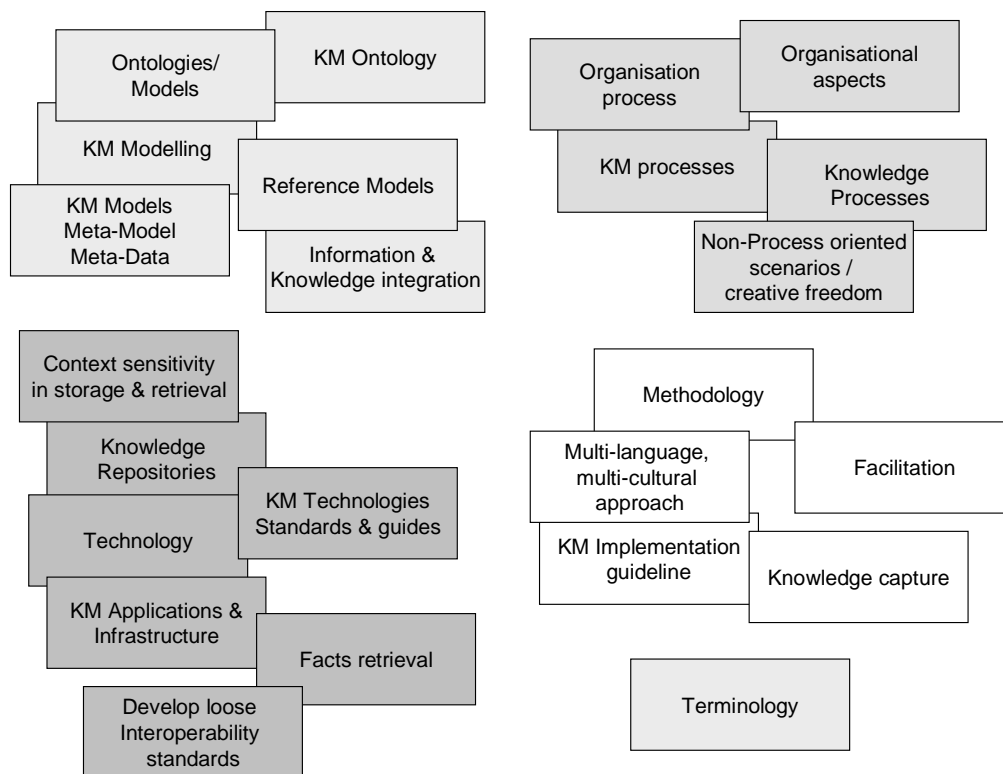


Figure 18: Statements of the participants of the Venice workshop 2001 – part 1

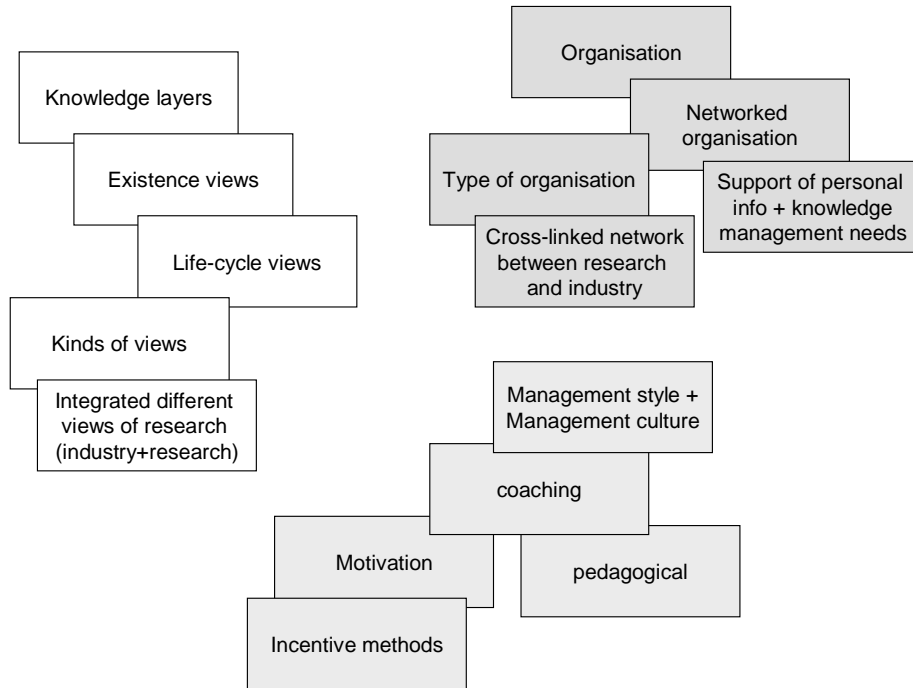


Figure 19: Statements of the participants of the Venice workshop 2002 – part 2

Next to the clustering of the objects of a future common KM framework, there have been several statements, that could not be allocated to one of the above clusters. These statements describe more the characteristics of the KM framework – e.g. what it should fulfil. As characteristics, the following statements were given by the participants:

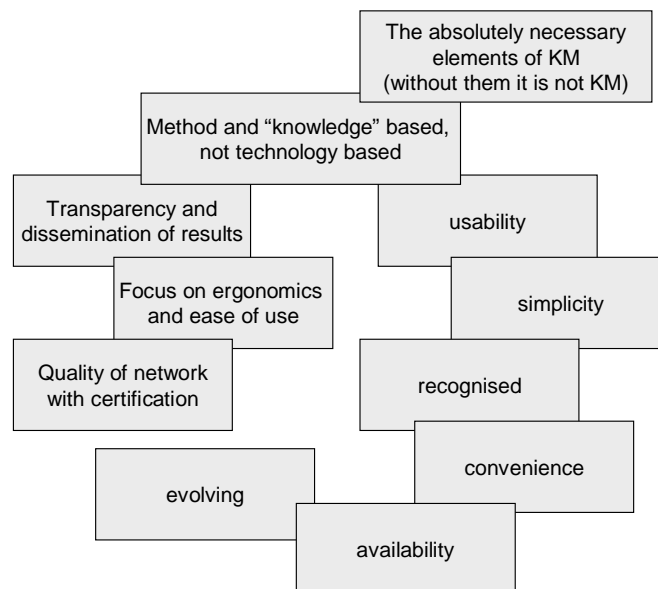


Figure 20: Characteristics of a KM framework – statements from the Venice workshop 2001

5.3 Formulating a common 'KM made in Europe' Framework

5.3.1 EKMF KM framework - Version 1.4

Following figure shows the current draft of the EKMF KM framework:

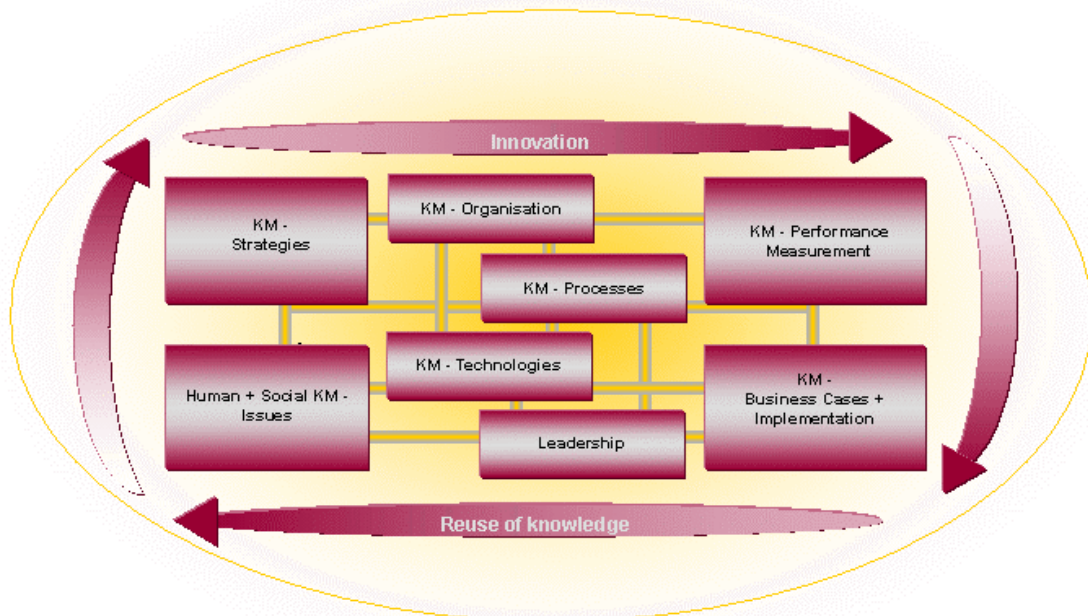


Figure 21: Current draft of European KM framework

The first draft of a KM framework developed by the European KM Forum consists of seven major modules: KM strategies, Human + Social KM issues, KM organisational aspects, KM processes, KM technologies, KM performance measurement and KM business cases + implementation aspects. These seven modules are closely linked together to support on the one hand side the innovativeness of the whole system, on the other side to secure the aspect of reusing existing knowledge within the system. Specifications of the modules will be described in the following paragraphs.

KM strategies

Before starting any kind of activity, one has to be clear, which way to go and what goals have to be reached. The goals have to be clearly defined, also the direction and the manner of reaching these goals. This leads to the point, to declare a strategy especially with regards to KM.

Human + Social KM issues

Hereby, the roles of persons and human beings will be defined. A clear definition about specific human-oriented KM issues will be the result out of this module.

KM organisation

With regard to the organisational aspects, the KM framework will provide important hints to create, run and maintain a knowledge friendly organisation. This will include the structure of a 'KM organisation' as well as the roles within such an organisation. It has to be seen as a guideline to align existing organisational structures towards KM.

KM processes

This module will give answers towards the business processes and their adoption to KM. Not only served as business processes also as general processes of activities in organisations, this module will be helpful for the whole target group to be more efficient in acquiring, sharing and maintaining knowledge.

KM technologies

What technology for what purpose? This fundamental question will be answered with the KM framework module 'KM technologies'. It gives an overall overview over existing and future technologies towards KM and will be helpful for organisations to take the right decision in this 'hard' issue of KM.

Leadership

What will be the critical success factors in introducing a KM leader within your organisation? What characteristics are desirable or presupposed? What activities are has the leader to do? All about leadership and the surroundings is part of the KM framework module 'leadership'. Appropriate answers to the above and further questions will be given.

KM performance measurement

A KM system cannot be improved, if there is a lack of measuring the performance. This module also provides metrics to get an overview over the maturity of your KM system. In addition to this, measures will be formulated to push your KM system forward.

KM business cases + implementation

This module will provide good and best practices in the different areas of KM. In addition to this, a general roadmap will be suggested. It will help organisations on their way to install and establish their KM system. Due to the general orientation of this implementation methodology, it will be possible to customise it to specific business requirements and needs.

The relationships between the above mentioned modules of the KM framework have to be clearly defined.

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APPENDIX A: GATHERED EXISTING KM TERMINOLOGY

In the following, a broad overview will be given on definitions related to key notions in the area of knowledge management, that has been gathered during the work on this document.

Remark: The terms given in the following table deviate from the terms on the “terminology cards” mentioned in chapter four.

#) KM Term	Definition I	Definition II	Definition III	<i>EKMF KM 'made in Europe' Definition</i>
Data	"The simplest most basic component of the New Economy"[csuisse2000]	"Symbols that are not yet interpreted"[VSS1997]	"Statements of facts that are raw material and have no tangible meaning until used"[leman1998]	
Information	"Interpreted data" [SF00]	"Data that have been arranged into intelligible meaningful patterns"[csuisse2000]	"Data with value added" [leman1998]	
Competence	A set of capabilities that use the knowledge enabling to act properly	In the case of all other sciences, arts, skills, and crafts, everyone is convinced that a complex and laborious programme of learning and practice is necessary for competence		
Human Capital	a product of experience, skills and attitude [weggeman 1997] Human capital is a loose catch-all term for the practical knowledge, acquired skills and learned abilities of an individual that make him potentially productive			
Intellectual Capital				
Knowledge	<i>Def 1</i>	A set of capabilities that use the knowledge enabling to act properly	"Information transformed into capability for effective action" [SF00]	
Know-How	<i>Def 2</i>	In the case of all other sciences, arts, skills, and crafts, everyone is convinced that a complex and laborious programme of learning and practice is necessary for competence.	"Ability to apply "know-what" knowledge to complex real-world problem" [Quinn et al.]	
Know-What	"Learning of comprehension" [NBCH1998]	Basic knowledge that individuals can acquire through extensive training [Quinn et al. 1996]		
Know-Why	"Ability to explain"[Alic1997]	Deep knowledge of cause-and-effect relationships. [Quinn et al. 1996]		

(#) KM Term	Definition I	Definition II	Definition III	<i>EKMF KM 'made in Europe' Definition</i>
Expertise	"Extensive, task specific knowledge acquired from training, reading, experience"[Riley1998]	Relatively stable outstanding performance" [Ericsson]		
Skill	"Complexity and variety of tasks" [Alic1997]	"Enable a person to act by adding value to information" [Ieman1998]	"Responsible and validated know how. [Le Bortef 1994]	
Intelligence	"The ability to face problems in an un-programmed creative manner" [Gould]	"Intelligence exists as a very general mental capability involving ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience." [Gould et. Al]	"The ability to apply existing knowledge to solve new problems"[Sternier]	
Explicit Knowledge	"Knowledge easy to document and to convert into procedures"[Tecs1999]	"Knowledge articulated in formal knowledge"[Hipp1998]	"Information that can be captured and shared via information technology"[Ieman1998]	
Tacit Knowledge	"Actions we can perform without being able to fully explain"[Alic1997]	"Knowledge deeply embedded into a person consciousness" [Tecs1999]	"Knowledge that evolves from expert resources"[Ieman1998]	
Knowledge management	"The process through which firms create and use their institutional and collective knowledge".[Msarv1999]	"KM deals with organizing and controlling the operational processes in the knowledge value chain in the most efficient way"[Weggeman19997]	"KM focuses on facilitating and managing knowledge related activities such as creation, capture, transformation and use"[Wiig1997a] KM is the systematic, explicit, and deliberate building, renewal, and application of knowledge to maximise an enterprise's knowledge-related effectiveness and returns from its knowledge assets.[Wig 1997b]	

(#) KM Term	Definition I	Definition II	Definition III	<i>EKMF KM 'made in Europe' Definition</i>
Corporate memory / Organizational Memory	"Persistent, elicited, disembodied representation of knowledge and information within an organization, in order to facilitate access, sharing, reusability, to stakeholder of this organization, with regards to their own activities" [Dieng et al 2000]	"The information that an organization needs to keep for re-use" [Megill]	"A largely form of collective competence, the know-how of an organizations people and systems taken together" [Maschek]	
Society memory	"Aggregate collection of it's numbers many, often competing memories" [Young]	"Organisations, activities, products, participants (customers, suppliers, sub contractors) [Tourtier1995]		
Profession memory	"Referential tools, documents and methods used in a profession" [Tourtier1995]	"Capitalization of participant's know-how in a profession, referential documents, tools and methods used in a profession"[Ribiere]		
Individual memory	"Status, competencies, know-how, activities of a given member" [Tourtier1995]			
Project Memory	"Capitalization of lessons and experiences from given projects" [Pomian]	"Project definition, activities, history and results" [Tourtier1995]	"Definition, organization, activities, results of projects" [Ribiere]	
Learning	"Acquiring knowledge" [csuisse2000]	"Change in the state of knowledge, a change in understanding, decision or action"[Tecs1999]	"Gaining knowledge by study or experience or by being taught" [Hawk1987]	
Organisational learning	"Creation, adoption, or acquisition of knowledge by an organization with the objective of enhancing its performance" [Morgan1996]	"Detecting and correcting an error in ways that involve the modification of an organization's underlying norms policies and objectives " [Argyris1978]	"Continual review of the assumptions, values and manner of carrying out activities" [Pekalska]	
Learning organisation	"Firms that purposefully construct structures and strategies so as to enhance and maximize organizational learning " [Dodgson1993]	"Organizations that continually expand their ability to shape the future" [Senge1992]	"Firms that make continual learning a way of organisational life, especially improving the performance of the organisation as a total system" [kemp1999]	

(#) KM Term	Definition I	Definition II	Definition III	<i>EKMF KM 'made in Europe' Definition</i>
Knowledge-intensive organisation	"An organization where knowledge is a competitive production factor and where knowledge is of primary importance for the achievement of the business objectives" [Ieman1998]	"An organisation where humans with high degree of knowledge are critical for the primary work of the organisation"[kemp1999]	"An organisation with mainly knowledge workers in the primary process or at least in the technical staff when this has a dominant influence on the functioning of the primary process" [Weggeman1996]	
Expert	"Any person with more knowledge about a certain subject than the common citizen" [Camp1986]	"A person able to speak authoritatively in an area in which he or she holds specialised knowledge" [Chamb]	"Experts learn beyond what is adequate and do beyond what is routine. They reinvest knowledge (themselves) into new problems (new learning).	
Data mining	"Non-trivial extraction of implicit, previously unknown and potentially useful knowledge data" [Intellor]	"A set of processes and techniques used to extract information from data bases" [Briegel]	"The analysis of data for relationship that have not previously unknown and potentially useful knowledge data"[whatis]	
Ontology	"an explicit conceptualisation model, comprised of objects, their definitions, and relationships among these objects."[Gruber1993]	"agreement on a conceptualisation shared by a community"	"The study of the categories of things that exist or may exist in some domain" [sowa 2000]	
Problem	"Any situation in which a gap is perceived to exist between what is and what it should be" [Gundy 1988]	"Any situation in which an expected level of performance is not being achieved and which the cause of the unacceptable performance is unknown" [Fepner1981]	"A situation in which a decision making individual or group has alternative courses of action available, the choice can have significant effect and the decision maker has some doubt as to which alternative should be selected" [Ackof1981]	
Wicked Problem	"Family of problems that present some features that prevent them to be solved through well defined methods. The advantages of the envisaged solutions cannot be objectively measured". [Dieng and Al,2000]	"Problems which display a number of distinctive properties that violate the assumptions that must be made to use tame problem solving methods" [Rittel, 1973]	"Problems for which no known algorithms, produce a solution" [Partners]	

(#) KM Term	Definition I	Definition II	Definition III	<i>EKMF KM 'made in Europe' Definition</i>
Tame Problem	“Family of problems for which area has reached a high maturity level, that could be solved through well established methods. The benefits of the solutions can be clearly evaluated. [Dieng and Al,2000]	“Problems that can be analysed using established methods, and it is clear when a solution has been reached” [Rittel, 1973]	“Situations in which a known algorithm – when applied effectively – resolves the problem” [Partners]	
Stakeholder	“Diverse groups but not all of them will be engaged in a particular project or activity”[Depen1995]	“Any group that affects or is affected by a firm’s performance” [Freeman1984]	“Anyone who has a stake in a venture and therefore stands to gain or to loose” [Colero]	
Knowledge asset	“Putting a value on people, both as individuals and more importantly on their collective capability, and others factors such as the embedded intelligence in a organisation’s computer systems” [Skyrme]			
Knowledge Source	“Knowledge sources partition a knowledge base and concentrate on simple sub problems, they cooperate with one another to eventually provide a solution to encompassing problem. They focus on a specialised area of expertise” [Brown1996]			
Knowledge Base	“A confluence of number of steams of research the most prominent being resource based theory and epistemology” [Grant1997]	“The absolute collection of all expertise, experience and knowledge of those within any organization” [Aegiss1995]	“The concept in which the organizational knowledge generated in bureaucracy and task force is recategorized and reconceptualized in accord with the firm’s corporate vision, organizational culture, or technology” [Nota1995]	

Table 3: Overview over KM terminology

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