

Summer term 2023

Master Course:

Prof. Dr. Reinhard Doleschal

Innovation and Development Strategies (IDS)

International Master Information Technology /

Master Electrical Engineering / Master Mechatronische Systeme

The topics:

I. Intercultural Management (Introduction)

II. Strategic Management Tools and Methods

III. Strategic Development Management in the Print Machine Industry

(Single Unit Production and Customizing)

IV. Strategic Knowledge Management

V. Strategic Management in the Electronic Industry (Mass Customization)

VI. Patent Analysis

Part 2:

European Guide to good Practice in Knowledge Management

European Guide to good Practice in Knowledge Management

Prepared by



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

European Guide to good Practice in Knowledge Management

The European Guide to Good Practice in Knowledge Management (KM) has been prepared by a Project Team reporting to the CEN Workshop on Knowledge Management in the period September 2002 till September 2003. The decision to produce this Guide in the form of a CEN Workshop Agreement was taken at the Workshop's Kick-Off meeting on 2003-06-24.

Reason for this guide

The guide aims to:

- (a) Provide European readers with a practical introduction to mainstream thinking in KM;
- (b) Give an indication of some of the emerging new thinking in KM;
- (c) Stimulate interested readers to join an ongoing public discussion about KM, which will be facilitated through the European Commission's KM portal at <http://www.knowledgeboard.com/>

The authors have therefore produced:

- (a) A discussion document to help readers develop their plans for getting started in KM;
- (b) A synthesis of good KM practices from around Europe – from the private and public sectors and from academia;
- (c) A reflection of their own experiences in KM;
- (d) An indication of some of the new thinking in this fast evolving field.

Why KM in SMEs?

Owners and managers of SMEs differ in what they term success. Survival and continuity, profit, return on capital employed, numbers of employees and customers, pride in product, skills and service, employment for family members, and enjoyable work life, are frequently mentioned criteria. Knowledge will tend to play a more significant role whenever change, innovation and growth are being pursued in a competitive and complex field. Some identified KM routes to success have been through the following:

- Being adaptive to the business environment you are in
- Having a special group of customers; we may learn a lot from leading customers and from companies with a good innovation record
- Sticking to a small niche that others do not want to contest
- Benefiting from local monopolistic circumstances
- Addressing inertia/lack of information among the customer base
- Creating a stable technology infrastructure over a long period of time
- Maximizing the profitability of the activity
- Capable management with a good development process supporting them
- Loyal and capable workforce
- Being responsive to customers' needs and requirements.



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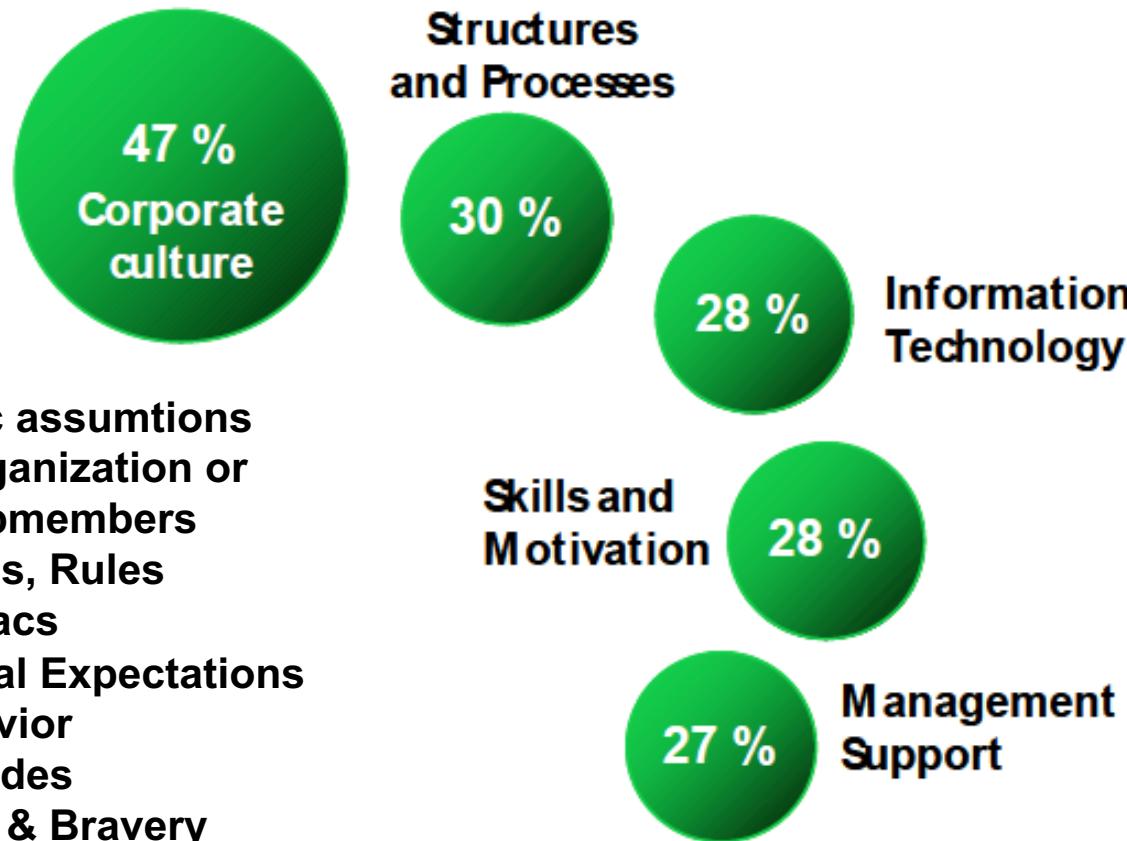
Working definition of knowledge and KM

“Knowledge is the combination of data and information, to which is added expert opinion, skills and experience, to result in a valuable asset which can be used to aid decision making. Knowledge may be explicit and/or tacit, individual and/or collective.”³

“Knowledge Management is the management of activities and processes for leveraging knowledge to enhance competitiveness through better use and creation of individual and collective knowledge resources.”

What are the major success factors for KM in a company

European-wide company survey by Heisig, P., Vorbeck, J. (2001)



Barriers of KM (1)

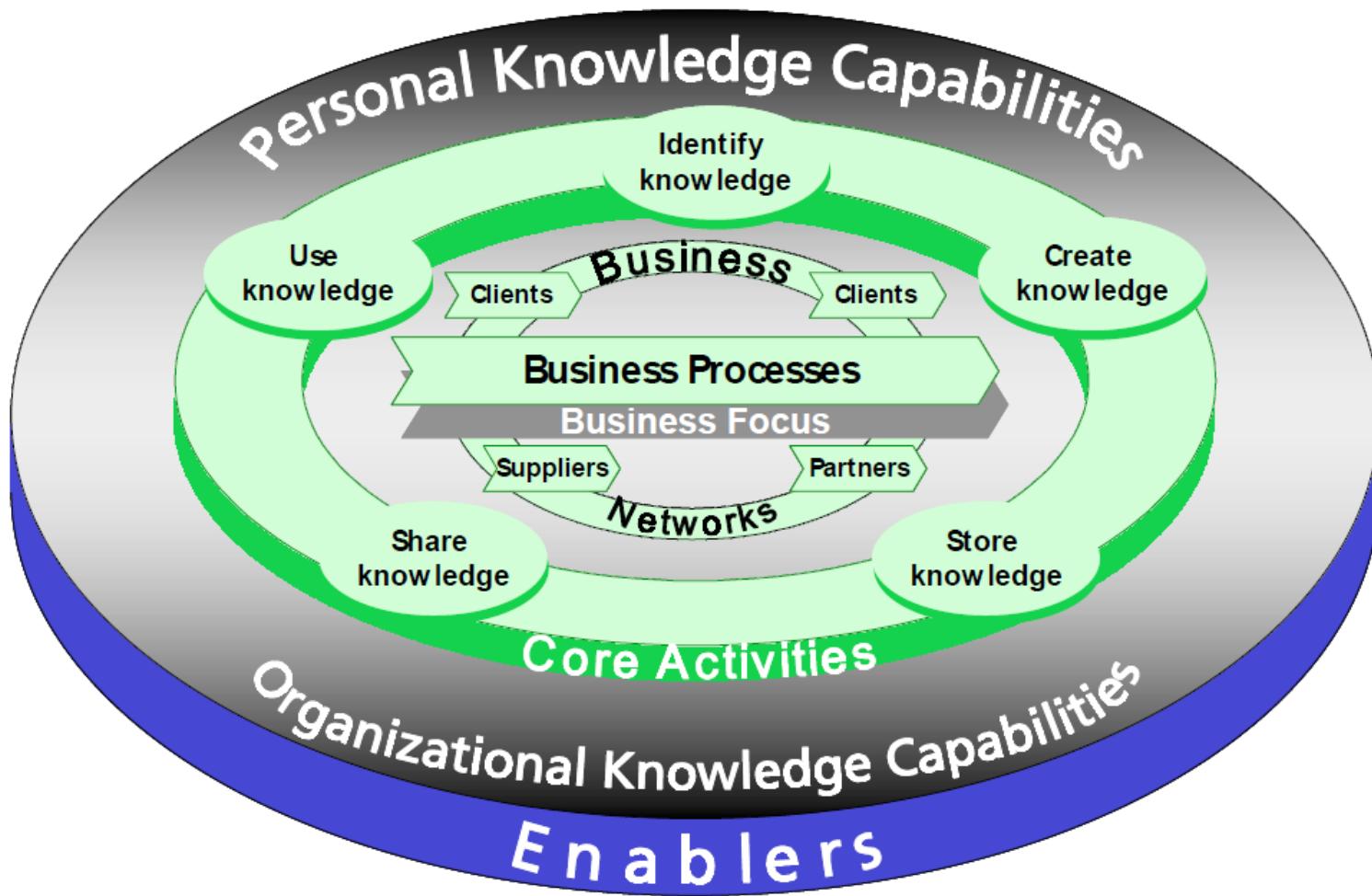
Barrier	Remarks
Time and priority 1	Understanding meaning and implications and capturing and sharing knowledge requires time. Increasingly, formal management permissions and expectations, for knowledge sharing, are becoming part of job specifications (and appraisals).
Difference between management statements and actions 2	A knowledge aware culture will persist if given appropriate support, but managers who introduce programme then rapidly move emphasis to other areas lose the efficiencies and effectiveness that good KM brings. Top management failure to signal the importance of KM has been found to be a major impediment.
An enduring notion that “knowledge is power”: 3	The competitive internal environment in many organizations fosters knowledge hoarding; unique possession of knowledge is seen as power and job security.
Apathy about sharing knowledge 4	The values and behaviour of senior management can have a huge effect on employees' propensity to share.
“Not Invented Here” syndrome 5	Humans often get more satisfaction from inventing something rather than building on someone else's idea, even when aware that it could save time or costs. For organizations, functional silos often present an obstacle to sharing knowledge.
Reward systems that mitigate against knowledge sharing 6	Some reward and appraisal systems inadvertently encourage the withholding of knowledge. Even if set up to encourage sharing they can restrict changes in culture, so beware of the disincentive side of any reward system.

Barriers of KM (2)

Different cultures and subcultures	There are considerable differences between social and national cultures, that can lead to differing interpretations and behaviours. Trust and communication can be adversely affected if not managed well.
Knowledge travels via language	Without a common organizational language to describe experience, one cannot communicate what one knows.
Considering the organization to be “machine-like”	Some people believe that an organization is best understood as a machine and that simply changing process will create desired change. People, by contrast, cannot learn much without inclusion and without reflection.
Organizational “amnesia”	Organizations often fail to retain knowledge acquired and lessons learned in the past. The people who had the knowledge leave and no retrievable record remains.
Growth in “virtual” working can hinder as well as help	Whilst collaborative tools can be hugely beneficial for a KM programme, there is much evidence that people still learn best from other people face-to-face.
An over-emphasis on technology or inadequate supporting technology:	Some managers seem to believe that the very act of offering employees access to information will assure value for their organization. The value of knowledge is not in the access channel alone, but in the human interactions that the channel facilitates.
Knowledge doesn't grow forever	Unlearning and letting go of old ways of thinking, even retiring whole blocks of knowledge, contribute to the vitality and evolution of knowledge.

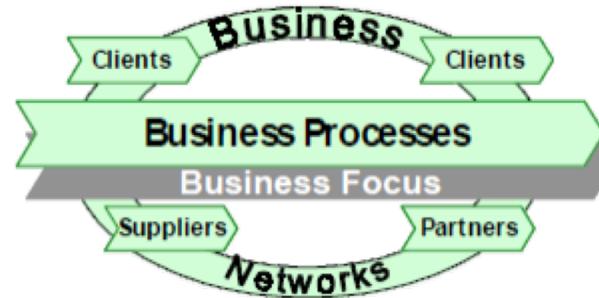
Modified from Knowledge Management: A Guide to Good Practice (British Standards Institution, 2001)

Knowledge Management Framework: A European Perspective

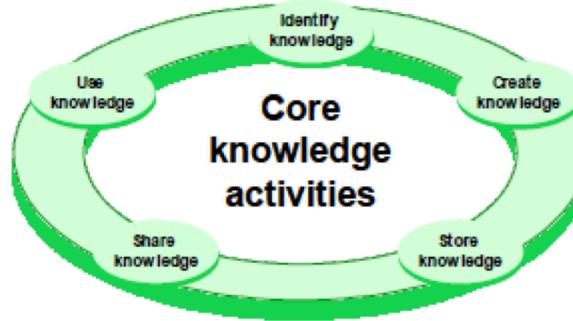


Three Layers of KM

Layer 3



Layer 2

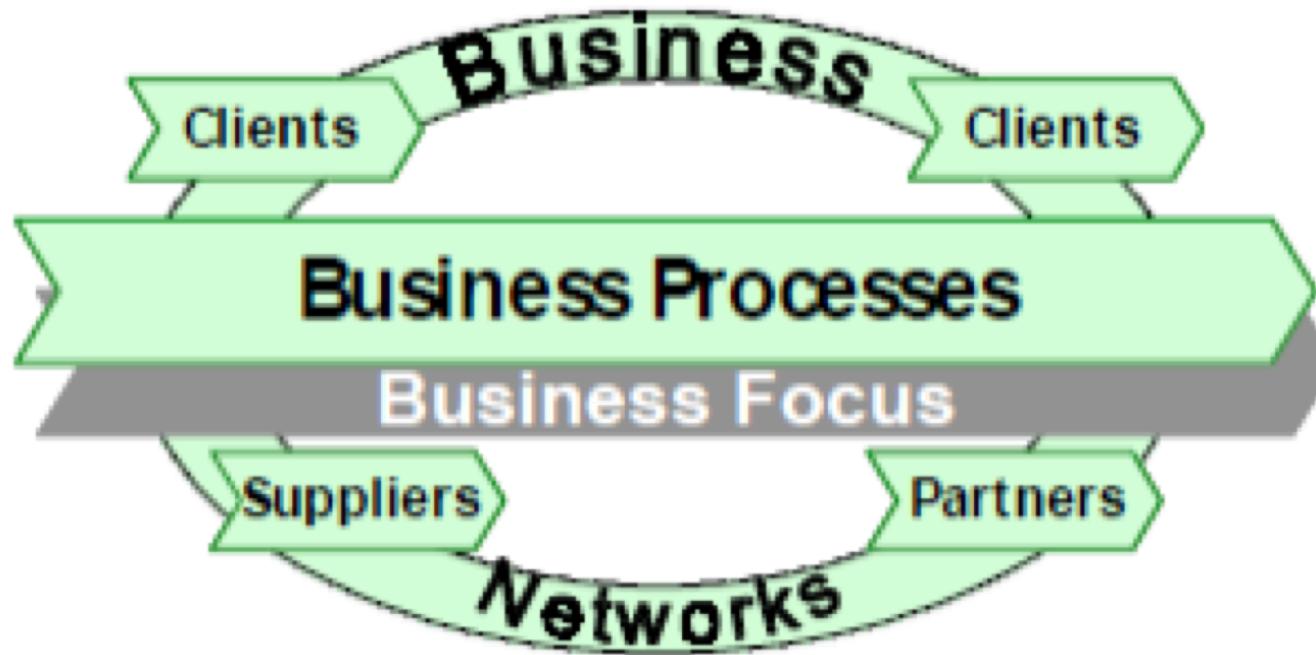


Layer 1

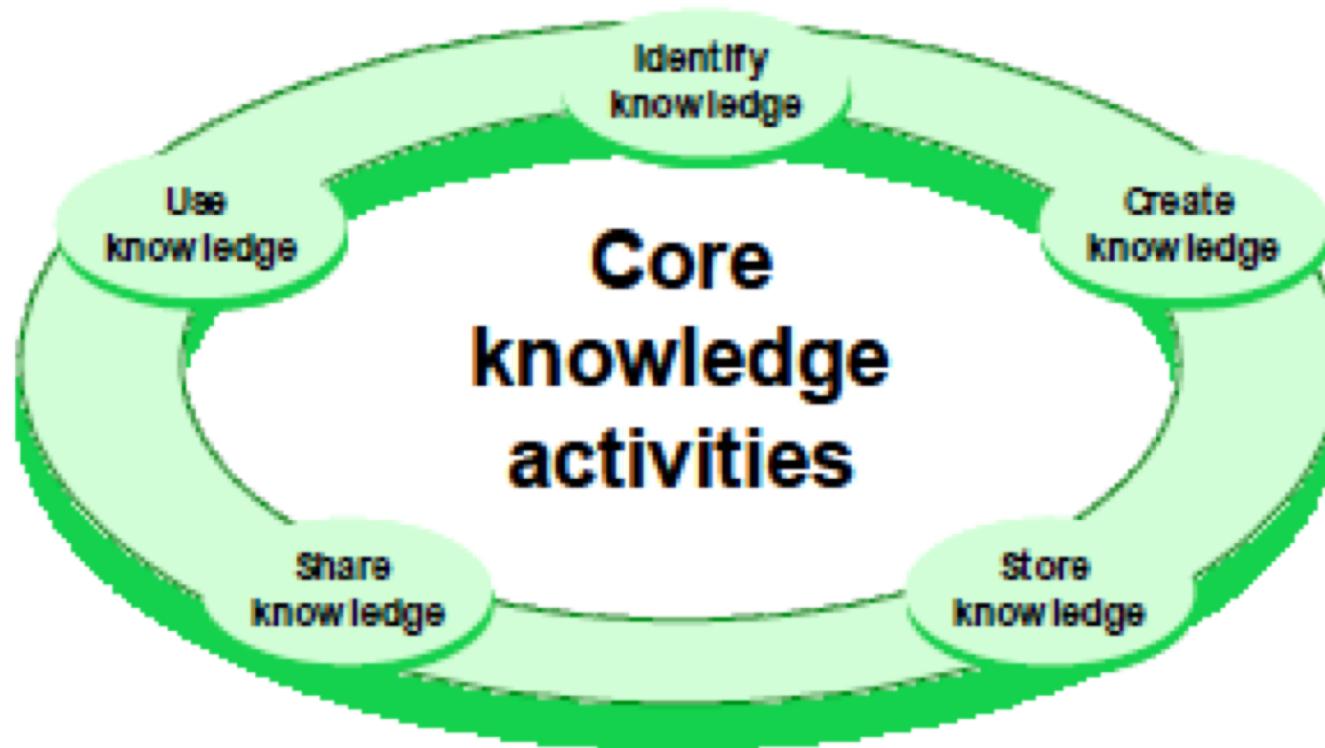


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First KM Layer:



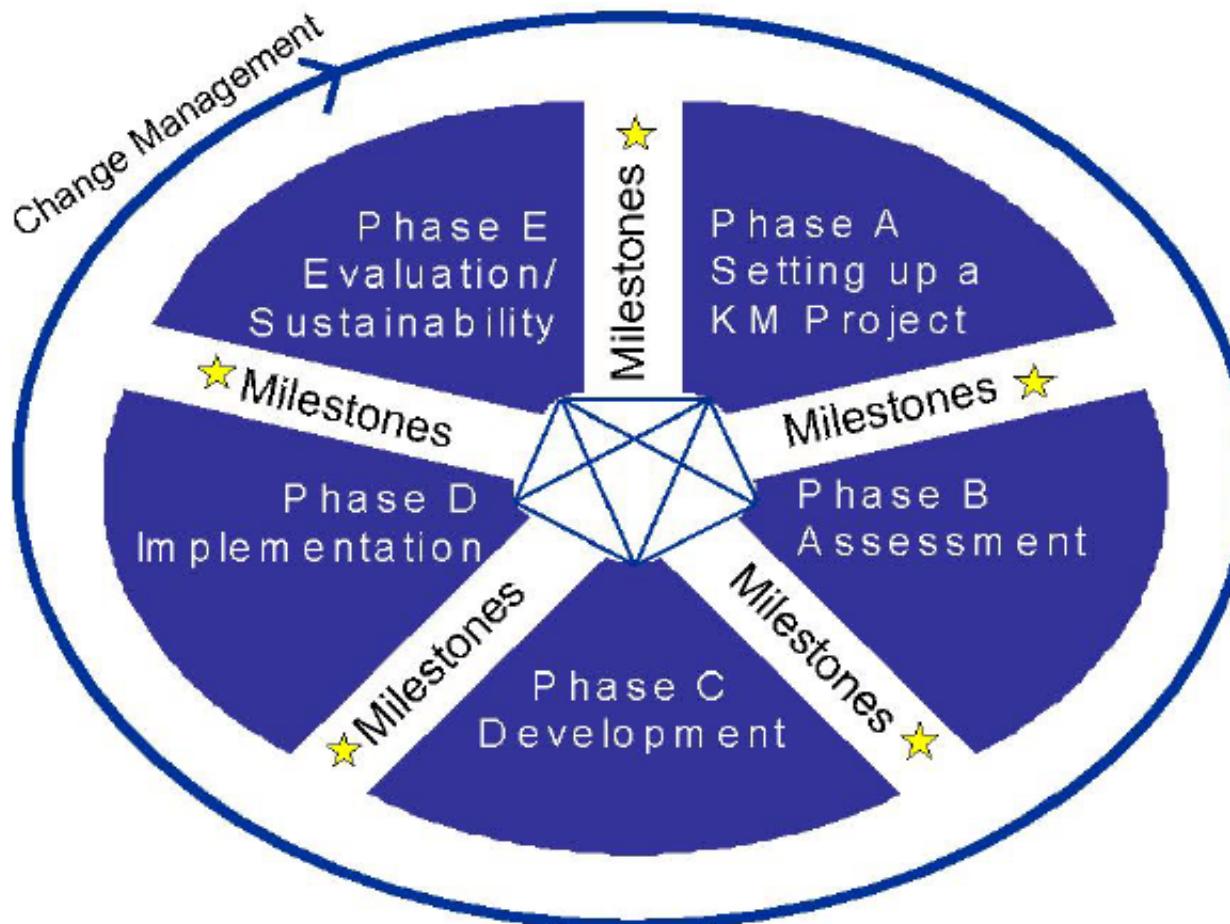
Second KM Layer:



Third KM Layer:



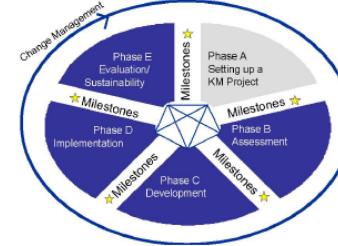
Project Management Scheme for KM Implementation: 5 Phases



**Tasks for Teamwork on KM Implementation in SME:
Read, analyse/evaluate and improve the KM Implementation phases
and present a summery on flipchart pages**

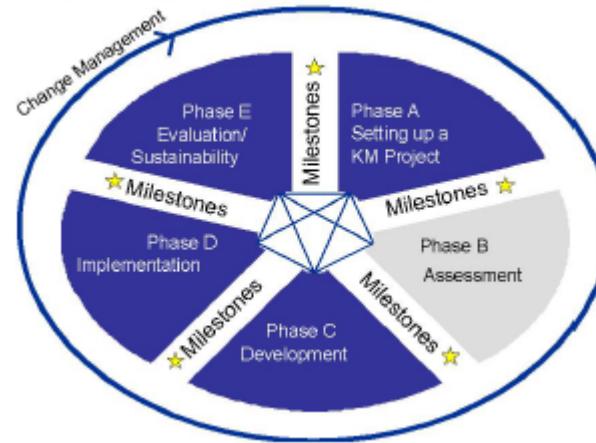
Phase A: Setting up a KM Project

Milestones



- A mission, vision and strategy for KM is defined and linked to the overall business strategy. The KM vision is easy to understand and communicated throughout the business. It gives answers to the following questions:
- Which knowledge is important for our business?
- Why is this knowledge so important for us?
- How we want to develop and handle this knowledge in the future in order to improve our business?
- The business area or business process with its key knowledge areas is identified and its status is assessed by the management team.
- The KM strategy is defined and detailed objectives are defined for the KM project.
- A KM project team is appointed and a sponsor from the management team is actively and visibly supporting the project.
- The KM project manager is appointed from within the business area selected for the KM project and other users are involved too. IT and HR, as well as marketing specialists are often nominated to provide expertise and to support the project team.

Phase B: Assessment

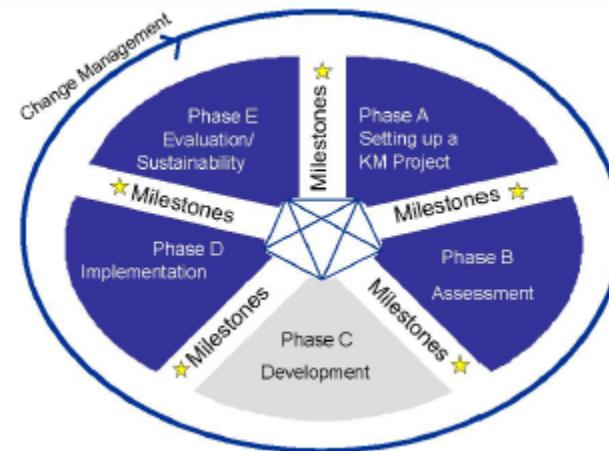


Milestones

The following results should be achieved at the end of Phase B:

- An adequate KM assessment tool should be selected.
- The chosen audit should be performed.

Phase C: Development



Milestones

The following results should be achieved at the end of Phase C:

- The final design of the KM solution should be laid down.
- Adequate KM methods and tools should be selected.

Phase D: Implementation Processes

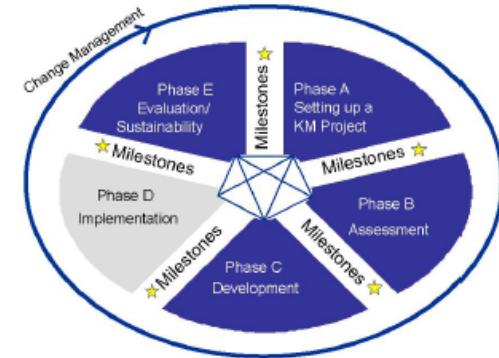
Milestones

The following results should be achieved at the end of Phase D:

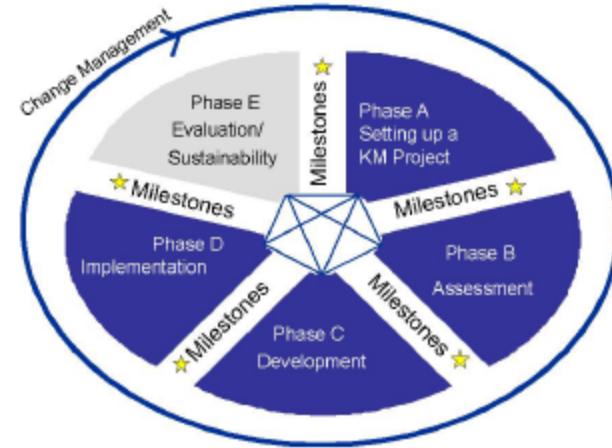
The implementation or pilot project is most important for the success of the full-scale project. It should be carefully planned as set out above, and each stage given a specified time-span for completion. Feedback on progress should be given to all participants, as this can have a positive effect on the morale of the people in the organization.

It is therefore advisable to carry out the following actions:

- Fix a cut-off date
- Decide how much time is to be spent on the implementation stage of the KM Project – e.g. two months.
- Set out the expected time required to reach each stage and at the same time organize a meeting of the people involved
- If this is a large group, it might be wise to limit the attendance to managers or other staff representatives who should report to their respective teams.
- Based on the results of the first milestone review meeting, the remaining planned milestones can then be moved forward or backward as required.
- Discuss the progress/implementation of the internal communication plan, including the identified barriers and facilitators for the implementation process. Hold the first meeting at the date and time specified, even if the project is not progressing as expected. The transparency and trust built up should be honored. The second milestone meeting could cover the success or otherwise of the use and acceptance of the tools introduced. Relevant feedback on training and learning problems should be identified and again communicated to the whole participating group so any problems could be solved before the main KM project is established.
- The final milestone meeting should report on the results of the pilot implementation and feedback of results, progress/lack of progress should be disseminated to the whole organization. Presenting the whole process, including progress achieved at the various milestones should be given a high profile within the organization.
- It is important that the final deadline for the implementation of the project is met.



Phase E: Evaluation/Sustainability



Milestones

The following results should be achieved at the end of Phase E:

- The KM project should be thoroughly evaluated.
- If the project was a success the methods introduced should be spread throughout the organization and become part of everybody's work.
- If the project was a failure, the reasons have to be investigated. It has to be decided whether the project should be re-launched or discarded.

Impacts of Low and High Competencies for the implementation of a KM programme

	Point	Low Competence	High Competence
2	Knowledge barriers	Barriers are not recognized and therefore few competencies or processes are being used to address them	Barriers have been investigated and addressed with appropriate strategies competencies and processes
3	The meaning of culture	That cultural considerations are of minor significance and that individuals can be forced to volunteer their knowledge	Understands and can respond appropriately to the cultural dynamics within the organization
4.1	Individual diversity	Low level of understanding of individual difference and its impact on cultural dynamics	High emotional intelligence. Recognizes and can predict with some degree of accuracy and manage the dynamics of the culture that emerge from this diversity
4	Individuals groups and organization	Thinks and acts in a strong 'command and control' style, without sufficient recognition of the benefit gained from informal structure	Actions show recognition of the importance of the relationship between individuals, working groups and the organization and also inter-organizational relationships. Space and location in the organization are used to stimulate interactions
4.1	Identity and the psychological contract	Low understanding and appreciation of identity and the psychological contracts that exist	Policies and behaviours indicate an awareness of and ability to support and develop knowledge aware individual and group identities. Ensures that the psychological contract is developed in an inclusive and supportive manner
4.2	Groups and Communities	Seeks to use only the formal structures and fails to encourage the informal organization	Encourages the use of time to develop and gain benefit from the informal as well as the formal organization

Source: CWA 14924-2

	Point	Low Competence	High Competence
4.3	The organization	Treating the organization as a single entity run from the top	Uses the organization as a dynamic entity with key points of expertise and influence throughout the organization
4.4	Formal and informal organizations	Fails to create and dispose of formal organizational structure at appropriate times. Makes poor use of informal structures	Appoints and restructures in line with a knowledge strategy developed from analysis of needs. Encourages informal structures and uses risk policies that will promote sharing, creation and application
5.1	Values and trust	Either creates an environment where values are unclear or worse stated but not enacted. Where trust and respect are not thought to be important to foster	Where behaviours support the values stated and behaviours that contravene values are discouraged and individuals are coached into more appropriate behaviours. Where respect for the diversity of individuals is evident and trust is fostered and demonstrably important
5.2	Leadership	Where there is little leadership demonstrated, poor judgment and reliability, thus creating low levels of trust and credibility and poor response to change	Where leadership qualities are valued and developed. Found at all levels of the organization thus improving judgment and response to situations arising and good interpersonal skills that foster sustainable change. Also creates more credibility and responsiveness in self-organizing groups
5.3	Credibility	Credibility is undermined or devalued. Little attention is given to the competencies that give credibility	Credibility is seen as important and steps are taken to sustain and build credibility as an important part of individual and group identity. Recognition and credibility building are key social benefits gained from effective CoPs.

Source: CWA 14924-2

5.4	Motivation	Little consideration is given to motivation and staff become demoralized. Or motivation is by fear and staff will limit their actions to low risk decisions thus limiting the use of relevant knowledge	Motivation is strongly linked to personal recognition and matches individual's profiles. Positive action is taken frequently with varied methods for giving small and larger forms of recognition but not biased towards financial rewards
6.1	Competencies	Poor understanding of the structure of competencies and incomplete training and appraisals systems	The importance of knowledge in developing competencies and its relationship to skills and attitude are understood and competencies are continually being developed in individuals. Competence growth is rewarded. Competencies required for KM form part of the strategy
6.2	Knowledge sharing and creating	Little attention is paid to the way knowledge assets are being used in the organization	The importance of sharing and creating knowledge is made clear to staff and supported by resources, expectations, and recognition. The continual drive through the knowledge process cycle is recognized and voiced as important
6.3	The Learning Organization	The significance of learning as a whole organization is not recognized	The concept and practices of a learning organization are understood and implemented, both as policy and as supported behaviours within the organization

Source: CWA 14924-2

	Point	Low Competence	High Competence
7.1	Community building	There is a strong reliance on formal structures and little or no resources are used for building communities	Policies and management support encourages time and other resources to be used developing communities. Skills for facilitating, administering, developing participation and outcomes, designing suitable work space, collaboration space etc. are important competencies in managers
7.2	Observation and Questioning	Assumptions are made without adequate investigation. Poor questioning skills produces resistance, misunderstanding or incorrect data	Good judgment about the choice between using external resources or internal personnel to undertake objective observation of real work practices. Non participative observation skills combined with good questioning and listening skills

Source: CWA 14924-2

7.3	Coaching and Mentoring	Telling people what to do and how to do it without building commitment and understanding in them	Coaching draws competence from the recipient. Coaching good performance and understanding requires the coach to suppress his/her views and concentrate on using open questioning to challenge existing beliefs and develop new approaches by getting the recipients to analyze themselves. Good mentoring requires the mentor to guide by using their experience as a basis for the protégés to practice those areas of experience and receive feedback on their performance
7.4	Narrative	Undervaluing the role that stories play in organizations and not developing any skills on where to use story or develop stories.	Encouragement in the use of story and development of good storytelling abilities in staff. Able to construct stories around archetypes and to use metaphor to convey important messages about values. Story used in a wide range of circumstances. Narrative databases and reconstructed story used to develop new levels of appreciation
7.5	Dialogue	Thinking that conversation, discussion and dialogue are all the same thing	Dialogue requires good meeting control skills to ensure that even most difficult things to reveal are expressed and reviewed objectively and without blame
7.6	IT enabler	Does not consider IT knowledge tools worth considering and does not evaluate IT possibilities	Will use collaboration, knowledge capture and distribution tools to good effect ensuring that users buy-in to the systems and that the systems have appropriate levels of relevance and usability to ensure long-term use.

Source: CWA 14924-2