



Odeta Kupetiene

# KNOWLEDGE MANAGEMENT

COURSE HANDBOOK



SMK University of Applied Social Sciences

Odeta Kupetiene

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Course Handbook

Klaipeda, 2015

Odeta Kupetiene

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Course handbook

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## INTRODUCTION

Every day the importance of knowledge grows and the effective use of knowledge in our lives is considered the key to development and innovation. In almost every organisation its effectiveness and growth have become more dependent on knowledge and this have brought the understanding that knowledge needs to be managed better. Whether the organisation is part of the private sector, government, or higher education, the challenge of and need for managing information and knowledge is a constant in our information-overloaded world.

This manual will help learners to develop knowledge and understanding of contemporary theories and practices of knowledge management (KM) and get acquainted with the common methods, tools and techniques often used for knowledge management in organisations. Topics include knowledge management principles, organisations and intellectual capital, organisational training and development, introduction to information systems and roles and responsibilities for knowledge workers. The course will explain the concept of 'intellectual capital' and how it is managed and grows in organisations. The practical activities will help to simulate and practice tools and methods of KM and to gain critical understanding of knowledge management policies and strategies in the modern organisations.

### **STUDY AIMS:**

- To provide an understanding of the importance of KM for all organisations in the Knowledge economy;
- Explore the diverse range of definitions and perspectives of knowledge management Explore the different conceptualisations of organizational learning;
- Describe different component technologies found in knowledge management;
- Explain how knowledge management systems can assist in a variety of organizational problems;
- Understand different ways of thinking about KM strategy;
- Understand the nature of organizational learning culture;
- Understand the roles and responsibilities of knowledge managers;
- Explain the characteristics of dominant models of the learning organization;
- To equip learners with methods, tools and techniques for KM implementations and integration in organisations.

### **AT THE END OF STUDY THE LEARNERS SHOULD BE ABLE TO:**

- ✓ Explain the diversity of disciplines and content that constitute the field of knowledge management;
- ✓ Describe the underlying philosophical traditions in western philosophy and their debates on the notion of knowledge;
- ✓ Explain common theories on how we learn as individuals;
- ✓ Distinguish between different tools for evaluating knowledge;
- ✓ Explain the nature of systems thinking;

- ✓ Explain the nature of organizational culture;
- ✓ Explain the nature of organizational change and the role of leadership in change processes;
- ✓ Explain the differences between organizational learning and the learning organization;
- ✓ Use different KM tools and methods as individuals or as knowledge workers in organisations.

# 1. CHAPTER: INTRODUCTION TO KNOWLEDGE MANAGEMENT



## Overview

In this chapter we explore the nature of knowledge management and explain the diversity of disciplines and content that make up the field of knowledge management.

Chapter also discuss different definitions of knowledge management and the origins of knowledge and the distinction between terms of data, information and knowledge between data management, information management and knowledge management.

## Aims

The three main aims of this stage are to:

- Explore the diverse range of definitions and perspectives of knowledge management;
- Examine the differences between the terms data, information and knowledge;
- Describe how knowledge has been managed across history to our modern digital age.

## Learning outcomes

After completing this section, the learner should be able to:

- Describe the difference between the terms, data, information and knowledge;
- Explain why KM is so important
- Understand the differences in the management of knowledge from ancient to modern times;
- Distinguish between different perspectives in the knowledge management (KM) methodology.

## 1.1. Why knowledge management is so important?

Knowledge management is essentially about getting the right knowledge to the right person at the right time (A. Frost, 2010). At first sight it seems really simple, but this implies a strong tie to corporate strategy, understanding of where and in what forms knowledge exists, creating processes that span organisation functions and ensuring that initiatives are accepted and supported by organisational members. Knowledge management is based on the idea that an organisation's most valuable resource is the knowledge of its people. Therefore, the extent to which an organisation performs well, will depend, among other things, on how effectively its people can create new knowledge, share knowledge around the organisation, and use that knowledge to best effect.

Fundamentally, knowledge management is about applying the collective knowledge of the entire workforce to achieve specific organisational goals. The aim of KM is not necessarily to manage all knowledge, just the knowledge that is most important to the organisation. It is about ensuring that people have the knowledge they need, where they need it, when they need it – the right knowledge, in the right place, at the right time. (ABC of Knowledge management, 2005). Knowledge management is in essence an organizing principle, which lays foundation for capturing the potentials of the possessed knowledge within an organization. The very essence of knowledge management is a mix of skills and experiences a new approach to organisation



development, and a new focus on the management of people. This type of management is developed in order to help the organisations to better manage, share, create and distribute their knowledge based assets.

It is important to remember that knowledge management is not about managing knowledge for knowledge sake. The overall objective is to create value and to leverage, improve and refine the competences and knowledge assets to meet organisations goals and objectives. So implementation of KM system has several main dimensions:

- **KM strategy** (KM strategy tightly related with corporate strategy aimed to manage, share, create relevant knowledge assets that will help meet tactical and strategic requirements).
  - **Organisational culture** (it influences the context within which knowledge is created, the resistance they will have towards certain changes, and ultimately the way they share (or the way they do not share knowledge).
  - **Organisational policy** (the long –term support to implement initiatives that involve KM in all organisational functions).
  - **Organisational processes** (procedures, environments and systems that enable KM to be implemented in the organisation).
  - **Management and measurement** (KM requires competent and experienced leadership at all levels and specific KM positions and roles, not only for management but for measurement of KM progress)
  - **Technology** (The systems, tools and technologies that fit the organisation’s requirements)
- (Figure 1.1.).

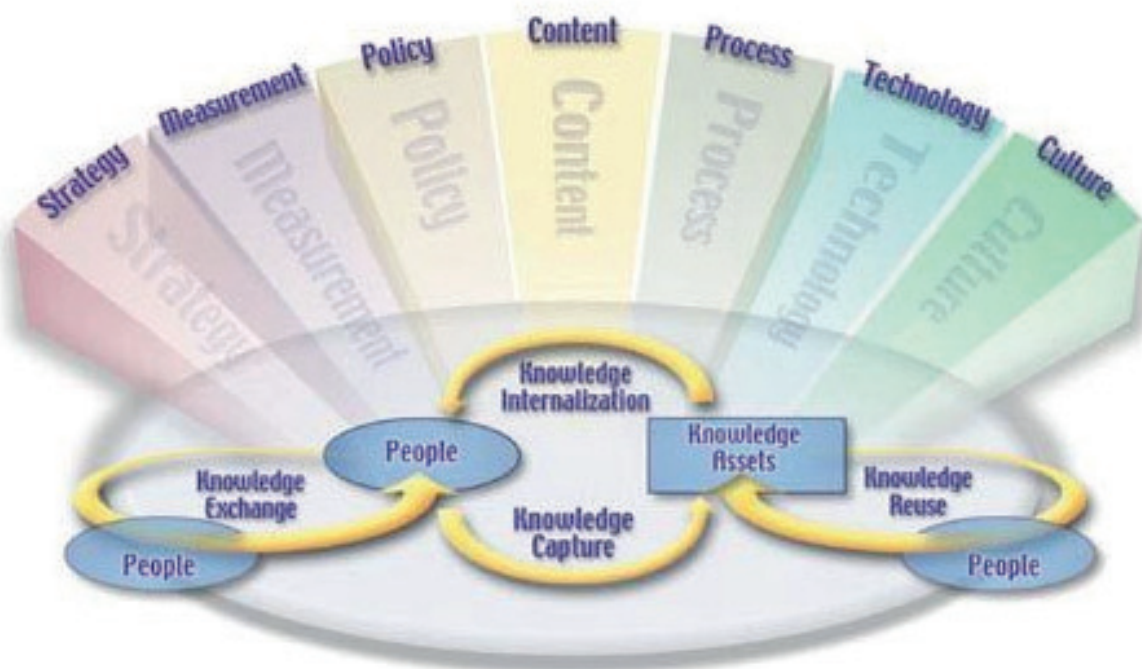


Figure 1.1. Dimensions of knowledge management (from <http://www.fisheries.go.th/train-gr/coastal/>)

Knowledge management is based on the idea that an organisation's most valuable resource is the knowledge of its people. This is not a new idea – organisations have been managing “human resources” for years. What is new is the focus on knowledge. This focus is being driven by the accelerated rate of change in today's organisations and in society as a whole. Knowledge management recognises that today nearly all jobs involve “knowledge work” and so all staff are “knowledge workers” to some degree or another – meaning that their job depends more on their knowledge than their manual skills. This means that creating, sharing and using knowledge are among the most important activities of nearly every person in every organisation (ABC of Knowledge management, 2005).

Term knowledge management formally became popular in late 1980s ( at that time conferences on KM topic began appear, first books on KM were published), when practitioners and scholars recognised that capital and labour based industries were continuing to decline whereas knowledge based industries were growing and highly profitable. One of the key driving forces behind this situation had been the rapid rise of information technologies at this time. With the development of information technologies created opportunities for generating and disseminating new forms of knowledge across organizations and knowledge assets become more important than physical assets. Intellectual assets are represented by the sum total of what employees of the organization know and know how to do. The value of these knowledge assets is at least equal to the cost of recreating this knowledge. Knowledge had become the most important source of competitive advantage and given rise to the emerging discourse of knowledge management. Organizations couldn't continue in their old ways and had to look at how best to manage this valuable resource called knowledge.

It has been argued that knowledge management is a poor term because knowledge cannot be managed. This is because knowledge lives primarily in the mind. Information management doesn't prove to be much of an improvement in terminology because it carries with it decades of baggage and preconceptions that focus solely on technology. Effective management of your infinite assets requires a much broader focus that includes the philosophies, techniques, and infrastructure components necessary to drive collaboration, innovation, and business agility. KM focuses on utilizing new ways to channel raw data into meaningful information and hopefully knowledge. (Groff and Jones, 2003, p.2).

Almost everything what is done in organisation is based on its people knowledge. If organisational knowledge is not constantly updated and renewed, shared and developed, then organisation will ultimately suffer. Therefore, the extent to which an organisation performs well, will depend, among other things, on how effectively its people can create new knowledge, share knowledge around the organisation, and use that knowledge to best effect.

Fundamentally, knowledge management is about applying the collective knowledge of the entire workforce to achieve specific organisational goals. The aim of knowledge management is not necessarily to manage all knowledge, just the knowledge that is most important to the organisation. It is about ensuring that people have the knowledge they need, where they need it, when they need it – the right knowledge, in the right place, at the right time.

Knowledge management provides benefits to individual employees, to communities of practice, and to the organization itself. At individual level KM helps people do their jobs and save time through better decision making and problem solving; helps to keep in touch and up to date with the recent developments in organisation and provides challenges and opportunities to contribute. For the team or project group KM help to develop professional skills and facilitates more effective networking and collaboration, develops a professional code of ethics and a common language. As for the organization, KM helps to drive strategy, to share best practices, embed products and services and enables organizations to better stay ahead of the competition.



Almost everything what is done in organisation is based on its people knowle!

***Patrizi and Levin (2007) also summarised the business value of knowledge management processes as below:***

- 1) Increasing revenue by providing re-usable assets;
- 2) Improving quality as a result of real-time access to the appropriate resources;
- 3) Enhancing ability to share best practices through global and local Communities;
- 4) Improving customer and employee satisfaction as a result of fast and easy access to accurate and relevant information;
- 5) Decreasing delivery costs as a result of improved processes for storing and retrieving knowledge;
- 6) Decreasing time to “ramp up” new employees with easy availability of people and other assets to learn;
- 7) Supporting of employee skill building and improving ability to transfer knowledge.

Summing up, knowledge management is based on the idea that an organisation’s most valuable resource is the knowledge of its people. And it is not a new idea – organisations have been

managing “human resources” for years, the new aspect is the focus on knowledge. Knowledge management recognises that today nearly all jobs involve “knowledge work” and so all staff are “knowledge workers” to some degree or another – meaning that their job depends more on their knowledge than their manual skills. This means that creating, sharing and using knowledge are among the most important activities of nearly every person in every organisation.

## 1.2. Different Definitions of Knowledge Management

As a scientific discipline and a business practice KM is of a multidisciplinary nature. The discipline takes roots from different sciences, such as anthropology, management science, sociology, education, economics, information science and involves dimensions of organisational learning, culture, intellectual capital, strategic management and change management (Figure 1.2.).

A. Jashpara in his handbook “Knowledge Management. An integrated Approach) explains what given the multidisciplinary nature of KM, it is not surprising that the variety of current definitions comes from a number of different perspectives: some come from an information systems perspective, while others suggest a human-resource perspective, a few definitions have begun to adopt a more strategic perspective, recognising the importance of knowledge management practices for gaining competitive advantage.

*Some of the definitions of knowledge management:*

- Knowledge management involves all methods, instruments and tools that in a holistic approach contribute to the promotion of core knowledge processes. (Mertins et.al (2000);

- Knowledge management is a process that emphasises generating, capturing and sharing information know how and integrating these into business practices and decision making for greater organisational benefit;

...Improving the ways in which firms facing highly turbulent environments can mobilise their knowledge base assets in order to ensure continuous innovations.” Newell et. al. (2009).

- Knowledge Management is the systematic and deliberate creation, renewal, application, and leveraging of knowledge and other intellectual capital (IC) assets to maximise the individual’s and the enterprise’s knowledge-related effectiveness and returns. Wiig 2004.

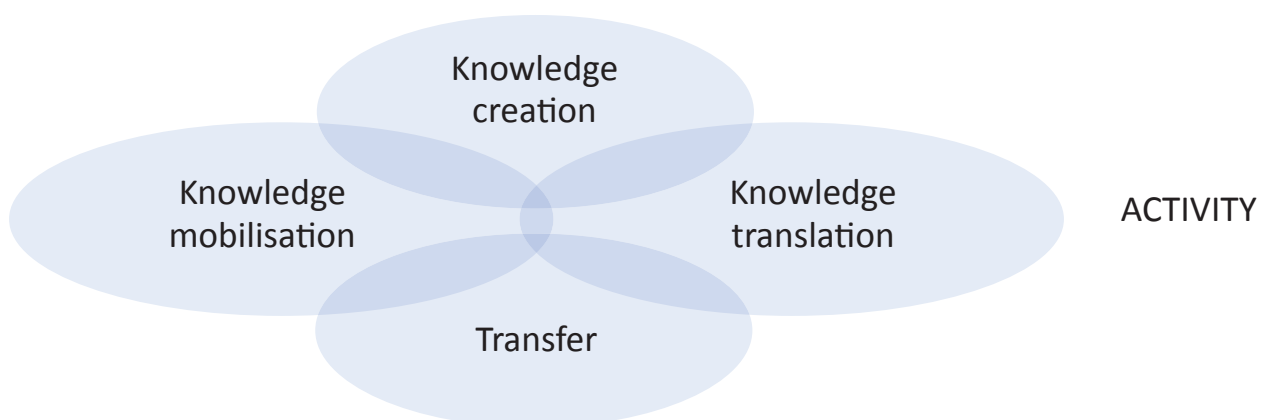


Figure 1.2. Tree of knowledge management- disciplines, content and activity (Newell et. al. 2009)

A. Frost, (2010) in Knowledge management tools network (<http://www.knowledge-management-tools.net/knowledge-management-definition.html>) provides such an explicit definition of what is and what encompasses KM:

Knowledge Management is the systematic management of an organization's knowledge assets for the purpose of creating value and meeting tactical & strategic requirements; it consists of the initiatives, processes, strategies, and systems that sustain and enhance the storage, assessment, sharing, refinement, and creation of knowledge. Expanding upon the previous knowledge management definition, KM involves the understanding of where and in what forms knowledge exists; what the organization needs to know; how to promote a culture conducive to learning, sharing, and knowledge creation; how to make the right knowledge available to the right people at the right time; how to best generate or acquire new relevant knowledge; how to manage all of these factors so as to enhance performance in light of the organization's strategic goals and short term opportunities and threats.

KM must therefore create/provide the right tools, people, knowledge, structures (teams, etc.), culture, etc. so as to enhance learning; it must understand the value and applications of the new knowledge created; it must store this knowledge and make it readily available for the right people at the right time; and it must continuously assess, apply, refine, and remove organizational knowledge in conjunction with concrete long and short term factors.

From this knowledge management definition we can see that it depends upon the management of the organization's knowledge creation and conversion mechanisms; organizational memory and retrieval facilities; organizational learning; and organizational culture. These concepts will be explored in more detail in the following sections.

One popular and widely-used approach is to think of knowledge management in terms of three components, namely people, processes and technology (presented in ABC of KM, G. Servin, 2005)

**People:** getting an organisation's culture (including values and behaviours) working for KM is typically the most important and yet often the most difficult challenge. Knowledge management is first and foremost a people issue. Does the culture of your organisation support ongoing learning and knowledge sharing? Are people motivated and rewarded for creating, sharing and using knowledge? Is there a culture of openness and mutual respect and support? Or is your organisation very hierarchical where "knowledge is power" and so people are reluctant to share? Are people under constant pressure to act, with no time for knowledge-seeking or reflection? Do they feel inspired to innovate and learn from mistakes, or is there a strong "blame and shame" culture?

**Processes:** In order to improve knowledge sharing, organisations often need to make changes to the way their internal processes are structured, and sometimes even the organisational structure itself. For example, if an organisation is structured in such a way that different parts of it are competing for resources, then this will most likely be a barrier to knowledge sharing. Looking at the many aspects of "how things are done around here" in your organisation, which processes constitute either barriers to, or enablers of, knowledge management? How can these processes

be adapted, or what new processes can be introduced, to support people in creating, sharing and using knowledge?

Technology: a common misconception is that KM is mainly about technology getting an intranet, linking people by e-mail, compiling information databases etc. Technology is often a crucial enabler of knowledge management – it can help connect people with information, and people with each other, but it is not the solution. And it is vital that any technology used “fits” the organisation’s people and processes – otherwise it will simply not be used.

These three components are often compared to the legs of a three-legged stool – if one is missing, then the stool will collapse. However, one leg is viewed as being more important than the others – people. An organisation’s primary focus should be on developing a knowledge-friendly culture and knowledge-friendly behavior among its people, which should be supported by the appropriate processes, and which may be enabled through technology.

### 1.3. Principles of Knowledge Management

Understanding knowledge is the first step to managing it effectively. KM principles could be regarded as a dozen characteristics of knowledge, and some tools and approaches for making the most of the knowledge assets in the organization. Thomas H. Davenport, professor and practitioner describes KM strategy based on ten principles. in his article “Some Principles of Knowledge Management” (<http://www.strategy-business.com/articles>). Success of business organisations can depend of the ability to implement these principles into daily working practice. Regardless that principles may be profound, they need to be applied in a meaningful, balanced and holistic way.

*Ten principles of KM according to T.H. Davenport (full article can be found on <http://www.strategy-business.com>):*

<p><b>1. Knowledge management is expensive ( but so is stupidity!).</b></p>	<p>Effective management of knowledge asset requires investment of other assets. Many particular knowledge management activities require an investment of money or labor, such as:</p> <ul style="list-style-type: none"> <li>• Knowledge capture, i.e., creation of documents and moving documents onto computer systems - - Adding value to knowledge through editing, packaging, and pruning</li> <li>• Developing knowledge categorization approaches and categorizing new contributions to knowledge;</li> <li>• Developing information technology infrastructures and applications for the distribution of knowledge;</li> <li>• Educating employees on the creation, sharing, and use of knowledge.</li> </ul>
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<p><b>2. Effective KM requires hybrid solutions of people and technology</b></p>	<p>People in organisation are accomplished at certain knowledge skills. When we seek to understand knowledge, to interpret it within a broader context, to combine it with other types of information, or to synthesize various unstructured forms of knowledge, we must rely on people. Information technologies and communications systems could be used for the capture, transformation, and distribution of highly structured knowledge that changes rapidly. Given this mixture of skills, we need to construct hybrid knowledge management environments in which we use both humans and information technologies in complementary ways.</p>
<p><b>3. KM is highly political</b></p>	<p>Knowledge managers need to understand that knowledge is a power and should acknowledge and cultivate politics. They should lobby for the use and value of knowledge. They should broker deals between those who have knowledge and those who use it. They should cultivate influential “opinion leaders” as early adopters of knowledge management approaches. At the highest level, they must try to shape the governance of knowledge to better utilize it across the organization.</p>
<p><b>4. KM requires knowledge managers.</b></p>	<p>Knowledge won't be well-managed until some group within a firm has clear responsibility for the job. Among the tasks that such a group might perform are collecting and categorizing knowledge, establishing a knowledge-oriented technology infrastructure, and monitoring the use of knowledge.</p>
<p><b>5. KM benefits more from maps than models, more from markets than from hierarchies.</b></p>	<p>Knowledge managers can learn from the experience of data managers, whose complex models of how data would be structured in the future were seldom realized. Firms rarely created maps of the data, so they never had any guides to where the information was in the present. Letting the market work means that knowledge managers try to make knowledge as attractive and accessible as possible, and then observe what knowledge gets requested using what specific terms.</p>
<p><b>6. Sharing and using knowledge are often unnatural acts.</b></p>	<p>To enter our knowledge into a system and to seek out knowledge from others is not only threatening, but also just plain effort—so we have to be highly motivated to undertake such work. If the knowledge manager adopted this principle, someone wouldn't take sharing and use of knowledge for granted. Managers must realize that sharing and usage have to be motivated through time-honored techniques—performance evaluation, compensation, for example.</p>

<p><b>7. Knowledge management means improving knowledge work processes.</b></p>	<p>It is important to address and improve the generic knowledge management process, but knowledge is generated, used, and shared intensively in a few specific knowledge work processes. The specific processes vary by firm and industry, but they include market research, product design and development, and even more transactional processes like order configuration and pricing. If real improvements are to be made in knowledge management, improvements must be made in these key business processes.</p>
<p><b>8. Knowledge access is only the beginning.</b></p>	<p>In order for knowledge consumers to pay attention to knowledge, they must become more than passive recipients. More active involvement with knowledge can be achieved through summarizing and reporting it to others, through role-playing and games based on usage of the knowledge, and through receiving the knowledge through close interaction with providers.</p>
<p><b>9. Knowledge management never ends.</b></p>	<p>Knowledge managers may feel that if they could only get their organization's knowledge under control, their work would be done. However, the tasks of knowledge management are never-ending. Like human resource management or financial management, there is never a time when knowledge has been fully managed.</p> <p>One reason that knowledge management never ends is that the categories of required knowledge are always changing. New technologies, management approaches, regulatory issues, and customer concerns are always emerging. Companies change their strategies, organizational structures, and product and service emphases. New managers and professionals have new needs for knowledge.</p>
<p><b>10. Knowledge management requires a knowledge contract.</b></p>	<p>Employees move more quickly to new jobs and new organizations; the distinction between work life and home life is more ephemeral, and there are more contingent workers. In any case, few firms have done a good job of extracting and documenting any employee's knowledge in the past. If knowledge is really becoming a more valued resource in organizations, we can expect to see more attention to the legalities of knowledge management.</p>





## 1.4. Practical Assignments of First Topic: Introduction to KM

### 1. Exercise: WHAT IS KNOWLEDGE MANAGEMENT

Please, try to describe, what KM is for you and what it is not in your understanding:

What Knowledge management is?	What Knowledge management is NOT?

**2. Discussion Points. Look for your arguments, use concept analyses and prepare for the discussion on the following topics:**

- a) "Knowledge management is not anything new."
- b) Every organisation should do KM
- c) Knowledge managers should be top managers in the organisations;
- d) Knowledge assets versus physical assets.
- e) KM depends mostly on organisational culture.

### 3. Practical assignment: DEFINITIONS OF KNOWLEDGE MANAGEMENT

- a) Please read carefully the definitions of KM provided in the table below.
- b) As you read the definitions, you will see that the emphasis of the definitions is either from a human resource perspective, an information systems perspective or a strategy one. Please try to identify the perspective for each definition and complete the table.
- c) Now, try to integrate these different perspectives that relies on synergies is more likely to achieve success from an interdisciplinary perspective and write it into table below:
- a) Explain shortly your choice of combination of the perspectives and definition of Knowledge management.

*Different definitions in KM*

Definition	Authors, source	Perspective:
“Clinical knowledge management means enhancing the identification, dissemination, awareness and application of the results of research relevant to clinical practice in health and social care.”	Jeremy Wyatt;	Integration (information systems and human resources)
The creation and subsequent management of an environment, which encourages knowledge to be created, shared, learnt, enhanced, organised and utilized for the benefit of the organisation and its customers.”	Abell & Oxbrow, 2001;	human resource process
“Knowledge management is a process that emphasises generating, capturing and sharing information know how and integrating these into business practices and decision making for greater organisational benefit.	Maggie Haines, NHS Acting Director of KM;	
The capabilities by which communities within an organisation capture the knowledge that is critical to them, constantly improve it, and make it available in the most effective manner to those people who need it, so that they can exploit it creatively to add value as a normal part of their work.”	BSI’s A Guide to Good Practice in KM;	
Knowledge management involves all methods, instruments and tools that in a holistic approach contribute to the promotion of core knowledge processes.	Mertins et.al (2000)	

...Improving the ways in which firms facing highly turbulent environments can mobilise their knowledge base assets in order to ensure continuous innovations.“	Newell et. al. (2009).	
Knowledge is power, which is why people who had it in the past often tried to make a secret of it. In post-capitalism, power comes from transmitting information to make it productive, not from hiding it!”	Peter Drucker	
Knowledge management is not about data, but about getting the right information to the right people at the right time for them to impact the bottom line	IBM	
“The capability of an organization to create new knowledge, disseminate it throughout the organization and embody it in products, services and systems.”	Nonaka & Takeuchi, 1995	
“Knowledge management is a relatively young corporate discipline and a new approach to the identification, harnessing and exploitation of collective organisational information, talents, expertise and know-how.”	Office of thee-Envoy, 2002	
Knowledge Management is the systematic and deliberate creation, renewal, application, and leveraging of knowledge and other intellectual capital (IC) assets to maximise the individual’s and the enterprise’s knowledge-related effectiveness and returns.	Wiig 2004, p. 217	

#### 4. Exercise. Critical Thinking and Reflection on the 1st topic

<p>Dr. Ed Rogers, have created the Top 10 Knowledge Management Myths (Some of these myths are adapted from a “Top Ten Mistakes of CoP’s” list produced by John Hickok, director, Defense Acquisition University (DAU), knowledge management).</p>
<p><b>There are Ten Myths About Knowledge Management</b></p> <ol style="list-style-type: none"> <li>10. Culture can be mandated from the top.</li> <li>9. Collaboration can be “purchased” or sharing can be rewarded.</li> <li>8. Knowledge management can be outsourced.</li> <li>7. Anybody (who isn’t busy) can do knowledge management.</li> <li>6. Knowledge management can be done by buying the right software.</li> <li>5. Knowledge management can be independent of the business process.</li> <li>4. Communities of practice can be established by the top.</li> <li>3. Knowledge management is about centralizing knowledge content to use it more efficiently.</li> <li>2. Knowledge management is really about databases.</li> <li>1. Knowledge management is an IT function and should be given to the chief information officer.</li> </ol>

What is your opinion about these myths? Think about where they may come from. Do you agree that some may come from organization backgrounds, Information systems backgrounds or strategy backgrounds? Please reflect shortly on these myths.



## CHAPTER 2. KNOWLEDGE AND LEARNING IN ORGANISATION

### Overview

In this chapter we explore what is knowledge and what is difference between knowledge and data, information and types of knowledge (explicit and tacit, old and new). In this chapter also we explore the learning organisation and develop a holistic overview of knowledge elements such as people and culture, processes, technology and content and resources, processes, culture and their interrelationships.

### Aims

The main aims of this stage are to:

- Explore the diverse range of definitions and perspectives of knowledge;
- Examine the differences between the terms data, information and knowledge;
- Describe how knowledge can be divided and explored from the different perspectives.
- Understand the meaning and importance of intellectual capital in organisation.

### Learning outcomes

After completing this section, the learner should be able to:

- Analyse, and synthesise a range of viewpoints about knowledge
- Understand the characteristics of a knowledge and nature of knowledge
- Explain the difference between data, information and knowlde;
- Apply concepts of intellectual capital in practice;
- Understand different elements of KM such as overview of knowledge elements such as people and culture, processes, technology and content and resources, processes, culture and their interrelationships.
- Understand how knowledge sharing and transferring could be organise within an organisation.
- Understand the concept of organisational learning and main principles of learning in organisation.

### 2.1. What is Knowledge?

Understanding knowledge is important step to managing it effectively. Common definition of knowledge in the dictionary could be “the facts, feelings or experiences known by a person or group of people” (Collins English Dictionary). According to Webster’s Dictionary, knowledge is “the fact or condition of knowing something with familiarity gained through experience or association”. A frequently used definition of knowledge is “the ideas or understandings which an entity possesses that are used to take effective action to achieve the entity’s goal(s). The definitions of Knowledge in the Oxford English Dictionary are:

- 1) *Information and skills acquired through experience or education*
- 2) *The sum of what is known*
- 3) *Awareness or familiarity gained by experience of a fact or situation.*



(image taken from <http://www.dreamstime.com>).

Davenport and Prusak (2000, p. 5) stated that knowledge is *“a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates in and is applied in the minds of knowers. In organisations, it often becomes embedded not only in documents or repositories but also in organisational routines, processes, practices, and norms...”*

Knowledge are related and can be derived from information but it is richer and more meaningful than information. It includes familiarity, awareness and understanding gained through experience or study, and results from making comparisons, identifying consequences, and making connections. Some experts include wisdom and insight in their definitions of knowledge. In organisational terms, knowledge is generally thought of as being “know how”, “applied information”, “information with judgement” or “the capacity for effective action”.

Researcher Verna Allee in her management book *“The Knowledge Evolution: Expanding Organizational Intelligence”*, 1997 states what it’s a fact that knowledge is edging out buildings and gear as the essential business asset. Even advertising and marketing use such words as knowledge, intelligence, and ideas. When many companies must innovate or die, their ability to learn, adapt, and change becomes a core competency for survival. Most seek more knowledge through training, education, and career development. Every business is a knowledge business; every worker is a knowledge worker.

The knowledge economy has brought new power to workers. They can sell it, trade it, or give it away and still own it. As a result, the ways we manage people have undergone a dramatic, fundamental shift.

Knowledge is perishable. The shelf life of expertise is limited because new technologies, products, and services continually pour into the marketplace. No one can hoard knowledge. People and companies must constantly renew, replenish, expand, and create more knowledge.

V. Allee provides very useful knowledge characteristics and approaches for making the most of the knowledge assets in an organisation ([www.vernaallee.com](http://www.vernaallee.com)):

- Knowledge is messy. Because knowledge is connected to everything else, you can’t isolate the knowledge aspect of anything neatly. In the knowledge universe, you can’t pay attention to just one factor.

- Knowledge is self-organizing. The self that knowledge organizes around is organizational or group identity and purpose.
- Knowledge seeks community. Knowledge wants to happen, just as life wants to happen. Both want to happen as community. Nothing illustrates this principle more than the Internet.
- Knowledge travels via language. Without a language to describe our experience, we can't communicate what we know. Expanding organizational knowledge means that we must develop the languages we use to describe our work experience.
- The more you try to pin knowledge down, the more it slips away. It's tempting to try to tie up knowledge as codified knowledge-documents, patents, libraries, databases, and so forth. But too much rigidity and formality regarding knowledge lead to the stultification of creativity.
- Looser is probably better. Highly adaptable systems look sloppy. The survival rate of diverse, decentralized systems is higher. That means we can waste resources and energy trying to control knowledge too tightly.
- There is no one solution. Knowledge is always changing. For the moment, the best approach to managing it is one that keeps things moving along while keeping options open.
- Knowledge doesn't grow forever. Eventually, some knowledge is lost or dies, just as things in nature. Unlearning and letting go of old ways of thinking, even retiring whole blocks of knowledge, contribute to the vitality and evolution of knowledge.
- No one is in charge. Knowledge is a social process. That means no one person can take responsibility for collective knowledge.
- You can't impose rules and systems. If knowledge is truly self-organizing, the most important way to advance it is to remove the barriers to self-organization. In a supportive environment, knowledge will take care of itself.
- There is no silver bullet. There is no single leverage point or best practice to advance knowledge. It must be supported at multiple levels and in a variety of ways.
- How you define knowledge determines how you manage it. The "knowledge question" can present itself many ways. For example, concern about the ownership of knowledge leads to acquiring codified knowledge that is protected by copyrights and patents.

## 2.2. Difference between data, information, knowledge and wisdom

*“Where is the wisdom we have lost in knowledge?  
Where is the knowledge we have lost in information?”*

*T. S. Eliot.*

Concept of knowledge is closely related to data, information and wisdom. It is important for KM practitioners to understand the difference between these terms and their usage. This section will try to explain out the distinctions between data, information and knowledge to allow these concepts to be made more meaningful.

**Data** can be described as facts and figures which relay something specific, but which are not organised in any way and which provide no further information regarding patterns, context, etc. It is unstructured facts and numbers what only after organising them in some ways can be used. Data is a set of discrete, objective facts about events, and is not meaningful as it represents observations or facts out of the context.

**Information** could be considered as systematically organised data and is the result of placing data within some meaningful context, often it is in the form of a document or an audible or visible communication. Information has a sender and a receiver and the information is aimed at giving some new facts and understanding for the receiver. Another conception of information is data that are endowed with meaning relevancy and purpose.

**Knowledge** is closely linked to doing and implies know-how and understanding. Knowledge is also used to mean the understanding of a subject, potentially with the ability to use it for a specific purpose. Knowledge can change in response to new information or analyses. The main source of knowledge usually is learning, education, science, reflection, blending of information, experience, skills, insight, investigation and observation.

The knowledge possessed by each individual is a product of his experience, and encompasses the norms by which he evaluates new inputs from his surroundings is a fluid mix of framed experience, values, contextual information, expert insight, and grounded intuition that provides an environment and framework for evaluating and incorporating new experiences and information. It originates and is applied in the mind of the knowers. In organizations it often becomes embedded not only in documents or repositories, but also in organizational routines, practices and norms. (Davenport & Prusak 2000).

The key difference between knowledge and information is that knowledge gives us the power to take action. We can use it.

**Wisdom** could be described as the ability to act critically or practically in given situation. It is usually based on ethical judgement related to an individual's belief system (A. Jashapara, 2011). Wisdom is the ability to make correct judgments and decisions. It is an intangible quality gained through our experiences in life. Knowledge is gathered from learning and education, while most say that wisdom is gathered from day-to-day experiences and is a state of being wise.



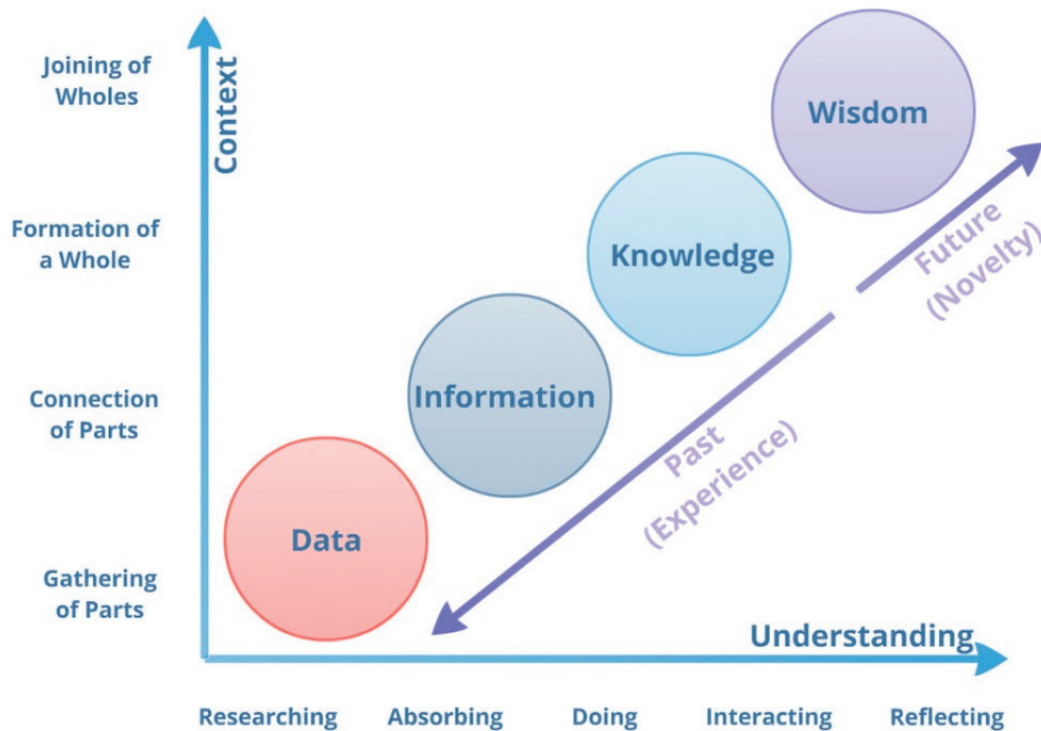


Figure 2.2. Difference between data, information, knowledge and Wisdom

Russ Ackoff "From Data to Wisdom", Journal of Applied Systems Analysis, Volume 16, 1989 p 3-9.

Knowledge is merely having clarity of facts and truths, while wisdom is the practical ability to make consistently good decisions in life. Source of wisdom is self, intuition, personal experience and manifest as the ability to use knowledge or experience wisely. Wisdom comes from observing experiences and learning from them in a way that affects future decisions and behavior; it is the capacity to see the truth of a matter, in spite of any illusions or distractions. For example, someone might spend beyond his means and end up in unnecessary debt, but if he is wise this will only ever happen to him once, as he will have learned from his mistake; in the future, he will save his money before he spends it carelessly. An even wiser person might avoid such a mistake altogether by listening to the wisdom of others or by wisely choosing to seek information (knowledge) on how to properly manage finances. Wisdom is the ability to see through complexity and discover the fundamental nature of issues or problems. Wisdom stands in the highest hierarchy of terms analysed in this section. (figure 2.2.)

In order for KM to succeed, one needs a deep understanding of what constitutes knowledge. Now that we have set clear boundaries between knowledge, information, and data, it is possible to go one step further and look at the forms in which knowledge exists and the different ways that it can be accessed, shared, and combined.

## 2.3. Types of knowledge: explicit and tacit

Understanding the different forms that knowledge can exist in, and thereby being able to distinguish between various types of knowledge, is an essential step for KM. For example, it should be fairly evident that the knowledge captured in a document would need to be managed (i.e. stored, retrieved, shared, changed, etc.) in a totally different way than that gathered over the years by an expert master.

In the area of business and KM knowledge usually is distinguished into two types: explicit and tacit (according to Polanyi).

Explicit knowledge includes things that you can easily pass on to someone else by teaching or putting it into a database or a book. Explicit knowledge is deeply ingrained in the traditions of management theory, it is in the form of words, numbers and can be easily communicated and shared in the form of hard data, formulae, codified procedures. Explicit knowledge is flexible and can often be reorganised to suit our purpose. Explicit knowledge can be categorised as either structured or unstructured. Documents, databases, and spreadsheets are examples of structured knowledge, because the data or information in them is organised in a particular way for future retrieval. Explicit knowledge can be categorised as either structured or unstructured. Documents, databases, and spreadsheets are examples of structured knowledge, because the data or information in them is organised in a particular way for future retrieval. In contrast, e-mails, images, training courses, and audio and video selections are examples of unstructured knowledge because the information they contain is not referenced for retrieval.

### **Examples of explicit knowledge could be:**

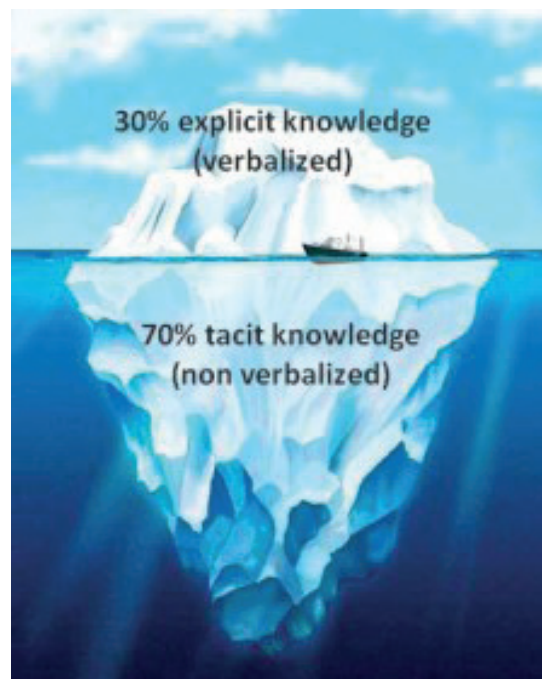
- User instructions;
- Written and standard procedures;
- Best practices;
- Lessons learned and research findings;
- Memos, notes, documents.

Tacit Knowledge is less quantifiable. This is knowledge that's most often learned by experience, expertise or intuition. It is something you know, but don't necessarily know that you know, not easily visible and expressible; it is highly personal and hard to formalise, making it difficult to communicate or to share with others; subjective insights, intuitions and hunches are classified as tacit knowledge (Nonaka & Takeuchi 1995). This type of knowledge sometimes is referred to as know-how. Tacit knowledge encompasses various phenomena, such as the ability to recognise something even without knowing how the recognition works. While explicit knowledge can be expressed and communicated linguistically, tacit knowing cannot be captured in language without reliance on context-dependent or demonstrative elements. But tacit knowing can still be communicated and shared. The mechanism of transmission is not telling and understanding, but rather performance and imitation (learning by example).

Table. No 1. Explicit and tacit knowledge in organisation

	<b>Explicit knowledge</b>	<b>Tacit knowledge</b>
<i>Nature</i>	Easily identifiable Relatively easy to share Intrinsically incomplete; lacks context and requires interpretation	Within-person knowledge Difficult to articulate Hard to share Can be shared only indirectly
<i>Typical examples</i>	Information Know-that Theoretical knowledge	Intuition and insight Practical intelligence, skills and practice Know – how and heuristics Rules of thumb Mental models and beliefs
<i>Mechanism of generating and sharing</i>	Codification Documentation Databases and search engines Blogs, wikis and intranets	Practice Personal and team reflection Drawing mental maps Apprenticeships Social interaction and mentoring Story – telling and metaphors New codification systems can make some tacit knowledge easier to share, through converting some elements of it into explicit knowledge

Image below illustrates the iceberg's theory how corporate knowledge works in a company, especially regarding both explicit and tacit knowledge. (from <https://corporateknowledgesolutions.wordpress.com>)



David W. DeLong, in his book “Lost Knowledge”, mentions an example that clearly illustrates this fundamental need to capitalize on employees’ knowledge.

*“A technician making control boards on a radar equipment assembly line at Texas Instruments took early retirement, and immediately parts coming off the line began failing Quality Assurance (QA) tests for some mysterious reason. A team of expensive engineering consultants can only validate that the unit is producing boards built to specifications. Finally, with the assembly line down, exasperated managers brought the retired technician back, and she quickly diagnosed the problem as faulty documentation on an assembly procedure. This veteran technician had always ignored the incorrect instructions because she knew how to produce a control board that worked. But before the knowledge is recovered, the unit lost over \$200,000 in sales revenues and almost lost its new contract with a major customer.”* (<https://corporateknowledgesolutions.wordpress.com>).

KM and organisational learning theory almost always take root in the interaction and relationship between these two types of knowledge introduced and developed by Nonaka in the 90’s. It is rather theoretical distinction, therefore in practice, all knowledge is a mixture of tacit and explicit elements rather than being one or the other. However, in order to understand knowledge, it is important to define these theoretical opposites. The current popular conceptualisation of knowledge is to view it as a continuum between explicit knowledge and tacit knowledge. On a personal level, explicit knowledge could be seen as synonymous with information. It is what we have written down or verbalised and made explicit. Tacit knowledge, by definition, can never totally be verbalised. It is our abilities and know-how to do things. It is our skills. For example, many people would have difficulties describing things they do almost without thinking, such as riding a bicycle or making a curry. This is their tacit knowledge. One of the main challenges in knowledge management (as opposed to information management) is to manage this valuable tacit knowledge.

Some researchers make a further distinction and talk of embedded knowledge. This way, one differentiates between knowledge embodied in people and that embedded in processes, organizational culture, routines, etc. (according to Horvath, 2000). Without question, the most important distinction within KM is between explicit and tacit knowledge. However, the embedded dimension is a valuable addition, since the managerial requirements for this type of knowledge are quite different.

New knowledge always begins with someone who makes personal knowledge available to others and this is the central activity of the knowledge creation in company. The learning that take place from others and the skills shared with others need to be internalised – that is, reformed, enriched, and translated to fit the company’s self image and identity (Nonaka & Takeuchi 1995). Therefore knowledge not only can be acquired, taught, and trained through manuals, books, or lectures. Instead, knowledge can be gained in less formal and systematic ways by using metaphors, pictures or experiences which are highly subjective insights, intuitions, and hunches.

## 2.4. Types of knowledge: Old and New

Most knowledge management strategies generally have one (or sometimes both) of two thrusts. The first is to make better use of the knowledge that already exists within the organisation, and the second is to create new knowledge.

Making better use of the knowledge that already exists within an organisation ("old" knowledge) often begins with "knowing what you know". Very often leading managers comment: "if only we knew what we knew". Too frequently, people in one part of the organisation reinvent the wheel or fail to solve a problem because the knowledge they need is elsewhere in the organisation but not known or accessible to them. Hence the first knowledge management initiative of many companies is that of finding out what they know, and taking steps to make that knowledge accessible throughout the organisation. Specific approaches might include conducting a knowledge audit, mapping the organisation's knowledge resources and flows, making tacit knowledge more explicit and putting in place mechanisms to move it more rapidly to where it is needed.

Creating new knowledge can equally be approached in a number of ways such as through training, hiring external resources, bringing different people and their knowledge together to create fresh knowledge and insights, etc. It is also about innovation – making the transition from ideas to action more effective. Many managers mistakenly believe this is about R&D and creativity. In fact there is no shortage of creativity in organisations – not just in R&D but everywhere. The real challenge is not to lose these creative ideas and to allow them to flow where they can be used.

In reality, the distinction between "old" and "new" knowledge is not always that clear. Innovation will often draw on lessons from the past, particularly those that have been forgotten, or those that can be put together in new combinations to achieve new results. Similarly, the application of (old) knowledge almost always involves some adaptation, and so in the process of adaptation, new knowledge is created. At the end of the day, the quality of knowledge does not depend on whether it is "old" or "new" but rather whether it is relevant. Whether it is old or new hardly matters, more important does it work in practice. (ABC of Knowledge Management, G. Servin, 2005 <http://www.library.nhs.uk/knowledgemanagement/>)

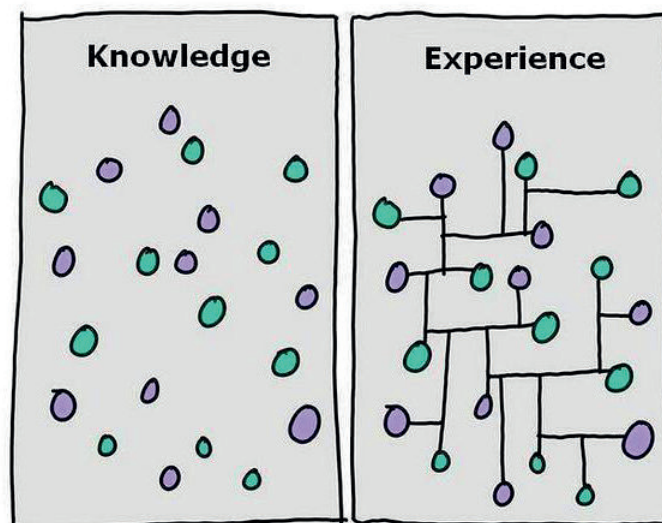


Image from cartoonist Hugh MacLeod, [www.fastcompany.com](http://www.fastcompany.com) explains the difference between knowledge and experience.

## 2.5. Transfer of Knowledge in Organisation

In organizational theory, knowledge transfer is the practical problem of transferring knowledge from one part of the organization to another. Knowledge transfer seeks to organize, create or distribute knowledge and ensure its availability for future users. It is considered to be more than just a communication problem. If it were merely that, then a memorandum, an e-mail or a meeting would accomplish the knowledge transfer. Knowledge transfer is more complex because knowledge resides in organizational members, tools tasks, and their subnetworks and much knowledge in organization is tacit or hard to articulated.

Chirs Cancialosi in his article **6 Key Steps to Influencing Effective Knowledge Transfer in Your Business** explains how knowing who knows what, who needs to know what, and how to transfer that knowledge is critical — especially when so much of a company's worth consists of information. He presents key steps for implementing a system for knowledge management and transfer in the company or organisation:

First off all it is important to make it formal. Documents that clearly outline how the process works, templates and checklists are very helpful. This increases the confidence of the team members who know that they're not expected to just "figure it out" when the time comes. Even something as simple as taking notes during meetings and sharing them will keep your employees in the loop.

Second steps is to create a duplication. This does not mean to assign two people for every job, but you *do* need to plan for the worst. Cross-training can mitigate the risk of a key person leaving with a head full of knowledge. Ensure that there are at least two people who can step in during an emergency. For example, imagine a football team. If the quarterback is injured, another player has to step into that position. But what if no one has practiced that role? Your team probably wouldn't win the game.

Next step is constant training of a team, providing team members with formal training opportunities, you ensure that you have duplication of skills in the system. If there are no enough resources for formal training, organisations can try simulation trainings while removing a key person from the system temporarily so the team can see what happens. If things fall apart quickly, people will be eager to figure out how to prevent that failure from happening in the future. For organizations that have effectively transferred knowledge to others, these situations present opportunities for employees to put their knowledge into practice and build their confidence.

Chirs Cancialosi further suggests to use systems for the knowledge transfer. Technology can capture key information for later generations to use. They shouldn't have to relearn what others discovered. By standing on the shoulders of those who have come before, newcomers can take the ball and run with it rather than spinning their wheels rehashing the same ground that's already been covered.

It is also important to create opportunities. Setting up informal gatherings where team members can exchange information and develop networks organically. Develop communities of practice so employees can work together to find and share information. This is a great way to capture and share knowledge with a broad audience.

Using outside consultancy has to be thoughtful: consultant can be a valuable asset, keep in mind that they'll leave after the work is through. Make sure you plan to have their knowledge transferred to internal personnel so you can carry on once they've departed.

Most important, states Chirs Cancialosi, for any of these practices to make a real difference in your business, you have to communicate the importance of knowledge transfer, explain how it will be done, and, most importantly, practice it yourself. If you can do that, knowledge transfer will be a key resource and differentiator for your organization. By continuously spot-checking to make sure the right knowledge is being captured and shared, your organization can leap ahead of competitors and seamlessly transition during the departure of key personnel.

Biggest issue in an organisation is the transition of tacit knowledge, as it is the knowledge that people carry in their heads. It is much less concrete than explicit knowledge. Still tacit knowledge may be transferred in a variety of ways. Shared experiences give the richest opportunities for transferring tacit knowledge, as when a master craftsman passes his or her knowledge to an apprentice. Frequent, intense personal interaction in a work context can enable tacit knowledge to be shared. Metaphors and stories offer another vehicle for the sharing of tacit knowledge. By using metaphors and stories, we are able to articulate experiences that we are otherwise unable to express and transfer of tacit knowledge. However, it should be noted that metaphors and stories do not transfer tacit knowledge directly - rather, they are a useful vehicle for capturing complex situations in a way that listeners can engage with and understand on a deep level.

In addition to shared experiences and the use of metaphors and stories, the transfer of tacit knowledge can be aided by codification, whether through the use of existing codification systems or the development of new codification schemes. Suitable codification schemes can help convert certain aspects of tacit knowledge into explicit knowledge.

Tacit knowledge is the knowledge that people carry in their heads. It is much less concrete than explicit knowledge. It is more of an “unspoken understanding” about something, knowledge that is more difficult to write down in a document or a database. Tacit knowledge is considered more valuable because it provides context for people, places, ideas and experiences. It generally requires extensive personal contact and trust to share effectively.

Knowledge researchers Nonaka and Takeuchi in 1995 developed the SECI model that is commonly known and respected as a foundation for knowledge management. It shows up how internal and tacit knowledge can be transformed or blended for the organisational use.



Figure 2. SEIC Model  
 Source: Nonaka and Takeuchi (1995)

The SECI model with its properties is illustrated in Figure 2.2. When tacit knowledge is combined with other tacit knowledge, it is known as *socialisation*. By setting up an environment (field build-up), the distribution of experience and models can be facilitated. *Externalisation* is the transformation of tacit to explicit knowledge and can be achieved by dialogue. This is imaginable when employees in a company gather and document their knowledge based on experience. Combination is known as the blending of explicit knowledge. Thus, new knowledge can be created. Finally, when explicit knowledge is internalized to tacit knowledge, this is known as internalisation. By e.g. applying a technique from a guideline, a worker can inherit a processing method for making steel rods. The main concept is presented in the process of knowledge creation. By applying the steps in the direction of the *knowledge spiral*, the four occurrences of tacit and explicit knowledge co-act. Nonaka and Takeuchi show that initial Polanyi's model on explicit and tacit knowledge can be enriched or transformed to any new form of knowledge. It is therefore possible by enabling the people in an organization to trade in their knowledge for accumulation or making knowledge tangible and usable for the organization.

## 2.6. The process of learning in organisation

Learning covers virtually all behaviours and is concerned with the acquisition of knowledge, attitudes and values, emotional responses (such as happiness and fear), and motor skills (such as operating a computer keyboard or riding a bicycle). We can learn incorrect facts or pick up bad habits in the same way that we learn correct facts and acquire good habits. It refers to a spectrum of changes that occur as a result of one's experience. Learning may be defined as "any relatively permanent change in behaviour or behavioural potential produced by experience". It may be noted here that some behavioural changes take place due to the use of drugs, alcohol, or fatigue. Such changes are temporary. They are not considered learning. Therefore, changes are due to practice and experience, and relatively permanent, alone are illustrative of learning.

In the definition given above, it is clear that the process of learning has certain distinctive characteristics. These are:

First, learning always involves some kind of experience. These experiences may be derived from inside the body or they may be sensory, arising outside. The task of inferring whether or not learning has taken place may be an obvious one, but observable behaviour may not always reveal learning.

It is important to distinguish between two types of learning. **Procedural learning** or 'knowing how', concerns your ability to carry out particular skilled actions such as riding a horse. **Declarative learning** or 'knowing that', concerns your store of factual knowledge such as an understanding of the history of our use of the horse.

Second, the behavioural changes that take place due to learning are relatively permanent. Behaviour can be changed temporarily by many other factors and in ways which we would not like to call learning. These other factors include growing up or maturation (in children), aging (in adults), drugs, alcohol and fatigue. For example, you must have noticed that whenever one takes a sedative or drug or alcohol, one's behaviour changes. Each one of these drugs affect



physiological functions leading to certain changes in behaviour. Such changes are temporary in nature and disappear as the effect of drugs wears out.

Third, learning cannot be observed directly. We can only observe a person's behaviour and draw the inference from it that learning has taken place.

A distinction has to be made between learning and performance. Performance is evaluated by some quantitative and some qualitative measures of output. For example, the number of calls a sales representative makes to customers or the quality of a manager's chairing of a committee meeting. But, learning acts as a constraint on the outcome. Normally, we cannot perform any better than we have learned, though there are occasions when the right motivational disposition and a supportive environment helps to raise the level of performance. Researchers have found that increased motivation may improve our performance up to a point but, beyond this, increased motivation may cause a lowering of the level of performance.

The basic psychological principle underlying the transfer of learning is that of generalisation of stimuli referred to earlier in connection with operant conditioning. When a stimulus is similar to the original conditioned stimulus, it tends to elicit the same response.

#### **Four assumptions embedded within Knowles' androgogy theory**

1. Adults need to know why they need to learn something.
2. Adults need to learn experientially.
3. Adults approach learning as problem-solving.
4. Adults learn best when the topic is of immediate value.

Given these underlying assumptions of adult learning, the adaptive-push KT methodology could readily foster and improve learning. For example, using adaptivepush the provider of information can better explain the need to learn information, the information is pushed to the learner when most needed such as prior to training when they may be unsure of best practices, and the system still allows the learner to learn experientially during problem solving events.

The process of learning has great value for enriching human life in all spheres of life. All activities and behaviours that make personal, social and economic life peaceful and pleasurable are learned. Learning definitely affects human behaviour in organisations. There is little organisational behaviour that is not either directly or indirectly affected by learning. For example, a worker's skill, a manager's attitude, a supervisor's motivation and a secretary's mode of dress are all learned. Our ability to learn is also important to organisations peroccupied with controlled performance. Employees have to know what they are to do, how they are to do it, how well they are expected to do it, and the consequences of achieving good or poor levels of performance. Thus, learning theories have influenced a range of organisational practices concerning:

- the induction of new recruits;
- the design and delivery of job training;
- the design of payment systems- how supervisors evaluate and provide feedback on employee performance;
- the design of forms of learning organisation.

It is clear that theories of learning have significant practical implications. However, this is one of the most fundamental and controversial topics in psychology. The extremes of this controversy will be explained later, in the form of behaviourist and cognitive theories of learning. The concept of the learning organisation became popular during the 1990s. The learning organisation is a configuration of structures and policies which encourage individual learning, with individual and organisational benefits. The organisation itself can also be regarded as an entity which is capable of learning independently of its members. Knowledge has thus become a more important asset for many organisations than materials and products. We will discuss the concept of the learning organisation later in a separate unit.



Image 4.1 Learning in organisation  
(from Running the learning organisation (<http://www.astdhouston.org/en/cev/787>)).

There are various ways to conceptualize the relationship between knowledge management and organizational learning. Easterby-Smith and Lyles (2003) consider OL to focus on the process, and KM to focus on the content, of the knowledge that an organization acquires, creates, processes and eventually uses.

Another way to conceptualize the relationship between the two areas is to view OL as the goal of KM. By motivating the creation, dissemination and application of knowledge, KM initiatives pay off by helping the organization embed knowledge into organizational processes so that it can continuously improve its practices and behaviors and pursue the achievement of its goals.

From this perspective, organizational learning is one of the important ways in which the organization can sustainably improve its utilization of knowledge.

## 2.7. Management of Intellectual Capital

**There is no universal definition of the term “intellectual capital” (IC).** In popular belief IC is associated with “human capital” or “knowledge.” The terms Intangible Assets, Knowledge Assets/Capital or Intellectual Assets/Capital are often used as synonyms . All terms refer essentially

to the same thing: the intangible value contained in the heads and relationships of employees, management staff, customers and other stakeholders. IC encompasses not only the contents of employees' minds but also the complex intangible structure that surrounds them and makes the organisation function.

A. Lönnquist and P. Mettanan in their review of the definition of IC identified the following characteristics: It is invisible; It is closely related to knowledge and experiences of employees as well as customers and technologies of an organisation, It offers better opportunities for an organisation to succeed in the future.

The economic characteristics of IC include the following (according to A. Fazlagic "Measuring the intellectual capital of a university, OECD, 2008):

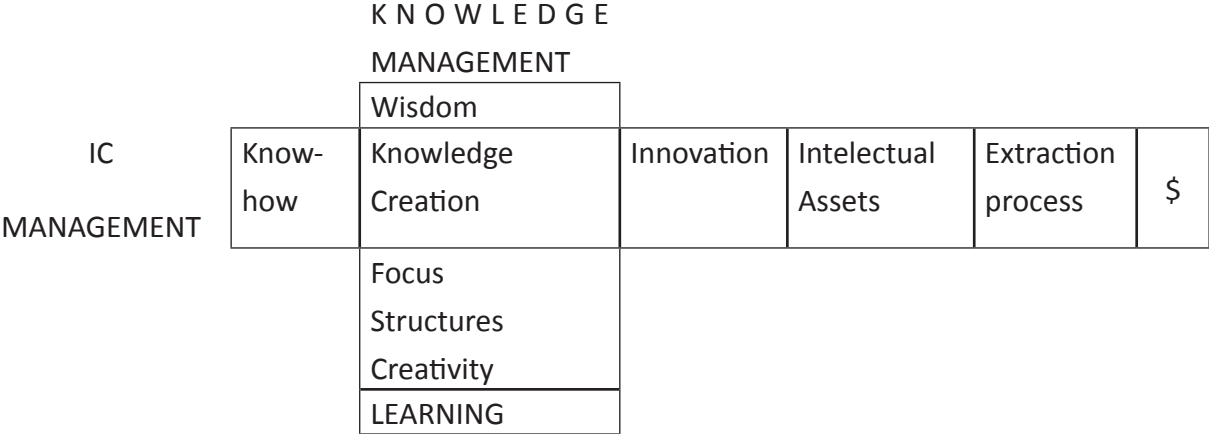
- IC can pose a large risk element for buyers and sellers of knowledge – sellers do not give samples,
- It is a debt item, rather than an asset item since it is borrowed from people, e.g. employees and customers,
- Much of it is not owned or controlled by the organisation, e.g. the knowledge of workers; the boundaries are hard to define. Upton points out those items like workforce or customer satisfaction are harder to describe and bound in a concise fashion. The lack of boundary creates the risk that any measurement will double count. The organisation investing in IC does not retain full ownership of the assets it has created – non-owners, such as employees, can rarely be precluded from enjoying some of the benefits of the investments after they switch employers.
- Intellectual Capital accrues from a plethora of events and investments over a long time span. The cause-effect path of value creation is extremely complex and difficult to trace, e.g. the value of a brand is a result of marketing efforts, favourable market conditions (including the less successful actions of competitors), R&D investments etc.
- It is not-financial capital. There is no neutral unit of measurement corresponding to the monetary unit on a balance sheet.
- It is marked by ethical concerns about including human capital on a balance sheet – placing a price on individuals can send a message that employees may be substituted for other forms of capital.

Since there is no one, single methodology or view on what IC is and how to measure it proliferate, the consensus among the different stakeholders is hard to reach. Many practitioners suggest that Intellectual capital consists of three elements:

- Human capital, which includes experience, the know-how, capabilities, skills, and expertise of the human members of the organisation;
- Structural capital (or organisational capital), which includes the systems, networks, policies, culture, distribution channels, and other "organisational capabilities" developed to meet market requirements as well as intellectual property;
- Relational (customer) capital, which includes the connections that people outside the organisation have with it, their loyalty, the market share, the level of back orders, and similar issues.

Fully integrated intellectual capital management requires a commitment of resources and energy that many organizations are not prepared to undertake, often times because they do not consider themselves to be "knowledge" companies where the creation of intellectual property is core to their competitive advantage. However, when an organization adopts some of the practices and procedures associated with capital management, it realizes that it both produces many more

intellectual assets than it previously thought and that some of these assets have commercial potential or value to the company. More importantly, such firms begin to move toward the broader goal of general “knowledge management”, which addresses the collection, organization and effective and value added utilization of the accumulated “wisdom” of the firm to enhance its competitive position. Knowledge management involves related, but much deeper organizational philosophies and processes, and the intersections of knowledge management and intellectual capital management can be illustrated as follows:



Management of IC in organisation can be structured into following steps:

<b>Formulate a strategic vision for the use of organisation’s intellectual capital;</b>
Implement coordinating models for encouraging of knowledge management: audit the existing intellectual resources and creating “knowledge map” , based on a structure which is geared toward organisation’s needs and strategic vision: <ul style="list-style-type: none"> <li>• implement policies favouring efficient knowledge creation, organization, structuring, mapping and storing;</li> <li>• create communities of practice within the organization in order to facilitate the exchange and proliferation of large amounts of knowledge;</li> <li>• encourage sustained learning and innovative thinking in order to discover new and creative ways to apply current knowledge; and</li> <li>• continuously evaluate new ideas and knowledge and determine appropriate protection and development to put them to best use for organisation;</li> </ul>
Apply the benefits of knowledge coordination to streamline new product or service innovation processes
Develop licensing, partnering and other business opportunity maximization programs based on efficient use of organisations marketable intellectual capital.
Use benchmarking or other accurate techniques to measure the performance of organisation’s intellectual capital management program and set realistic business growth objectives.



## 2.8. Practical Assignments of the Second Chapter

### Activity 2.1. Reflection:

Which of the following statements would you describe as data, information or knowledge?  
Circle your answer for each statement.

- A report on career progression prospects of BA students (*Data/Information/Knowledge*)
- An Excel spreadsheet with questionnaire data on MBA students (*Data/Information/Knowledge*)
- Critical success factors on interview success with your favoured company (*Data/Information/Knowledge*)
- A visit to an art exhibition (*Data/Information/Knowledge*)
- The latest figures on unemployment (*Data/Information/Knowledge*)
- An entrepreneur's guide on setting up a business; the trials, tribulations and joys (*Data/Information/Knowledge*)

**How do you think, why sometimes it is hard to make distinction between data, information and knowledge?**



**Activity 2.2.**

Please prepare some short notes or an essay outline in the form of bullet points on the following topic:

***Discuss critically how an understanding of different aspects of knowledge and how adults learn can help you manage knowledge today.***

### Activity 2.3.

Describe your personal knowledge management and answer to the following questions:

How do you choose knowledge that are necessary for you?

From where do you most often get your knowledge?

How do you know, that you can trust the information or data?

What do you know about quality, relevance and reputation of your information?

How do you learn new knowledge?

Of course some students summarize their notes and find that the act of writing something down also helps store facts in their memory. Some students associate certain facts with certain words such as different animals. Others draw mind maps to help them remember things.

**Activity 2.4.**

Please reflect what you have read and explore the following questions around devices you use to help memorize things:

How do you memorize things particularly when revising for an exam?

The Roman senators remembered their long speeches by breaking them down and associating different parts of their speech with different columns around the Senate.

What works best for you?

Please respond to the questions and then ask yours:





(image taken from www.dreamstime.com)

**Activity 2.5.** Think for a while about yourself as a knowledge manager, which skills, knowledge and information you already have could be useful? (list them in a table below)

<b>I already have:</b>		
<b>Information about KM</b>	<b>Knowledge in KM</b>	<b>Skills in KM</b>
<b>I need to develop:</b>		
<b>Information about KM</b>	<b>Knowledge in KM</b>	<b>Skills in KM</b>

**Activity 2.6.** Give two examples of “organisational learning “ with details of this practices.

How did they:

- Create an environment for building capability;
- Formulated learning tasks for a organisational teams;
- Facilitate and promote capability building activities;
- Monitor and assess learning results?

First example

Second example

**Activity 2.6.** Read the following information about the socialisation in the organisation and reflect on this through your own experience.

Have you ever experienced socialisation?

What was different for you?

What have you learned? Reflect your thoughts below.

**Socialisation** is the process through which an individual's pattern of behaviour and their values, attitudes and motives are influenced to conform with those seen as desirable in a particular organisation, society or sub-culture. For example, when people join an organisation of any kind, they give up some personal freedom of action. Thus, they concede that the organisation may make demands on their time and effort, as long as these demands are perceived to be legitimate. Other members of the organisation have to teach new recruits what is expected of them.

The newcomer has to learn these standards and the ways of behaving and related attitudes that they involve, to be a successful and accepted member of the organisation. However, the individual does not have to believe that the organisation's standards are appropriate. What matters is that individuals behave as if they believed in them.

It may be noted here that the socialisation process is often informal, rather than a planned programme of instruction. The newcomers learn the standards simply by watching their new colleagues. Some organisations have formal induction programmes, but these are often brief and superficial, concentrating on mundane matters like the organisation's structures and policies, health and safety regulations, etc. Beyond formal programmes, we learn about an organisation by just being there.

Thus, socialisation is achieved without planned intervention by giving rewards such as praise, encouragement, and promotion for correct behaviour. It is also achieved by negative reinforcements and punishments like being ignored, ridiculed or fined for behavior that is out of line. We quickly learn what attitudes to take, what style of language to use, what dress obey, where to take lunch and with whom and so on.

It is to be noted here that some of the rewards for good behavior offered by organisations are material rewards in the form of money and desirable working conditions. On the other hand, some of the rewards are symbolic and social rewards such as prestige, status, recognition and public praise.



### Overview

In this chapter we explore the knowledge management process, main definitions, while encompassing many aspects of “process” around Knowledge Management, imply an essentially objectivist view of the subject, unquestioning of whether knowledge is capable of these processes. The chapter will explore planning, organizing, motivating, and controlling of people, processes and systems in the organization to ensure that its knowledge-related assets are improved and effectively employed.

### Aims

Main aims of this stage are to:

- Explore the assumptions of knowledge management process
- Examine the important of knowledge management process
- Describe how knowledge has been managed by different actors in different contexts-
- Examine how various strategies for KM in organisations work

### Learning outcomes

After completing this section, the learner should be able to:

- Analyse, and synthesise a range of viewpoints about knowledge management process
- Understand established models and frameworks of knowledge management
- Identify current discussions and debates within knowledge management and its related disciplines
- Understand the characteristics of a knowledge environment/ecosystem
- Articulate the potential benefits and challenges of a knowledge management approach within a specific industry /organisational sector
- Synthesise and analyse relevant and current knowledge management case studies;
- Research, engage with and correctly acknowledge a wide range of information sources.
- understand the nature of KM strategy;
- explain and evaluate the technique of designing KM strategy in organisation.

### 3.1. KM Process and KM cycle

Knowledge Management (KM) process (Figure 3.1) consists of the systematic processes for acquiring, organizing, sustaining, applying, sharing, and renewing all forms of knowledge, to enhance the organizational performance and create value. KM is about acting to build and leverage knowledge through an understanding of how it is created, acquired, processed, distributed, used, harnessed, controlled, etc. Therefore, KM aims to facilitate the access, use, and reuse of valuable knowledge resources.

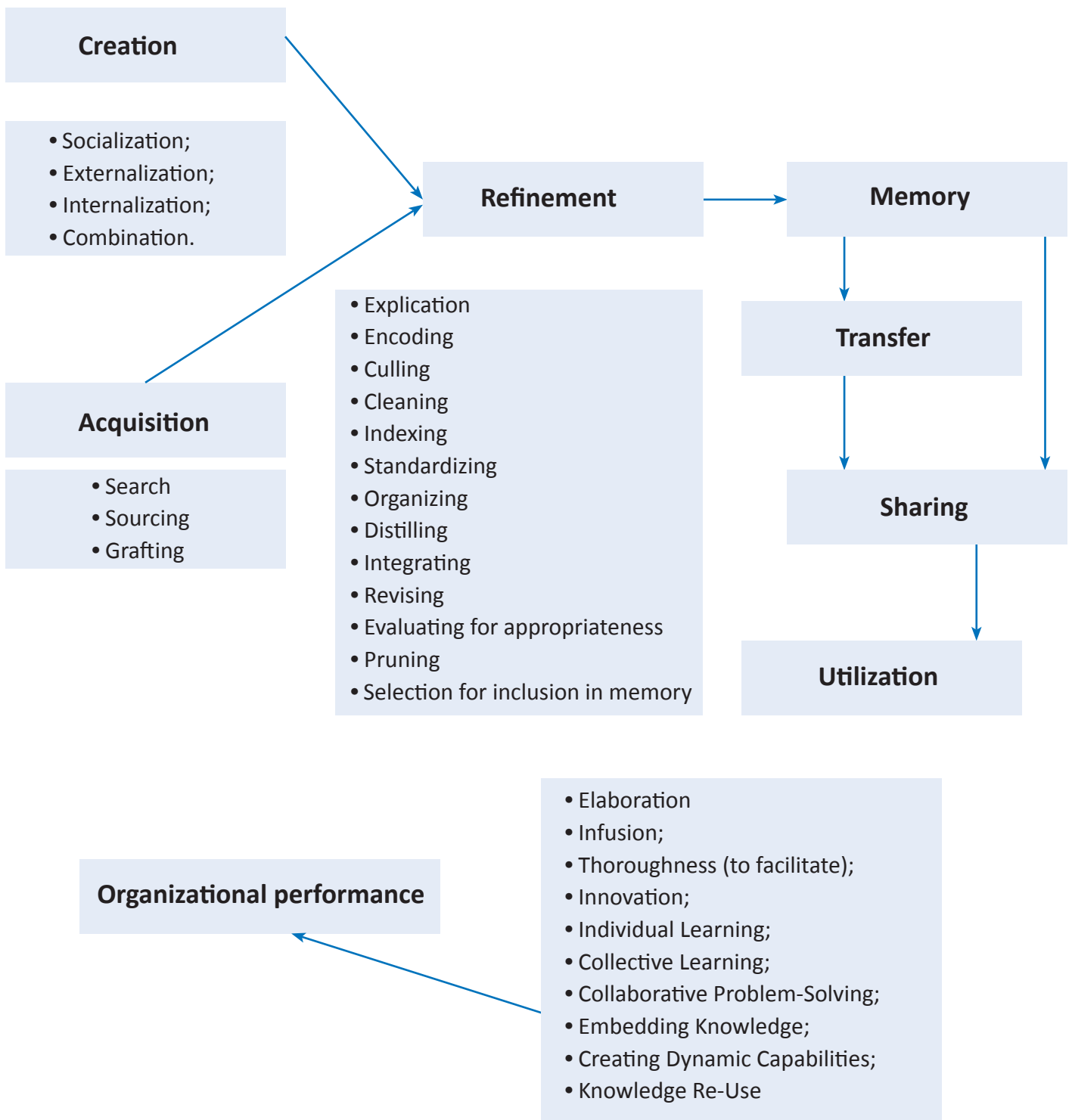


Figure 3.1. KM process

Effective knowledge management involves learning the process of managing knowledge, which requires executives to develop a general understanding of what knowledge is, as well as efficient and systematic methods for managing it within the organization.

More than two decades ago, Wiig (1993) stated that framework for managing knowledge on a broad and relevant basis has been a problem for managers as they have not had ways of “thinking about thinking” with practical directions for how to deal with all the required knowledge-related aspects and supported by practical methods’. Wiig (1993) argued that if such practical guidelines existed there would be far more adoption of KM practices, as well as more organizational resources devoted to KM.

Knowledge management is the planning, organizing, motivating, and controlling of people, processes and systems in the organization to ensure that its knowledge-related assets are improved and effectively employed. Knowledge-related assets include knowledge in the form of printed documents such as patents and manuals, knowledge stored in electronic repositories such as a “best-practices” database, employees’ knowledge about the best way to do their jobs, knowledge that is held by teams who have been working on focused problems and knowledge that is embedded in the organization’s products, processes and relationships.

KM process help organise how knowledge, as an intangible asset, is produced, tracked, used, managed and valued in innovation systems. Based on the works of previous researchers, Dalkir developed the ‘Integrated KM Cycle’ framework (see Figure 3.1) that consists of three main phases:

1. Knowledge Capture and/or Creation;
2. Knowledge Sharing and Dissemination;
3. Knowledge Acquisition and Application.

This model attempts to offer a more realistic overview of the KM process. The three broad categories overlap and interact with one another. Like Gamble & Blackwell, the focus is on managerial initiatives. Here too the strategic focus (the “when” and the “why” as opposed to the “what”) is omitted. It is noteworthy that this model does include the creation of new knowledge as a specific KM initiative.

The model further shows which of the three categories are more people oriented and which are more technology focused. Whether or not knowledge sharing should be largely technology focused is certainly debatable and it is something that I will address in future sections. However, for better or for worse, this is largely how organizations tend to approach the issue i.e. as a technological rather than organizational and social challenge.

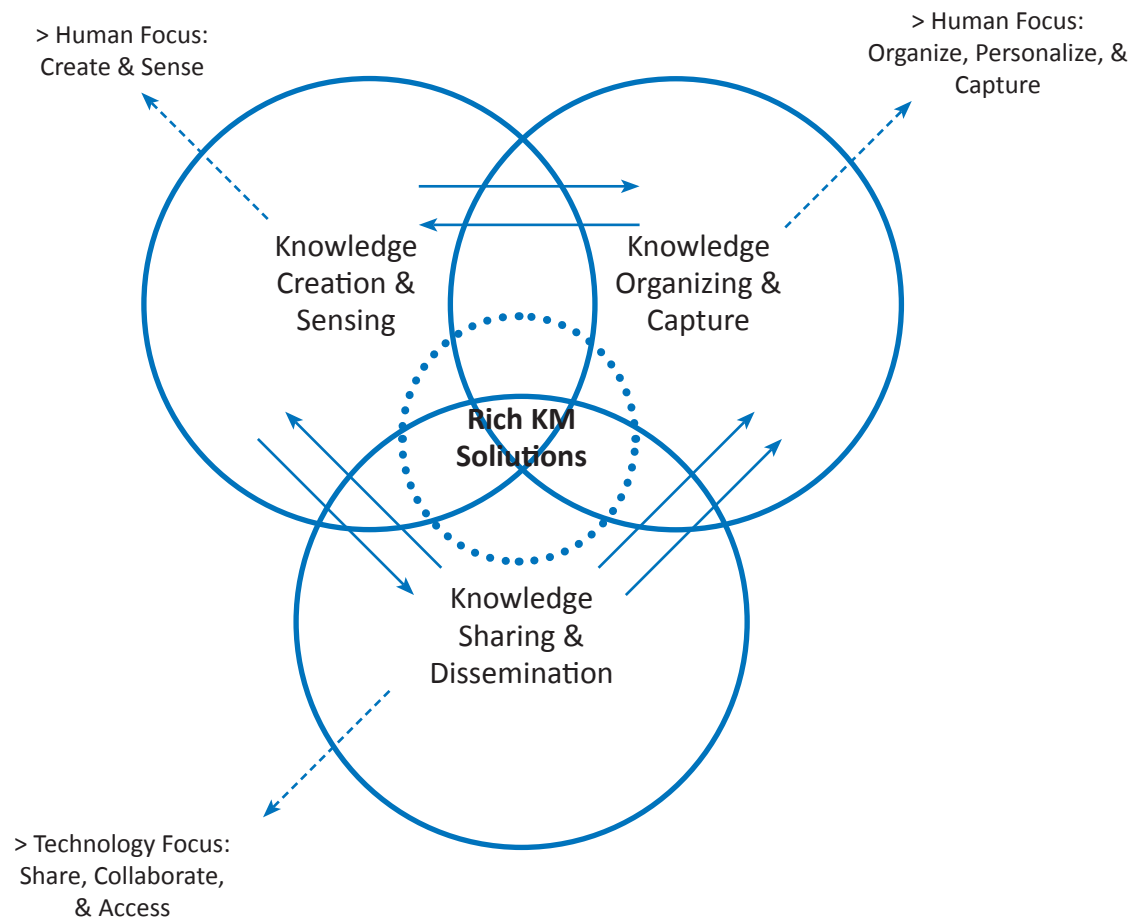


Figure 3.1. The Knowledge Management Process Model by Botha et al (2008)  
 (From:<http://www.knowledge-management-tools.net/three-kmmodels.html#ixzz31C75uEC6>).

While knowledge capture refers to the identification and codification of existing internal and/or external knowledge and know-how, knowledge creation is about the development of new knowledge and know-how, e.g. innovations (Dalkir, 2005). The content and its value to the organization needs to be validated and contextualized. The content should then be delivered to the potential end-users through sharing and dissemination, keeping in mind the means of delivery, timing, frequency, form and language. Users will then try to understand the content, validate its usefulness and relevance, and make use of it through its application in their work (Dalkir, 2005). The cycle can help organizations consider the different phases through which knowledge and innovation flow and the attitudes needed for this flow to happen. This article explores the phase of knowledge sharing and dissemination.

### Culture of knowledge sharing and dissemination

According to Dalkir, (2005) knowledge-sharing culture can be defined as one where the paradigm of 'knowledge is power' shifts to that of 'sharing knowledge is more powerful' (and where collaboration positively influences the effectiveness of knowledge work). The problem is that people are generally not willing to leave their comfort zones, especially when they cannot see how the proposed change could improve their lives.

Creating the culture of knowledge sharing involves different important aspects (based on Dalkir, 2005 Knowledge Management in Theory and practice):

### ***Improving motivation through incentives***

Generally, individuals are more likely to be rewarded for what they know, rather than for what they share. As a result, the hoarding of knowledge often leads to negative consequences such as empire building, reinvention of the wheel, feelings of isolation, and resistance to ideas from outside an organization. To motivate employees to embrace KM and innovative behaviour, incentives can send out powerful messages about what is important in their organization. For example, knowledge sharing can be integrated in performance evaluation criteria as one of the key competencies of all staff and linked to salaries and promotions. Organizations can also promote role models by publicly rewarding examples of collaboration, good teamwork, innovations and knowledge re-use.

Furthermore, research shows that creating more learning opportunities that respond to people's immediate learning needs could be an incentive as well (Spisiakova, 2011). Being part of a CoP can address these needs and also help retain employees. Working as an active member of a CoP provides a significant incentive for a knowledge worker to stay with that organization, as well as helping to quickly link new members to the network and organizational culture. But more importantly, embracing KM should be its own reward if people recognize the benefits it brings and the way it makes their life easier. If KM does not make life easier for employees, it will fail.

### ***Leadership that values and supports KM and innovation***

According to Dalkir (2005), if real long-term sustainable organizational change is to occur in organizations, it has to happen at the cultural level, with strong and supportive leadership. To understand what is important in the organization, employees observe and listen to leaders. If a leader is actively sharing knowledge, encouraging collaboration and innovation, and rewarding such behaviour, employees can recognize it as important and are more likely to change.

### ***Enhancing social capital through networking and communities***

A person's education, skills and experience are insufficient to generate trust, and create and enforce norms. People produce knowledge only by interacting with others. Through communication, people influence each other's views and create or change shared constructions of reality. There is therefore a need for concrete personal relationships and networks that influence individual behaviour and produce shared knowledge. Knowledge-sharing communities are the primary producers of this network of relationships, also called 'social capital'. They make connections between individuals so that they can solve problems and make decisions based on shared interest and knowledge.

A collective acceptance of shared knowledge is the key to generating value to the organization. For such learning to happen, organizations must encourage networking by connecting people



-usually like-minded individuals with common interests- rather than hierarchies that create authority and formal channels of communications. These networks, also called CoP, connect everyone, operate informally, depend on trust and make formal ranks unclear.

### ***Allocating time for knowledge sharing or a different way of working?***

People often perceive KM as burden -- an additional activity to what they are already doing. To understand KM, we need to see it simply as a different way of working by embedding knowledge-sharing and learning activities in core business processes. Rather than introducing new KM processes, we can improve the existing ones by undertaking various activities with the explicit intention of managing the knowledge needed or produced during these activities (Spisiakova, 2011).

### ***Tolerating mistakes and failure to promote innovation***

Changes imply mistakes. Not tolerating risk of failure and mistakes can prevent employees from taking risks and trying innovative approaches in their work, thus impeding the success of KM. However, if the organization's role models and reward systems actively promote, support and value such interactions, then cultural change can be facilitated.

Robbins (2001) has a different perception of risk. Our cultures have been programmed to fear failure. The organizations and individuals that succeed are not those who do not fail, but those who know that if they try something and it does not give them what they aimed for, they have had a learning experience. They use what they learned and try something else. So organizations need to re-frame their perspective of failure and commit to learning from every experience. Leaders who possess such a vision and commitment can facilitate the achievement of desirable results and innovations as they transmit their values to their employees and create an environment that is open to creativity, flexibility and innovation.

### ***Creating more systematic and engaging knowledge-sharing platforms***

Organizations often underestimate the value of knowledge-sharing platforms, including methods and techniques for learning and finding solutions. When they are systematic, such platforms enable people to work together, discover, share and re-use valuable knowledge, new ideas, experts, and other intellectual assets that exist and can be capitalized upon.

Electronic discussion forums can be effective in facilitating dialogue and knowledge sharing on key issues and challenges facing the particular community, with a specific emphasis on learning from the experience of those who face similar challenges in their daily lives. To promote networking, organizations are also adopting a range of portals and improving their intranets and knowledge repositories. While such platforms can provide many functions for validating and sharing knowledge and expertise, discussing issues, or joining a community, it is important that they offer a sense of ownership, participation and diversity of content and sources.

Creating opportunities for face-to-face interactions are equally important. Organizations need to systematically organize meetings, seminars, workshops and knowledge markets/fairs that provide opportunities for learning and are complementing other knowledge-sharing processes and tools. Experience shows that knowledge-sharing events can also benefit from using alternative facilitation methods. Traditional meeting formats can be extended by using methods such as peer assists, creative problem solving, after-action reviews, open space technology, and storytelling to solve specific problems and facilitate learning on innovative approaches in use and potential application elsewhere. These formats are fun and have the capacity to engage people and stimulate more learning, sharing and thinking outside the box.

Successful knowledge and innovation management begins with a sound strategy combined with fostering of organizational culture that enables and rewards the sharing of valuable knowledge. While technology is important to facilitate knowledge sharing and collaboration, more attention needs to be paid to its content and use. It also cannot replace important face-to-face interactions. To promote knowledge sharing, we need to look at it holistically through learning circles, networking, peer-to-peer assistance, CoP, improved interactions and mutual learning.

EC project Know-Net in 2000 have developed the following holistic, and knowledge asset centric framework that identified the four dimensions of knowledge management:

The outer ring of the framework is referred to as the ‘knowledge networking levels’, the interdependencies of which facilitate the natural emergence, leveraging, and flow of knowledge and knowledge assets. Framework defines four levels of knowledge networking: individual level, team level, organizational level, and inter-organizational level.

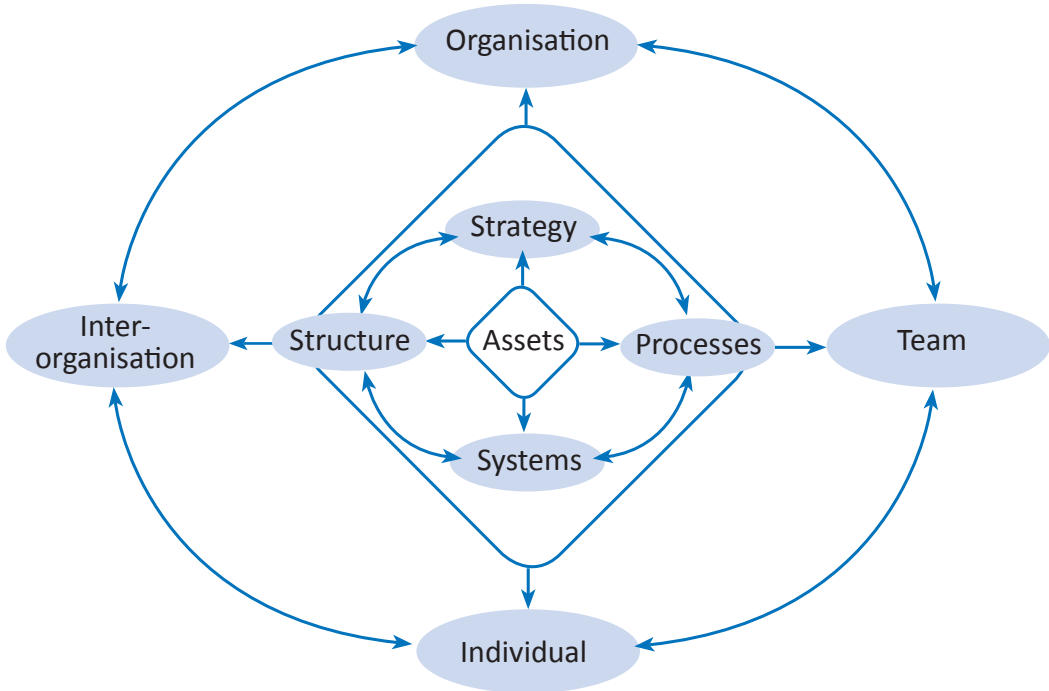


Figure 1 – Holistic Knowledge Asset Framework (Know-Net - EP-28928)

These knowledge networking levels surrounded the four inner 'KM Infrastructure' components: strategy, structure, processes and systems, which, in turn, surrounded the organizations key knowledge assets, as the primary focus.

ABC of Knowledge management (G. Servin, 2005) provides ten key areas of activity for the development of a knowledge management policy framework. This policy framework aims to provide a holistic view of knowledge management and recommendations for activity based around:

<b>Knowledge capture</b>	<b>policies and processes for identifying and capturing explicit and tacit knowledge</b>
<b>Knowledge transfer</b>	policies and processes for transferring knowledge among and between its various sources and forms.
<b>Knowledge retention</b>	policies and processes for retaining organisational knowledge, especially during periods of organisational change
<b>Content management</b>	policies and processes for efficiently managing the organisational knowledge base
<b>Knowledge capital</b>	policies and processes for measuring and developing the government's human and social capital
<b>Enabling communities</b>	policies and processes for promoting and supporting knowledge-based community working across and between departments
<b>Supporting a knowledge culture</b>	policies and processes to create the necessary cultural changes to embed the knowledge management ethos into working practices
<b>Knowledge partnerships</b>	policies and processes for promoting and supporting knowledge partnerships between central government and key partners such as local government, departmental agencies, non-departmental public bodies, voluntary and community organizations etc
<b>Supporting key business activities</b>	policies and processes to support key business activities in government such as project management, the legislative process, delivery monitoring etc
<b>Knowledge benchmarking</b>	policies and processes for benchmarking current knowledge management capabilities and practices against UK and international best practice, and for improving performance.

These areas of KM process are highly related to KM tools and techniques discussed further.

### 3.2. The four dimensions of Knowledge Management

This sub-chapter is based on R. Young (2010) article Four dimensions of Knowledge management (Knowledge Management online). According to R. Young (2010) main for dimensions of KM important for KM process are:

- Personal Knowledge management;
- Team Knowledge Management;
- Organizational Knowledge Management;
- Inter-Organizational Knowledge Management.

## Personal Knowledge Management

A number of organizations have implemented a KM strategy for personal knowledge management. This is a 'bottom up' approach and comes from the belief that by improving the personal ability of employees to better identify, capture, store, share and apply their personal knowledge, this will inevitably result, as an automatic outcome, in better knowledge management at the team, organizational, and inter-organizational levels.

The other driver for personal knowledge management is the growing need, for many individuals and organizations, to better tackle 'information overload' and make more sense of our world, to develop more focus, to become more proactive in task prioritization and decision making, to better manage time and projects. This also comes from the realisation that this will reduce stress, increase personal creativity and productivity, and lead to greatly improved work-life balance.

The personal, or individual level refers to the personal knowledge, capabilities, experiences, competencies and personal development issues for each individual knowledge worker. Therefore, the strategies, methods and tools used for this dimension are at the personal level, and include methods and tools to personally capture, learn, interpret, envision, analyse, synthesize, communicate, create, share and apply.

Personal knowledge management has been greatly accelerated by mobile, wireless and web-based tools such as smart phones, iPads, cameras and camcorders, personal computers, search engines, tweeting, blogging, wiki's (wikipedia) websites etc

## Team Knowledge Management

A number of organizations have implemented a KM strategy for team knowledge management. This is an approach that comes from the realisation that teams are 'the key knowledge work units' or knowledge engines of the organization.

It has been recognized that a team that 'collaborates' well transfers knowledge between members much faster, and, as importantly, is a powerful creator of new knowledge. Project team leaders can now produce new knowledge as a key deliverable, as well as, and alongside the traditional project deliverables.

Team knowledge management, therefore, is based on 'Share' or 'Pull' models of information and knowledge transfer, as opposed to the overused 'Send' or 'Push' models that create information overload. It is also based on team knowledge plans.

As with personal knowledge management, team knowledge management has been greatly accelerated by mobile, wireless and web-based tools communication and collaboration tools.

At this stage, it should be mentioned that the dimensions of both personal knowledge management, firstly, and team knowledge management, secondly, overlap heavily with the notion of the 'Learning Organization' and the need to develop, at a personal level, the five learning disciplines of personal mastery, mental models, shared vision, team learning and systems thinking.

## Organizational Knowledge Management

Most organizations have first embarked on an 'organizational knowledge management' approach. The intention being to introduce a KM strategy and a supporting infrastructure for better creating, storing, sharing and apply knowledge across the entire organization. This approach is primarily a 'top down approach'. It starts by identifying the key knowledge assets, or critical knowledge assets of the organization that are needed to achieve its objectives, and then sets out to develop and leverage those assets as fast as possible.

To do this, the organization sets up an organization-wide infrastructure to enable the identification, capturing, storing, sharing and applying of knowledge, retention and the re-use of knowledge assets. More continuous and collective processes, to capture new learning's and ideas before, during, and after work events, and then turn them into good practice and knowledge repositories are implemented. Organization-wide expert locators, and communities of practice, to accelerate knowledge flows, are developed.

Powerful organizational knowledge systems and tools are used to support these organization-wide knowledge activities, including intranets, knowledge portals, taxonomies, collaborative work spaces, locators, network and community tools, powerful search, document management systems, wiki's, blogs, tweets, mobile and wireless tools etc

## Inter-Organizational Knowledge Management

The level of inter-organizational management refers to inter-enterprise relationships and knowledge value networks and partnerships. Hence, knowledge networks with customers, suppliers, partners, competitors, sub-contractors, stakeholders etc.

Some organizations have embarked on these relationships at a global level, for example, inter-governmental agencies, United Nations agencies, regional knowledge networks and knowledge clusters, and the development of common national knowledge platforms etc.

Inter-Organizational knowledge management is based on the realisation that the most valuable knowledge sources and resources can be, and probably are, outside your own organization. Commercial organizations and educational establishments are increasingly co-partnering with customers, suppliers and even competitors, to collaborate, share and develop new knowledge and innovative products and services, together as one. Naturally, the global World Wide Web has enabled a common communications, collaboration, learning, information, and knowledge sharing environment. Global mass collaboration initiatives, knowledge systems and knowledge ecologies are now rapidly emerging for the common good. Knowledge Commons is a reality.

As can be seen, from the brief descriptions above of each of the four dimensions, viewed separately, they are, each, very powerful in their own right. They are completely different in their approach. They tend to have quite different KM strategies and can use quite different methods tools and techniques to successfully be implemented. But they are not separate at all,

they are all one and the same thing. Importantly, each part, each person, each dimension, is related to each other part, person and dimension, and to the whole. As you improve any part, so

you improve all the other parts, and the whole. It is impossible not to do so. Each part is vital to the whole. This results in a virtuous, or upwards spiralling path of increased value.

More importantly, if any part is missing, it disables the whole from achieving its overall effectiveness. This can result in a vicious, or downwards spiralling, path of decreased value.

They are vibrant knowledge ecologies. (Ron Young, 2010 from Knowledge Management online)

The processes of KM involve knowledge acquisition, creation, refinement, storage, transfer, sharing, and utilization. The KM function in the organization operates these processes, develops methodologies and systems to support them, and motivates people to participate in them. The goals of KM are the leveraging and improvement of the organization's knowledge assets to effectuate better knowledge practices, improved organizational behaviors, better decisions and improved organizational performance.

Although individuals certainly can personally perform each of the KM processes, KM is largely an organizational activity that focuses on what managers can do to enable KM's goals to be achieved, how they can motivate individuals to participate in achieving them and how they can create social processes that will facilitate KM success.

Social processes include communities of practice – self-organizing groups of people who share a common interest – and expert networks – networks that are established to allow those with less expertise to contact those with greater expertise. Such social processes are necessary because while knowledge initially exists in the mind of an individual, for KM to be successful, knowledge must usually be transmitted through social groups, teams and networks. Therefore, KM processes are quite people-intensive, and less technology-intensive than most people might believe, although a modern knowledge-enabled enterprise must support KM with appropriate information and communications technology.

### **3.3. Developing KM strategy**

Many organisations are now looking to knowledge management (KM) to address these challenges brought on by marketplace pressures or the nature of the workplace. Such initiatives are often started with the development of a knowledge management strategy.

To be successful, a KM strategy must identify the key needs and issues within the organisation, and provide a framework for addressing these.

Developing a KM strategy usually focuses strongly on an initial needs analysis, ensures that any activities and initiatives are firmly grounded in the real needs and challenges confronting the organisation.

A knowledge management strategy is simply a plan that describes how an organisation will manage its knowledge better for the benefit of that organisation and its stakeholders. A good knowledge management strategy is closely aligned with the organisation's overall strategy and objectives. A clear knowledge management strategy can help to:

- increase awareness and understanding of knowledge management;
- identify potential benefits gain senior management commitment;
- attract financial and intellectual resources for implementation;

- communicate good knowledge management practice;
- give a detailed plan about where you are now, where you want to go, and how to plan to get there;
- give benchmarks against which to measure your progress.

There are many ways to approach the development of a knowledge management strategy, as well as many ways of presenting the strategy document itself – there is no “one size fits all”. Larger organisations will probably need a detailed, formal strategy document whereas for a smaller organisation something briefer and less formal might be more appropriate.

As a general guideline, a strategy of any kind tends to include answers to three key questions: where are we now, where do we want to be, and how do we get there? An initial knowledge management strategy might be structured around these three questions and include things like:

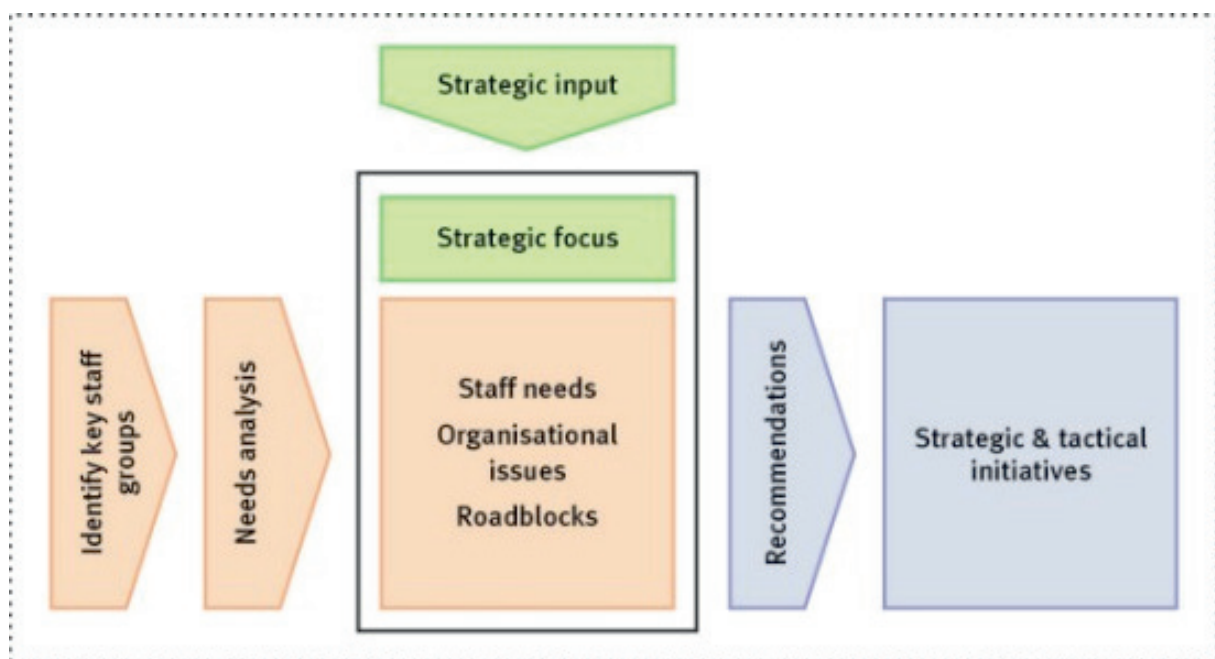


Figure 3.3. Developing a KM strategy  
(<http://www.steptwo.com.au>)

**Where is an organisation now?** An assessment of the current situation. How does current knowledge management practice (or lack of it) affect the organisation’s ability to meet its goals? How does it affect the effectiveness of individuals and teams? To what extent do the organisation’s culture, processes and systems currently act as enablers of, or barriers to, good knowledge management practice?

**Where do an organisation want to be?** An outline of what knowledge management will do for the organisation. How will it help the organisation and the people in it to meet their objectives? What might “good knowledge management practice” look like for this organisation specifically? How will you know when you are there i.e. how will you measure the progress and value of your efforts?

**How to get there?** Describing the specific actions that will be taken to get to where you want to be. An action plan covering the three key elements of people, processes and technology: what specific knowledge management tools and processes will you use; how will you motivate people and realign your organisational culture to a “knowledge friendly” one, and how will you develop the supporting technological infrastructure? Also needs to include details of resources required, deliverables, time-scales and responsibilities.

KM strategy development starts with the needs analysis. It is fundamental to analyse the specific need for an organisation and to make sure that there are appropriate context conditions with regards to content, resources, organisational and technical aspects. There are different methodological approaches (interviews, questionnaire, focus groups) to analyze needs. The target group of respondents should include managers and employees as well as the general organizational conditions to make the actual situation visible and to clarify the desired goals for formulating goal settings for potential interventions.

Next thing is to focus on organisation’s strategy and objectives. Very important factor in guiding a knowledge management strategy is the organisation’s overall strategy and goals. Knowledge management strategy should allow to understand what your organisational goals are, and how you are currently performing against them. As well as being an integral part of the wider organisational strategy, a knowledge management strategy should also be coherent with human resources and information technology strategies.

Knowledge management and organisational learning, Volume 4, 2009 (Editor William R. King classifies KM strategies into two broadly defined categories: “codification” or “personalization”.

Codification, is primarily implemented in the form of electronic document systems that codify and store knowledge and permit its easy dissemination and re-use. This strategy is based on “re-use economics” – invest once in creating or acquiring a knowledge asset and re-use it many times.

Personalization, on the other hand, focuses on developing networks to facilitate people-to-people knowledge transfer and sharing. It is based on “expert economics” – channeling individual expertise to others with less expertise who may employ it to further the organization’s goals.

Earl (2001) has described various KM strategies, or “schools of thought” at a more detailed level. He developed these empirically through observation in numerous companies. They are listed below in groups that emphasize their reliance on either the codification or a personalization approach:

<b><i>Codification Sub-Strategies</i></b>	
<b>Systems</b>	creating and refining knowledge repositories and on motivating people to provide content
<b>Process</b>	developing and using repeatable processes that are supported with knowledge from previously conducted processes
<b>Commercial</b>	the management of intellectual property such as patents, trademarks, etc



<b>Strategic</b>	the development of “knowledge capabilities” that can form the foundation of competitive strategy
<b><i>Personalization Sub-Strategies</i></b>	
<b>Cartographic</b>	creating knowledge “maps” or directories and networks to connect people
<b>Organizational</b>	providing groupware and intranets to facilitate communities of practice
<b>Social</b>	spatial) (socialization as a means of knowledge creation and exchange; emphasizes the providing of physical “places” to facilitate discussions

Developed KM strategic plan should help to link KM to organisational objectives and strategic directions and to create a culture of collaboration encouraging reliance on collective knowledge. Strategic plan should clearly identify processes of communication and collaboration with experts for capturing tacit knowledge and insight. Plan should also foresee creation of collaborative environments, integration of KM into workplace and involve business partners.

### 3.4. Infrastructure of KM

ABC of Knowledge management (G. Servin, 2005) provides an useful overview of a knowledge management infrastructure which includes the knowledge management processes (as above) put in place to ensure good knowledge management practice, and also the organisational infrastructure that is created to enable these processes – the essential management and staff roles and responsibilities that need to be put in place to support the new processes and initiatives. In other words, the people who will take the lead in driving it all forward and bringing about the necessary changes.

This infrastructure may have a number of levels, depending on the size and structure of your organisation. For example:

**Ownership “home” for Knowledge.** This defines where will knowledge management “live” within your organisation? Who “owns” it? Who is accountable for results? Knowledge management can reside in a range of places in organisations such as within information management, information technology, human resources, training, corporate universities, research and development, support services, or as a separate function reporting directly to the board. When making this decision, think not only about practicalities, but also about what message you are conveying about knowledge management by the “home” you are giving it, and also what impact that “home” is likely to have on the direction and development of your knowledge management efforts. For example, if knowledge management is part of IT (information technology), might issues of people and organisational culture take a back seat to technology? Or, if knowledge management is part of research and development, might there be too much focus on creating and finding new knowledge and not enough on reusing the knowledge you already have? There are no “right” answers here, but an awareness of these kinds of issues is key.

**Knowledge managers and the core team.** Your knowledge management efforts will need a core team of managers and co-ordinators to lead the way and drive the changes – to secure budgets and resources, provide direction, oversee and co-ordinate efforts, give encouragement and assistance, and monitor and evaluate progress and value. Again, the nature of your core team will depend largely on the size and structure of your organisation. A large organisation may need a Chief Knowledge Officer (or equivalent) supported by a network of Knowledge Managers and perhaps also Knowledge Co-ordinators, while a smaller organisation may simply need a single Knowledge Manager.

**Steering committees and senior supporters.** Management buy-in and support, especially at senior level, is vital to any knowledge management programme. Similarly, the more support you have from the various different functions and departments across the organisation, the better, as this can greatly speed the adoption of knowledge management. Having a steering committee with representatives from various functions can also help you to create better solutions: you get input from a range of perspectives and types of expertise, and can also clearly see the “big picture” across the organisation, allowing you to better prioritise resources and approaches.

**Knowledge brokers and champions.** In addition to your core team, there will also be people throughout the organisation whose job it is (or part of whose job it is) to gather and share knowledge on a day-to-day basis. These people will already exist in most organisations even if there have previously been no deliberate knowledge management efforts. Such people include researchers, information workers, librarians, writers/editors/publishers, website producers, help desk advisers, internal communications people, team secretaries and administrators, etc.; they might be part of a central service such as a library or publications department, or they may be spread throughout the organisation in various departments and functions. Either way, you will need to identify these people and bring them on board, given that they are already acting as “brokers” or “champions” of knowledge and knowledge working.

**Support from outside.** Your core team might want to attend some courses or conferences, do some research and reading, and make some contacts in other organisations, to “get up to speed” in knowledge management. Even if your core team comprises people with considerable experience in the field, knowledge management is a rapidly-evolving discipline and so there are always new developments of which they will need to keep abreast. Attendance at events, contacts with knowledge managers in other organisations, journal subscriptions and joining professional membership bodies can all be useful. You may also wish to bring in more specific external support in the form of knowledge management consultants for any projects for which you feel you do not have the required expertise in-house.

Obviously in a smaller organisations this infrastructure will be much simpler, although the same principles will still need to be applied, albeit in less formal ways.

Similarly, whatever the size of your organisation, this infrastructure is likely to “thin out” and simplify in the long term, as knowledge management becomes integrated into the organisation and knowledge management practices become part of “the way we do things around here”. As that begins to happen, dedicated knowledge management roles and functions will probably disappear, but this will take some time – it will not happen overnight.

### 3.5. Roles and Functions of Knowledge Managers

To efficiently and effectively implement a KM Strategy and to perform the new KM processes, well-defined roles and responsibilities are required. These new roles and responsibilities may be absorbed within existing roles and/or they may be created as separate roles, depending on the scope, size and duration of the KM initiative.

Some organisations have created dedicated roles, for example, a 'Chief Knowledge Officer' permanently, others have created the role for a few years until KM has become embedded throughout the organisation, as part of its culture, and others have chosen not to introduce these new roles and responsibilities at all. The evidence shows that the most admired and successful KM initiatives have been those where these new focused roles and responsibilities are recognised and performed.



Image 3.1. Knowledge manager  
(image is taken from <http://kmlisc.blogspot.com>)

**Knowledge Manager** is a general term for an executive who works with the knowledge to implement knowledge initiatives and who manages KM efforts. They implement various project related to KM systems in organisations: create KM strategy and implement it together with change management, taxonomy construction, social networks, etc.

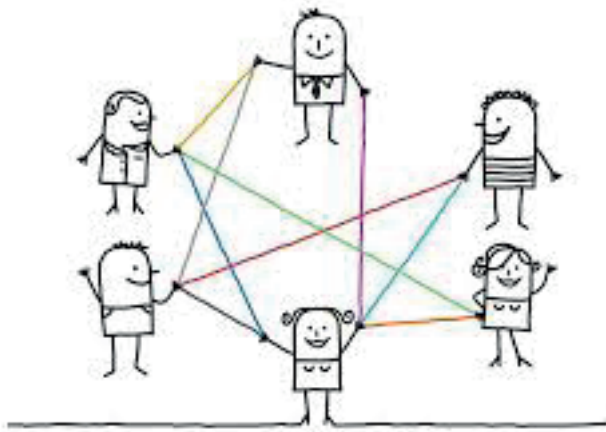
A '**knowledge worker**' is not so much a new role, although it may be for certain organisations, but is considered to be a recognition of a new responsibility for knowledge management and new personal knowledge management skills that all workers are expected to develop.

In the table below there is an example of new key roles and responsibilities for KM staff:

<b>Chief Knowledge Officer</b>	<p>able to place KM within a theoretical and historical context;</p> <p>able to critically appraise KM solutions;</p> <p>able to manage organisational knowledge effectively, as a strategic asset, to further the organisations objectives;</p> <p>able to manage organisational knowledge effectively;</p>
<b>Knowledge Base Owner</b>	<p>Responsible for conducting the best Knowledge process;</p> <p>Reviews new knowledge nominations (expert);</p>
<b>Knowledge Manager</b>	<p>Aware of the central importance and strategic benefits of KM;</p> <p>Understands the underlying principles, processes, enabling tools and technologies;</p> <p>Aware of the critical success factors, organisational and individual;</p> <p>Able to better manage knowledge effectively at an organisational and team level - Responsible for harvesting knowledge, ideas generated - Responsible for submitting to the Knowledge Base Owner;</p> <p>Able to identify and critically assess the value of knowledge in the organisation</p> <p>Aware of how the new communications, collaboration and information technologies effectively support the KM processes, within and between organisations</p>
<b>Knowledge Worker</b>	<p>Able to better manage knowledge effectively at an individual and team level;</p> <p>Able to manage information, time, tasks/processes and goals;</p> <p>Able to better access, filter, analyse, synthesise, accumulate, store, communicate and apply knowledge;</p> <p>Able to better collaborate in a dynamic, virtual team environment;</p> <p>Able to use communication, collaboration and information management technologies effectively to navigate the information and knowledge environment.</p>
<b>KM Consultant</b>	<p>Able to conduct change readiness and knowledge sharing risk assessments;</p> <p>Able to audit existing KM processes and intellectual capital</p> <p>Able to develop KM objectives and strategy to support inter-organisational and international organisation KM processes</p> <p>Able to educate and coach management and facilitate the change to a knowledge based organisation;</p> <p>Able to understand the creativity and innovation process in terms of team collaboration and organisational KM</p>
<b>Knowledge Leaders</b>	<p>Promote KM in an organisation, often by specific initiatives</p>

<b>Knowledge Brokers</b>	Knows the knowledge is located and who connects people with knowledge to those who need it.
<b>Knowledge system Engineer</b>	Captures and codifies tacit knowledge so as to facilitate its reuse. Also facilitates the transfer of tacit knowledge by connecting relevant people. Creates solutions for KM initiatives through the use of portals, intranets, databases, and so on.

The roles and positions outlined above are not exhaustive; there are countless other ways to organize and name the KM functions. However, they should cover the main responsibilities of KM workers and managers.



### 3.6. Practical Assignments of the Third Chapter



#### **Assignment 3.1.**

Top managers in organisation suggested the knowledge management policy framework to provide a holistic view of knowledge management and recommendations for activity. Early proposals have suggested that this framework could be based around ten key areas of activity:

- knowledge capture – policies and processes for identifying and capturing explicit and tacit knowledge.
- knowledge transfer – policies and processes for transferring knowledge among and between its various sources and forms.
- knowledge retention – policies and processes for retaining organisational knowledge, especially during periods of organisational change.
- content management – policies and processes for efficiently managing the organisational knowledge base.
- knowledge capital – policies and processes for measuring and developing the government’s human and social capital.
- enabling communities – policies and processes for promoting and supporting knowledge-based community working across and between departments.
- supporting a knowledge culture – policies and processes to create the necessary cultural changes to embed the knowledge management ethos into working practices.
- knowledge partnerships – policies and processes for promoting and supporting knowledge partnerships between central government and key partners such as local government, departmental agencies, non-departmental public bodies, voluntary and community organizations etc.
- supporting key business activities – policies and processes to support key business activities in government such as project management, the legislative process, delivery monitoring etc.
- knowledge benchmarking – policies and processes for benchmarking current knowledge management capabilities and practices against UK and international best practice, and for improving performance.

*Try to identify main actors (or group of actors) for these areas of activities*

Please provide arguments, why these actors are important for the effective knowledge management process in organisation:

### **Activity 3.2.**

**Read the text and prepare 20 minutes presentation based on the follow up questions:**

**In 2005 World Health Organization presented Strategic Developments in Knowledge Management:**

#### *1. Improving access to the world's health information*

Access to knowledge and information is inequitable, while information overload is widespread. WHO is promoting access to high-quality, relevant, targeted information products and services.

#### *2. Translating knowledge into policy and action*

Health inequalities persist despite known, effective interventions and steadily increasing investment in health. WHO is building evidence and capacity on KM approaches to address priority health needs in countries.

#### *3. Sharing and reapplying experiential knowledge*

Knowledge management methods and tools offer new opportunities for WHO and public health. WHO is providing guidance and facilitating the adoption of KM methods so that experience is reapplied and built upon in practice.

#### *4. Everaging e-Health in countries*

Information and communication technologies offer great potential to improve health services and systems. As well as incorporating ICT in its technical work, WHO is supporting country health systems through advocating evidence-based policies, monitoring e-Health trends, identifying good practice, facilitating networks of expertise, and promoting norms, standards, and the integration of ICT into health workforce training and practice.

#### *5. Fostering an enabling environment*

Creating an environment for the effective use of knowledge is vital to achieving WHO's mission. WHO is strengthening organizational capacity, advocating adoption of KM in the field of public health, and improving capacity for implementing KM at country level.

**Why World Health Organization needs Knowledge management strategy? Please, provide your arguments:**



How would you put this strategic developments into KM cycle?

What actors are needed for the implementation of these strategic developments and what roles should they play?

Actors:

Roles and responsibilities:

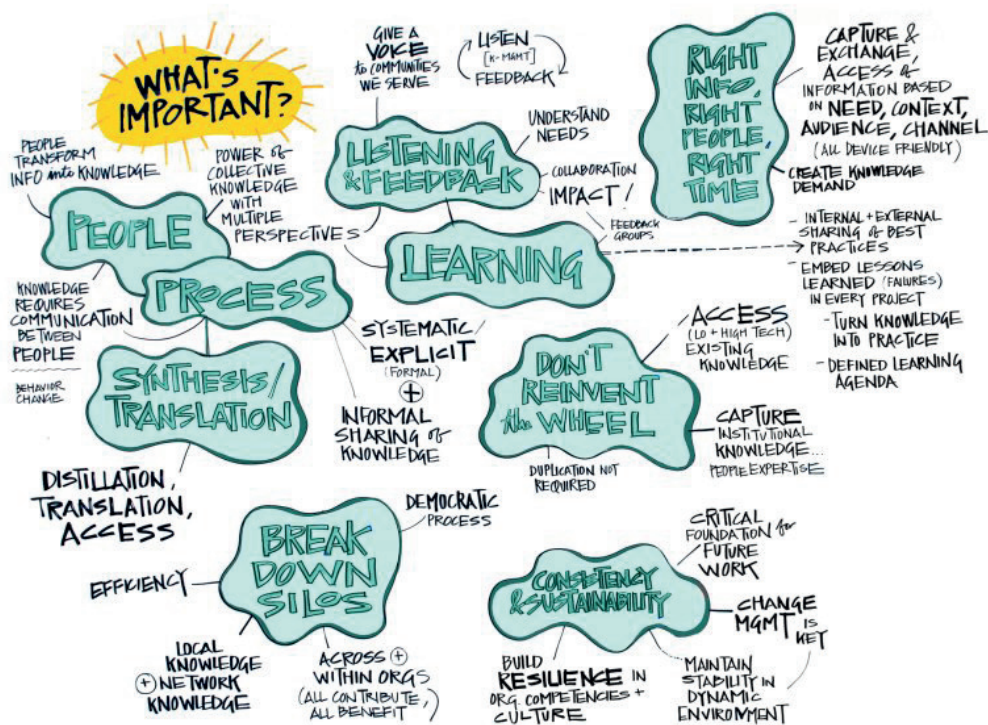


Image 3.2. Knowledge management in K4Health

(www.k4health.org)

**Activity 3.3.**

**Critical thinking and reflection**

Please write your reflection on the following question:

Do you think information systems can provide the solution to most organizational problems?

### 3.4. Activity: Knowledge Management Vision

Read these examples of Knowledge management visions and try to formulate what is your KM vision. Write it down.

#### **HealthCanada**

Health Canada analyses, creates, shares and uses health knowledge to maintain and improve the health of the people of Canada :

- through its knowledge management processes and strategies which are tailored to advance the business lines of the department;
- as a model knowledge organization; and
- as a leader, facilitator and partner, in the development of a Canadian health infostructure, responding to national and international trends and opportunities.

#### **BP**

We know what we know, learn what we need to learn, and use knowledge for sustained competitive advantage (Internal KM vision)

“Anyone in the organisation who is not directly accountable for making a profit should be involved in creating and distributing knowledge that the company can use to make a profit” (CEO statement)

#### **USAID**

To connect people, work smarter and get results. This includes accessing and leveraging worldwide development knowledge; generating new intellectual capital; and continuously learning from their activities.

#### **US Federal Government, working definition**

The Federal government continues its transformation journey to become the pre-eminent provider of knowledge among and across the nation with national security in mind. We must shape our environment and leverage our knowledge as steward of the taxpayer’s dollars. To that end we must achieve our mission to safeguard the United States and our Allies from threats while securing knowledge that could be of benefit to our enemies. To maintain an advantage over our adversaries and provide mission readiness, we must further our capabilities, programs, and supporting knowledge bases. This transformation will require changes to be made in the manner in which we leverage our knowledge across the federal government; changes that will move us from a stove-piped, decentralized environment to a learning environment, constantly striving to leverage personnel assets, and improve and enable processes. Key to this transformation is the need to create a trusted environment where the culture is focused on sharing knowledge, using integrated technologies and incentivizing and rewarding knowledge contributions across the government and it’s stakeholders and partners, both nationally and internationally.

#### **Ernst and Young**

The focus of our knowledge deliveries is to harness the global knowledge of Ernst & Young tempered with appropriate external sources and to leverage this on behalf of our client-facing users to ensure that the focused value of our knowledge is brought to bear on the firm’s service delivery.

### **NSW health**

NSW Health's Knowledge Management Program will enable the capture, distribution, use and development of innovations that enhance the delivery of patient care; promote the sharing of experiences and lessons learnt from their development and implementation; and connect people in communities of practice to foster further innovation.

### **British Airways**

The vision of the end-state is that "The culture and tools are in place to make the appropriate sharing of knowledge the norm in British Airways"

### **Anglo American**

We will instil a more regular approach of sharing knowledge and ideas as central to the way the new Anglo American does business. We have practices that are clearly world class. We will work to achieve greater consistency across the company in applying these practices everywhere. (CEO statement)

### **Paul, Hastings, Janofsky & Walker LLP**

The knowledge management vision within the firm is to enable professionals to acquire knowledge and synthesize data faster and easier"

### **Israel Aircraft Industry**

New Knowledge will be created, shared, and reused, as part of IAI personnel's common practice, for the achievement of IAI's vision and the fulfillment of its goal

### **Lutheran Education Authority**

KM for LEA means developing an innovative and creative work environment where individuals, schools and regions:

Learn from each other, through sharing knowledge and information

Access single sources of data to promote the construction of knowledge and, in turn, wisdom;

Access knowledge and information in a timely manner;

Effect standard core policies, protocols or processes;

1. Embrace core operating principles that deliver best practice at all levels using common definitions and terminology; and

2. Communicate using unified systems.

The associated strategic directions for this vision will be to:

- Develop and market a KM culture using change management principles;
- Establish a policy framework;
- Establish core systems and databases to achieve a single point of access for corporate knowledge with seamless work flows; and
- Establish a dedicated role to drive and implement the strategic Knowledge Management

*Examples of KM visions taken from:*

*<http://www.nickmilton.com/2011/12/15-example-knowledge-management-visions.html>*

**KM vision of your organisation:**

### **Activity 3.5.**

#### **KM Strategies**

***Please find out more information about these strategies learning individually. Select one sub-strategy and prepare short presentation on it.***

***Codification Sub-Strategies*** are:

1. Systems (creating and refining knowledge repositories and on motivating people to provide content)
2. Process (developing and using repeatable processes that are supported with knowledge from previously conducted processes)
3. Commercial (the management of intellectual property such as patents, trademarks, etc.)
4. Strategic (the development of “knowledge capabilities” that can form the foundation of competitive strategy)

***Personalization Sub-Strategies*** – are:

5. Cartographic (creating knowledge “maps” or directories and networks to connect people)
6. Organizational (providing groupware and intranets to facilitate communities of practice)
7. Social (spatial) (socialization as a means of knowledge creation and exchange; emphasizes the providing of physical “places” to facilitate discussions)



## CHAPTER 4. KNOWLEDGE MANAGEMENT TOOLS AND TECHNIQUES

### Overview

In this chapter we explore main tools and techniques of knowledge management that could be used in an organisation and practically analyse the possibilities to apply these tools into practice.

### Main aims of this chapter are:

- to get acquainted with the KM tools that could be used in an organisation
- to explore the possibilities of application of these tools
- to evaluate KM techniques and their application

### Learning outcomes

After completing this section, the learner should be able to:

- understand the usage and the need for different KM techniques;
- understand and apply various tools of KM in organisation;
- select KM techniques suitable for the organisation strategy and goals;
- auditing knowledge and build knowledge networks.

### 4.1. Knowledge Management Practices

Knowledge is produced by a person as a response to and as a reflection over one's own or others' experience, ideas, or some information. It is subjectivised information processing, relative to a social frame of reference. It is both social and personal, both objective and subjective, at the same time.

It is a part of the daily life process, yet includes a moment of detachment and reflection, a bird's eye view. It is both a belief (in relation to other beliefs and knowledge) and a potential for action. Knowledge drives towards socialization and externalization, grows further by overcoming and incorporating the responses from outside, and by undergoing the necessary modifications and improvements in itself. One knowledge both influences and is influenced by other's knowledge, both within a person and among persons.

Knowledge also grows in relation to applications and practices, by reflecting upon them, by determining the nature of actions, and by being modified by new knowledge and experience arising from such actions, and also by the person's reflections on this and other's knowledge.

The dual nature of knowledge, of being both subjective and objective, forms the basis of knowledge sharing. To be sure, knowledge cannot be shared as knowledge without undergoing en route transformations. Knowledge offered by one becomes information for the other, and has to be reconstructed as the other's knowledge. What you have here is not two pieces of identical knowledge, but rather two different interpretations and reconstructions. The degree of their hypothetical congruence depends on the degree to which the two persons have similar frames of mind, belief and value systems, and so on.

Sharing of knowledge is a moment in the development of knowledge itself, and conversely, this sharing also constitutes a necessary moment in the general social intercourse and practice. Communities of practice are as much groups that share knowledge as groups that help in knowledge generation.

All knowledge is live, tacit knowledge. What some people call as explicit knowledge is nothing but another name for information, a piece of objectified information on what might have constituted somebody else's knowledge earlier and not knowledge per se, from the standpoint of the current subject. The processes of knowledge production, sharing and application form an interwoven cycle of cycles.

Knowledge agents, whether it is an individual, a group or an organizational unit, engage in various processes in dealing with knowledge and information they have.

When knowledge agents use their knowledge that is created or accessed from others or from what they have captured, new insights are generated.

The knowledge agents explicitly engage in the process of capturing or storing knowledge when new knowledge is created and is perceived to be of value for the agent. They organize or create mechanisms while storing what they know in ways that will make it easy for them to access this knowledge when it is required. Frequently, capturing one's knowledge also implies an intention to share it with a larger community apart from the agent's own future use.

Knowledge agents share the new knowledge created among others through explicit instruction or through demonstration of their knowledge. Sometimes new knowledge is created solely to be shared among the knowledge agents, and in other instances the use of knowledge is for the lone purpose of sharing one's knowledge as in the case of practical demonstration. Knowledge is shared between the knowledge agents so that it progresses it also implies its accessibility for other knowledge agents for which it is intended.

Accessing what has already been captured and what other agents share are the primary means of gaining knowledge that is external to the agent. The ease with which knowledge is accessible from what was captured, and the ease with which it is available from other agents or community of agents, is crucial in building one's knowledge (Tiwana, 2000). The knowledge that is accessible is reflected upon to generate new knowledge, and it is also used in performing tasks if it suffices to act upon such tasks.

## **4.2. Knowledge Management tools**

Knowledge management tools enable organizations tackle all the problems related to knowledge management more effectively at reduced costs. Also, these tools help to leverage the collective knowledge and experience of an organization to accelerate innovation and sharpen competitive advantage

An intranet is network based on TCP/IP protocols (an internet) belonging to an organization, which is accessible only to the organization's members, employees, or others with authorization. An intranet's web sites look and act just like any other web sites, but the firewall surrounding an intranet fends off unauthorized access.



The every important thing for a modern enterprise is access to right information. In addition to the internal information related to finance, marketing, production and personnel functions, an organization keeps collecting more and more information from different external sources and applications. The information collected from sources such as documents, libraries, spreadsheets, e-mail and instant messaging archives, electronic forms and records, publicly available web pages and commercial information services is generally unstructured. Each data source has its own organization and ormat. Thus, these data files are independent of one another, and don't easily work well together. If this data is fully integrated into a single, universal database or data warehouse, it becomes much easy to retrieve and use this information for decision making. Regular update of this information assists managers in making better and faster decisions.

This chapter is based on Knowledge Management and Transfer Model (Techniques and Formes) prepared by Division of Personnel Department of Administrative Service State of New Hampshire (<https://das.nh.gov>).

## After Action Reviews

An After Action Review (AAR) is a discussion of a project or an activity that allows individuals involved to better learn what was done right and what could be done better the next time.

AARs identify and capture the things that went well and the things that could be improved so that team or work group members are aware of and can use the broader team/group's learning in their future projects or work activities. Results can also be shared with future teams or other work groups so they can learn from the experiences of others. AARs are excellent for making tacit knowledge explicit during the life of a project or activity. AARs are a useful tool for developing employees by providing constructive, directly actionable feedback in a non-threatening way. They give employees an opportunity to share their views and ideas

The sessions should be done as soon as possible after the completion of the project or activities. They could also be done at any strategic point during a project. AARs simply need to have a beginning and an end, an identifiable purpose and some basis on which actions can be assessed.

There are three types of AARs. Although the fundamentals are similar and depending upon the event, an AAR can be Formal, Informal or Personal. All involve the exchange of observations and ideas. Both Formal and Informal AARs should be appropriately documented so lessons learned may be shared across functional and geographic boundaries, and so that implementation of improvements can be measured.

- **Formal AAR.** A formal AAR is more structured, requires planning and takes longer to conduct. The formal AAR usually occurs immediately or soon after an event is completed. It may also occur while the event is in-progress. A neutral third party should facilitate a formal AAR.
- **Informal AAR.** Informal AARs are less structured, require much less preparation and planning and can be conducted anywhere, anytime, for any event, by anyone. Examples: following a meeting or conference call; or as part of a safety briefing. Managers or other interested parties may facilitate their own informal AARs.

- **Personal AARs** are a simple matter of personal reflection. For example, take a few minutes to reflect on something you did yesterday such as a client consultation, dealing with a complaint or making a specific telephone call. Ask yourself the four AAR questions below. What does that tell you about what you could do differently tomorrow?
  - What did I set out to do?
  - What did I actually do?
  - What did I do well?
  - What can I improve?

*Resources:* HQDA Training Circular 25-20, A Leader’s Guide to After-Action Reviews Rock Island District, U.S. Army Corps of Engineers; Fiscal Year 2003 Annual Report Introduction to After Action Reviews, David Gurteen, 2000.

## Best practices

Best practices” are ways of doing business, processes, methods, strategies, etc. that yield superior results. They have been implemented and honed over time to a point where they are viewed as exemplary and should or could be adopted by others. A formal “benchmarking” process is often used to identify best practices. A full description of this technique is beyond the scope of this document; however, there are many books and other resources on the subject.

Identifying and sharing best practices is an important way to incorporate the knowledge of some into the work of many. Organizational structures tend to promote “silo” thinking where particular locations, divisions, or functions focus on maximizing their own accomplishments and rewards, keeping information to themselves and thereby sub-optimizing the whole organization. The mechanisms are lacking for sharing of information and learning. Identifying and sharing best practices helps build relationships and common perspectives among people who don’t work side by side. Best practices can also spark innovative ideas and generate suggestions for improving processes, even if a practice can’t be used in its entirety. The process of identifying them can also benefit employee morale. By highlighting or showcasing people’s work, employees get organization-wide recognition for their work.

The technique of identifying and sharing best practices can be done at any time. It can be especially important when looking for ways to improve results of important or significant processes. In today’s environment of tight budgets and rapid change, identifying ways to improve effectiveness and efficiency are crucial.

There are many approaches to identifying and sharing best practices, ranging from a formal organization-wide initiative with staff assigned to researching, documenting, and creating a database to more informal ways such as talking at the water cooler (sometimes the most effective approach!).

One “in between” approach involves management identifying the results they want to improve, determining the parameters of a process that should be studied, and then chartering a team to conduct the study. A sample of people involved in the process should thoroughly review and

document the current process, identify organization(s) that have exemplary practices or processes that produce high results and explore the “best practices.” Best practice should generate possible ways to improve process and help to select changes to be implemented.

Another approach some organizations use is to encourage employees to learn from others within the organization through annual or periodic best practices or benchmarking conferences.

Some organizations recognize teams that have been particularly successful in accomplishing their objectives. Their process and results are often showcased at internal conferences or through knowledge fairs.

## **Communities of Practice**

A Community of Practice (COP) is a group of individuals sharing a common working practice over a period of time, though not a part of a formally constituted work team. They generally cut across traditional organizational boundaries and enable individuals to acquire new knowledge faster. COPs can be structured depending on the needs of the membership.

Communities of practice provide a mechanism for sharing knowledge throughout one organization or across several organizations. They lead to an improved network of organizational contacts, supply opportunities for peer-group recognition, and support continuous learning, all of which reinforce knowledge transfer and contribute to better results. They are valuable for sharing tacit (implicit) knowledge.

Communities of practice can be used virtually anywhere within an organization: within one organizational unit or across organizational boundaries, with a small or large group of people, in one geographical location or multiple locations, etc. They can also be used to bring together people from multiple agencies, organized around a profession, shared roles, or common issues.

They create value when there is tacit information that, if shared, leads to better results for individuals and the organization. They are also valuable in situations where knowledge is being constantly gained and where sharing this knowledge is beneficial to the accomplishment of the organization’s goals.

There are different kinds of COP. Some develop best practices, some create guidelines, and others meet to share common concerns, problems, and solutions. They can connect in different ways: face-to-face, in small or large meetings, or electronically. An organization or group of practitioners needs to decide which kind of community is best for it by determining what knowledge people need to share, how closely connected the community is, and how closely knowledge needs to be linked with people’s everyday jobs. The supporting organization(s) needs to be willing to make resources available to the community. These resources include supporting employees’ ability to participate at COP events as well as providing logistical and other support. Public and private entities that have created communities of practice say they work best when they set their own agenda and focus on developing members’ capabilities. Management should not dictate. Smaller, more informal COPs will likely have fewer constrictions and less need for support.

Following are guidelines to consider in forming a COP:

**1. Determine the community's purpose.** Link the community's purpose to the profession or organization's goals and objectives. Communities can be formed as:

- Helping communities that provide a forum for members to help each other solve everyday work problems.
- Best practice communities to develop and disseminate best practices, guidelines, and procedures for member use.
- Knowledge stewarding communities to organize, manage, and steward a body of knowledge from which community members can draw.
- Innovation communities for creating breakthrough ideas, knowledge, and practices.

**2. Clarify roles and responsibilities.** Roles can include the following, especially for larger, more formal COPs:

- **Functional Sponsors:** sponsors need to believe in the value of knowledge sharing. They encourage community growth and commitment of agency resources, act as champion for the community within the organization, and work with community leaders to resolve issues.
- **Core Group:** a subset of the community, consisting of knowledgeable and experienced community members (subject matter experts) to assist with start-up of the group and to provide ongoing organizational support.
- **Community Leaders:** active members of the community who help to focus the community, plan and schedule meetings and events, represent the community within the organization, manage day-to-day activities, etc.
- **Members:** membership should be voluntary. Members will continue to be actively engaged to the extent the community meets their needs, but the expectation must be set that members participate in community discussions, activities, and work.
- **Facilitator to guide the community's process:** facilitators provide process expertise, assist with the use of process tools, and help to create and maintain a collaborative environment.
- **Logistics Coordinator:** coordinates calendars, schedules meetings and events, coordinates facilities, and arranges for equipment.

Other roles to consider include functional support staff and a project historian. Functional support staffs help to arrange for databases to store and share community knowledge and establish mechanisms for on-line.

**3. Identify community members.** Membership is voluntary but it is recommended that individuals who could learn from each other and have a stake in the community's success be identified and cultivated. Employees, who are seen as experts or as trusted information sources, add value to the community and efforts should be made to recruit them.

**4. Develop mechanisms for communication and collaboration.** There can be a combination of face-to-face meetings and events, instant messaging or chat rooms, shared databases, videoconferencing, etc.

**5. Hold an initial community workshop to engage member interest and stimulate continued involvement.** At this meeting, the community's purpose should be clarified as follows:

- Work should begin on building member relationships.
- Ground rules should be decided and roles explained.
- Methods for creating, capturing, and sharing knowledge should be discussed.
- Consensus should be reached on the highest priority knowledge needs.

**6. Check community progress to identify and resolve any barriers that impede the community's success.** This is often a function of the community leader and core group.

Resources

Wenger, Etienne C, and William M. Snyder, "Communities of Practice: The Organizational Frontier," Harvard Business Review, January-February 2000, p. 139-145.

NAVSEA Community of Practice Practitioner's Guide, U.S. Department of the Navy, Version 1.0a, May 2001. 2001

## Expert interviews

Expert interviews are sessions where one or more people who are considered experts in a particular subject, program, process, policy, etc., meet with others to share their knowledge. The format of the sessions can range from an informal one-on-one meeting to a larger group session with a panel of experts. Sessions can be audio or videotaped or even transcribed if the subject is highly technical. The experts can come from within an organization or from the outside.

Expert interviews are a way of making tacit knowledge more explicit. A person can describe not only what was done but why, providing context and explaining the judgment behind the action. *Interviews are often easier for the experts than having them write down all the details and nuances.* Learners can ask questions and probe more deeply to ensure understanding.

Expert interviews can be used in many situations. The best place to begin is with people who have unique knowledge developed over a period of time. The next step might be to identify mission critical processes or programs where only one or two staff has a high level of technical knowledge.

This process is probably most effective when someone facilitates the experience, setting the stage with participants, facilitating the exchange of any information prior to the interview, and handling scheduling or other logistics.

Identify the people and knowledge you want to start with, both the experts and the learners. Discuss with the experts the reasons for the interviews, who will be involved, and what you would like to focus on. If the learner needs to prepare for the session, the expert can identify how to do this and what resource materials would be helpful. It is also essential to ask the learners what they think they would like to know from the experts. If they have specific questions, provide these to the expert in advance so he or she can be prepared.

## Job Aids

A job aid can take many forms, but basically it is a document that has information or instruction on how to perform a task. It guides the user to do the task correctly and is used while performing the task, when the person needs to know the procedure. A job aid can be as simple as a sticker on an answering machine that describes how to access messages. Types of job aids include:

- Step-by-step narratives or worksheets sequencing a process.
- Checklists, which might show items to be considered when planning or evaluating.
- Flow charts, leading the user through a process and assisting the user to make decisions and complete tasks based on a set of conditions.
- Reference resources, such as a parts catalog or telephone listing.

Job aids are usually inexpensive to create and easy to revise. Using job aids can eliminate the need for employees to memorize tedious or complex processes and procedures. When a job aid is easy to access, it can help increase productivity and reduce error rates.

Consult with knowledgeable users to identify what job aids to develop. Create job aids that include only the steps or information required by the user. Keep the information and language simple, using short words and sentences. Don't include background information or other information extraneous to actual performance of the task; put that in another location. Use graphics or drawings, when appropriate, to more clearly demonstrate detail.

Use bold or italicized text to highlight important points. Use colors to code different procedures or parts of a process. Make sure the job aid can be easily accessed and is sturdy. A laminated wall chart hung near where a task is performed can be consulted more quickly than a piece of paper stored in a file.

Aids are most appropriate for tasks that an employee does not perform frequently, or for complex tasks. Tasks with many steps that are difficult to remember, or tasks that, if not performed correctly cause high costs, can benefit from having readily accessible job aids. Also, if a task changes frequently, a job aid would save time and reduce the chance for errors.

Job aids can be a good supplement to classroom training. Users can learn tasks in a classroom but will likely need something to rely on when on the job.

*Resources* Russell, Susan, "Create Effective Job Aids," *American Society for Training & Development Info-Line*, Issue 9711, November 1997. Willmore, Joe, "Job Aids Basics," *American Society for Training & Development Training Basics Series*, 2006.

## Knowledge fairs

The Knowledge Fair is an event designed to showcase information about an organization or a topic. It can be organized in many ways using speakers, demonstrations, or more commonly, booths displaying information of interest to the attendees

A large amount of information can be made available and attendees can focus specifically on what they are interested in learning. Attendees can interact directly with the presenters, getting immediate answers to their specific questions. They also can establish contacts for further exploration of topics if needed.

Attendees often network with one another and booth developers' often strengthen their teamwork. Knowledge fairs also provide opportunities to draw attention to best practices and recognize employee and team achievements.

Consider a knowledge fair when there is a lot of information to share with a lot of people and participants need a broader perspective, as well as an opportunity to interact on a one-on-one basis on specific topics. A knowledge fair is an alternative to traditional presentations when more interactive experiences are desirable

Depending on the scope and size of the event, it can require a large amount of staff time for creating booths, putting information together to display, and for organization and logistics. The costs for space, materials, and resources can be high. The potential exists for participants to become overwhelmed with information.

## Learning Games

A game is a type of structured learning activity used to make learning fun. It can provide a review of material that has been presented to strengthen the learning or evaluate how much learning has occurred. Games can also be used to:

- Help people prepare for learning by testing current levels of knowledge.
- Apply a newly learned skill.
- Learn as they play the game.
- Practice what has been presented to reinforce the learning.

Games improve knowledge transfer by increasing participation among all involved and improving the learning process by creating an environment where people's creativity and intelligence are engaged. Besides learning is de-stressing because it is fun. And can add a variety to a training program, which helps to keep people actively involved.

Games are usually used in conjunction with other learning methodologies, such as presentations and discussions. Using learning games depends on the learning you are trying to convey and whether games will help you meet your learning objectives. Games used at the beginning of a program can measure existing knowledge and build immediate interest in the training material. Games used during a program can help people discover the learning themselves (strengthens recall and commitment), practice using new knowledge or skills, or reinforce initial learning. Games used near the end of a program can test knowledge gained and people's ability to apply it in their work settings.

For games to be effective, they must:

1. Be related to the workplace by providing knowledge, reinforcing attitudes, and initiating action that is important to job success.
2. Teach people how to think, access information, react, understand, and create value for themselves and their organizations.
3. Be enjoyable and engaging without being overly simplistic or silly.
4. Allow for collaboration between learners.
5. Be challenging yet attainable.
6. Permit time for reflection, feedback, dialog, and integration. In other words, games should be debriefed.

Examples of games:

- Quizzes
- Scavenger hunts
- Quiz show games, including those modeled on television game shows such as Jeopardy or Family Feud
- “Name that” games

*Resources*

Meier, Dave, *The Accelerated Learning Handbook: A Creative Guide to Designing and Delivering Faster, More Effective Training Programs*, McGraw-Hill, New York, 2000. Scannell, E. E. & Newstrom, J. W., *The Complete Games Trainers Play*, McGraw-Hill, 1995

## **Mentoring**

Mentoring is a process by which the mentor and protégé work together to discover and develop the protégé’s knowledge, skills, and abilities, usually in a particular area. The mentor acts as a teacher, coach and advisor, offering knowledge, wisdom, insight, or perspective that is especially useful to the protégé’s personal and professional development.

In addition to formal mentoring programs, mentoring also occurs in organizations on an informal basis – through a supervisor’s daily contact with staff; through interactions with peers; and, through observation of someone who has succeeded in an area where we wish to excel. In some instances, we are the mentor, helping to guide others, and in some we are the protégé, learning from those around us. So, in addition to formal mentoring programs, there are ample opportunities in the workplace to mentor and be mentored on an informal basis.

The organizational benefits of mentoring extend to the protégé, the mentor, and the organization itself.

The benefits to the protégé are numerous: mentoring contributes to a protégé’s personal growth, professional maturity, career development, and leadership/managerial skills.

The benefits to the mentor are just as significant. Being a mentor can contribute to the mentor’s own personal and professional growth. As the mentor coaches and guides the protégé, he or she stays focused on the skills, characteristics, and styles that are valued by the organization and needed to succeed. Being a mentor also identifies you as someone of professional distinction who can serve as an example and role model for others. A mentor can also learn from the protégés knowledge and questions.

Mentoring can be effective when:

- There is a need for deliberate, systematic knowledge transfer
- You want to create and reinforce a positive organizational culture
- When there is a need for methods of providing job specific knowledge and insight for those positions requiring experience, judgment, discretion and “soft skills” in order to be effective
- You want to create opportunities to shape the workforce of the future in an intentional, deliberate way to meet the agency’s strategic goals and objectives
- You want to provide structured learning for employees assuming new or expanded responsibilities.



Mentoring is effective planning strategy that benefits the organization in numerous ways. Mentoring programs can be valuable tools in recruitment, retention, knowledge transfer, and workforce development. Mentoring can also contribute to the promotion of diversity in an organization.

In summary, mentoring programs offer a relatively low-cost opportunity to serve the needs of the protégé, the mentor, and the organization as a whole. Many studies have supported the benefits of mentoring programs.

Resources: Barbian, Jeff. "The Road Best Traveled," Training, May 2002, p. 38 - 42.

Bell, Chip R. *Managers as Mentors: Building Partnerships for Learning*. San Francisco: Berrett-Koehler Publishers, Inc., 1998., Murray, Margo. *Beyond the Myths and Magic of Mentoring: How to Facilitate an Effective Mentoring Process*, San Francisco: Jossey-Bass Inc., 2001. Peters, Helen. "Peer Coaching for Executives," Training & Development, March 1996, p. 30-41. Shea, Gordon F. *Mentoring*, Menlo Park, CA: Crisp Publications, Inc., 2002. The Public Management Institute (PMI) Guide Part 3 - Mentor Guide

## **On-the-Job training (OJT)**

On-the-job training is any kind of instruction that takes place at the actual job site and involves learning tasks, skills, or procedures in a hands-on manner. It can be informal, such as when a person asks a co-worker to show how to perform a task, or part of a more formal structured OJT system. If part of a structured system, there are usually prescribed procedures for training that specify the tasks and skills to be learned and the sequence of activities to build on knowledge already acquired. There are also administrative processes requiring both trainer (sometimes called a coach) and trainee to certify that a particular task or skill has been mastered. Structured OJT is usually more effective than informal; however, informal can also be valuable.

On-the-job training can be very effective because someone skilled in performing the tasks does the training (the coach). With training done on the actual job site, it may not reduce productivity as much as taking a person off site to a classroom setting.

The cost is usually the coach's and employee's time. If a more structured approach is being taken, there are costs associated with training coaches and developing checklists and other materials. However, those costs can be amortized over time and over the number of trainees who use them.

Consider the following when deciding whether to use structured OJT:

- When equipment and/or materials needed to perform the job are not replicable in a classroom environment.
- When instruction needs to take place in small chunks so that taking the person away from the job site is not an efficient use of time.
- When the number of people needing instruction is too small to efficiently organize a classroom session.
- When showing someone how to do something using real work is the most effective way of teaching.

One-on-one training should not be presented in a vacuum, but as part of an overall training program that might include some classroom instruction, job aids (e.g., check lists –See Job Aids), manuals, and demonstrations.

**A. Preparation**

- Analyze the job to figure out the best way to teach
- Make a list of the tasks and associated knowledge and skills
- Break the job tasks into steps and note the key factors that relate to each step

**B. Present the process**

- Put the employee at ease
- Find out what the employee already knows about the job
- Tell the employee the importance of the job or task and how it fits into the larger picture of what the employee does
- Show the employee how to perform the task and describe what you are doing
- Stress the key points and use appropriate job aids
- Completely instruct one point at a time, at a rate slow enough for the employee to understand

**C. Test the performance**

- Have the employee perform the job while you observe
- Have the employee show you how he or she does each step of the job and describe what is being done
- Ask questions and offer advice
- Continue until you are satisfied that the employee knows the job or task[s]

**D. Follow up**

- Tell the employee who to go to for help
- Check on the employee as often as you feel necessary
- Encourage questions
- Have employee perform independently with normal supervision

## **Storytelling**

Storytelling is an approach which can both allow for expression of tacit knowledge and increase potential for meaningful knowledge sharing, particularly by permitting learning to take place through the presence of a narrative structure. Organizational stories (business anecdotes) are narratives of management or employee actions, employee interactions, or other intra-organizational events that are communicated within the organization, either formally or informally.

Stories capture context, which gives them meaning and makes them powerful. Stories help us make sense of things. They can help us understand complexity and assist us in seeing our organizations and ourselves in a different light. People will remember a story more easily than a recitation of facts. Stories engage our feelings and our minds and are, therefore, more powerful than using logic alone. They complement abstract analysis. Besides Stories help listeners see similarities with their own backgrounds, contexts, fields of experience, etc., and, therefore, help them to see the relevancy of their own situations.

Stories are seldom used alone, but rather they are combined with other approaches such as quantitative analysis, best practices, knowledge audits, etc. They impart meaning and context to ideas, facts, and other kinds of knowledge derived from other knowledge management tools. Stories can be used to support decision making, aid communications, engage buy-in, or market an idea or approach. If being used to illustrate the value of a way of thinking, or explaining an idea, they are best used at the outset, to engage the listener and generate buy-in.

In using storytelling, the message, plot, and characters must be considered. Determine what underlying message is to be conveyed (examples: importance of organizational goals, impact on an individual of a change effort, end-benefits associated with a change effort, how a process works, and so on). How does the story illustrate the underlying message (plot)? Who was involved in the story (characters)?

Think about the audience for the story. To whom is the story aimed? What will each audience listening to the story do with the story's message? What message will be told to each audience? How do we tell each desired story?

The story should:

- Be relatively brief and have only enough detail for the audience to understand it. Too much detail and the listener gets caught up in the explicit story and not its message.
- Be intelligible to a specific audience so it hooks them. It must be relevant to them.
- Be inherently interesting, maybe because the problem presented is difficult, the "old" way of resolving the problem won't work, there is tension between characters in the story, there are unexpected events, or an element of strangeness exists.
- Embody the idea you are trying to convey and provide an easy mental leap from the "facts" of the story to its underlying message.
- Have a positive ending, to avoid people being caught up in a negative, skeptical frame of mind.
- Have an implicit change message, especially if the audience is skeptical or resistant, since the audience can then discover the change message on their own and, therefore, make it their own idea.
- Feature a protagonist with which the audience can identify.
- Deal with a specific individual or organization.
- Have a protagonist who is typical of the organization and its main business.

True stories are generally more powerful than invented stories, and can serve as jumping off points for future scenario stories. Stories should be tested on individuals or small groups before being tried on large groups or in high-risk settings.

The stories must be simple, brief, and concise. They should represent the perspective of one or two people in a situation typical of the organization's business, so that the explicit story is familiar to the audience. Similarly, the story should be plausible; it must ring true for the listener. It needs to be alive and exciting, not vague and abstract. By containing a strange or incongruous aspect, the listener can be helped to visualize a new way of thinking or behaving. Stories, therefore, should be used to help listeners extrapolate from the narrative to their own situations. Finally, storytellers must believe in the story (own it) and tell it with conviction. Otherwise, the audience will not accept it.

Resources: Denning, Stephen, *The Springboard: How Storytelling Ignites Action in Knowledge-Era Organizations*, Butterworth-Heinemann, Woburn, MA, 2001. Poage, James L., "Designing Performance Measures to Tell a Story: Applying Knowledge Management Principles," presented to the Federal CIO Council, Knowledge Management Working Group, November 1, 2000.

## Knowledge Audit

If knowledge is an asset, it has to be managed just the same as the financial and physical assets of the Industrial Age were managed. It is estimated that 70 to 80 percent of what our workers know is hidden. We don't know what we know and we don't know who knows it.

A KM Audit is a systematic identification and analysis of an organization's knowledge needs, resources, flows, gaps, uses, and users. It usually includes a review of people-based knowledge, capability, and skills as well as information. It also examines, from a critical perspective, the values, vision, culture, and skills of an organization, from the perspective of its knowledge needs.

Here are some of the basic questions of a knowledge audit:

- What does your organization know?
- What doesn't it know?
- Who needs to know it?
- Who knows what?
- Are they inside or outside the organization?
- Do your leaders understand knowledge?
- The value of knowledge?
- Are they leading by example?
- Does your organization systematically organize and transfer knowledge internally?
- Is it systematically acquiring and sharing knowledge outside the organization?
- Are you creating new knowledge?
- Are you leveraging knowledge to benefit your members and the association?
- Do you measure, assign value to the knowledge asset?
- Is your work environment knowledge friendly?

The objective of the audit is to look at the knowledge within the company, and see whether it is being properly managed. The purpose of the audit, and the job of the auditor, is to reassure the company and the shareholders that the intangible asset that is Knowledge is being properly looked after, much as a financial audit provides reassurance that money is being properly managed.

A Knowledge Auditor has a much tougher job than a financial auditor. The invisible nature of knowledge, and the lack of a paper trail for knowledge transfer, compared to the fully documented and counter signed world of money, makes knowledge auditing less of a science and more of an art. However a structured and evidence based approach works wonders. The knowledge auditor will look at the state of management of each of the main knowledge domain areas. They will seek for evidence that:

1. the explicit knowledge is well documented, complete and up to date
2. the knowledge is owned
3. the knowledge is sufficiently well spread round the organisation
4. there are sufficient subject matter experts
5. the risk of loss of these experts is manageable
6. there is a sufficiently effective community of practice in place (the auditor may also assess the maturity of the CoP)

Ideally, the strategy development would be in four distinct phases. The first stage would involve indepth research and analysis of current institutional policies and practices, utilising interviews, workshops and focus groups. Specific questions to be explored would fall into the following categories:

### ***Knowledge***

- What are the core tasks and processes carried out by different groups and divisions within the organisation?
- What constitutes useful, applicable knowledge for the execution of these tasks and processes?
- How is this knowledge generated, identified, shared, stored and applied in core operations?
- How might improved generation, sharing, storing and application of knowledge be monitored?

### ***Relationships and processes***

- What existing and planned systems and processes can support the knowledge sharing and learning strategy, and how should they be deployed?
- What existing and planned organisational initiatives might influence and support the generation, sharing, storing and application of knowledge?
- What is the nature of key relationships within the organisation? How formal/informal are these relationships? How do they impact upon issues of knowledge and learning?

### ***Organisational contexts***

- How can human resources, information technology, information management and other support functions be better integrated to support the knowledge and learning 'vision'?
- How might existing institutional structures support the KM strategy?
- How might leadership and governance support the KM strategy?
- What are the perceived costs and benefits of improved knowledge and learning?

### ***External factors***

- How does organisational knowledge and learning translate across the boundaries of the secretariat to include member states, dispute panels and the appellate bodies, other international agencies, civil society, and so on? (Specifically, how does the principle of 'horizontal coordination' work in practice and how can it be strengthened?)
- How might the political, economic, and cultural contexts in which the WTO secretariat operates impact upon the development and implementation of an effective knowledge and learning strategy?

## **Knowledge Mapping**

Activity-based Knowledge Mapping (Tools for Knowledge and learning [www.odi.org.uk](http://www.odi.org.uk)) is a tool which enables knowledge inputs and outputs to be linked in a systematic fashion to ongoing organisational activities and processes – from office mail to strategic reviews. Activity-based knowledge mapping enables tasks and activities to be in terms of both the overall organisational process – to understand how activities are ordered and why – as well the requirements and dependencies for an activity – who performs the activity, what inputs are required and how knowledge and information flows support the tasks.

This results in a series of diagrams that visually display knowledge within the context of a business process. In other words, the map shows how knowledge is currently used within a given process and sources of this knowledge, and points to how improvements can be made. If undertaken and applied correctly, activity-based knowledge mapping and workflow approaches can help to identify key activitybased priorities for improving knowledge and information flows within a group or department.

Activity-based knowledge map is created in a facilitated workshop, which will vary in length depending on the nature of process. The key steps are as follows:

Determine the process to be analysed: The workshop should start with open discussion of the process and a brainstorm of the different activities making up that process. This process brainstorm may be undertaken prior to the workshop to save time, with the details of the process provided for comments to the workshop participants.

Prioritise key activities and focus the discussion around key activities. Factors to consider in prioritisation are: the number of people across the organisation involved in undertaking an activity; the effectiveness or otherwise of the activity; the 'tacit' knowledge needed to undertake the activity; etc.

Application of findings: Brainstorm how the knowledge maps can be used to make improvements in activities across the organisation. Identify applications as individual, group or team, and organisation wide. Conclude with an action plan, documenting tasks, owners, and timeframes.

## **Social Technologies**

(Tools for Knowledge and learning [www.odi.org.uk](http://www.odi.org.uk))

There are an ever increasing number of tools that are described by the term Social Technologies. All of these have one thing in common: the use of technology to try and build collaboration and sharing of tacit knowledge. The term is often used to describe new tools based on the internet; however, we should not forget other equally important tools which do not require a web-platform: mobile telephone communications, radio services and other face-to-face socialising methods.

Detailed description of the processes:

E-dialoguing and e-conferencing enables the easy sharing of ideas, information and news. These communications can be synchronised by date and time, or can take place over days and even months.

These communications are facilitated by email and web technologies. Email discussions, or lists, can use email to discuss issues. These are either of a hub-and-spoke model whereby daily messages to a moderator are compacted into a single daily message, or they are a free-for-all, whereby all messages are seen by all members of the list. Tolerances and preferences vary by individual. Some email discussions take the form of e-conferences, which are planned around component discussions and pre-prepared short papers on themes and topics. Discussions may be run using both the web and email. Conferences can have a home page which participants visit and post their contributions, and subsequently receive an email detailing either all or a summary of the messages posted.

Internet messaging services provide users with a virtual 'chat-room' where people can talk in groups or on a one-to-one basis. Chats could be seen as voluntary unmoderated discussions; although they can be moderated, this is only done rarely. IM services provide privacy options that allow users to share information more freely than in chat rooms or e-conferencing. Internet messaging services have now evolved into a more complete application, providing video and voice communication to its users thus significantly reducing communication cost.

Digital workspaces use email and the web in order to create a virtual common area for distributed project teams to work together. The software tools enable the development of research project plans, project management, and the sharing of documents across organisational boundaries. These platforms often offer several services including: to do lists, personal information managers, collaborative editors, business-oriented chat-interface and customer resource management applications. They generally allow integration with a variety of other applications, notably the Microsoft Office suite.

Arising in response to the difficulties of using weblogs in a collaborative context, a Wiki is a website where any user has the right to create, edit and delete content. System abuses are

avoided by a revision control system that tracks changes, enabling reverting to previous versions. The potential of Wikis as open knowledge exchange systems is illustrated by the rise of Wikipedia which started in January 2001 as a 'multilingual project to create a complete and accurate open content encyclopaedia'.

The usefulness of the Wiki relies on its ability to aggregate knowledge from the users themselves. Wikis can be used to develop and update information that is useful for many users who, individually, only hold parts of it.

Video streaming can turn a structured e-discussion into a video conference. This can be used to provide a useful primary source on key events. The same can be done with audio records of such events.

Podcasting is a method of distributing multimedia files, such as audio programmes or music videos, over the internet for playback on mobile devices and personal computers. The term podcast, like 'radio', can mean both the content and the method of delivery. The host or author of a podcast is often referred to as a 'podcaster'. Podcasting's essence is about creating content (audio or video – videocasting) for an audience that wants to listen or watch when they want, where they want, and how Tools for Knowledge and Learning they want. It can be used outside the internet to reach more people by providing, for example, rural radio stations with a stream of pre-recorded podcasts on new agricultural techniques they want. It can be used outside the internet to reach more people by providing, for example, rural radio stations with a stream of pre-recorded podcasts on new agricultural techniques or market information.

A weblog (usually shortened to blog, but occasionally spelled web log or weblog) is a web-based publication consisting primarily of periodic articles, usually in reverse chronological order. Early weblogs were simply manually updated components of common websites. However, the evolution of tools to facilitate the production and maintenance of web articles posted in a chronological fashion made the publishing process accessible to a much larger, less technical, population. Ultimately, this resulted in the distinct class of online publishing that produces blogs we recognise today.

Social network services are online spaces that allow different groups of people to come together under shared interests or causes. Their uses range from online dating and political activism to debating research interests. Most social network services include some of the other social technologies to enhance connectivity and promote peer-to-peer communications. Their usefulness to research and policy influence relate to their ability to develop and sustain social and professional networks, share knowledge between members and provide access or entry points to key individuals and spaces. These spaces provide a range of social networking tools that allow users to expand their social networks to those of their friends and colleagues; as well as to search through the network's space for individuals with similar interests. Spaces like the igloo and dgroups have been specifically created to enhance the social networks of professionals in the international development and governance sector. The network provides access to personal blogs of the members, specialised libraries and a clearing house for relevant links and external services. A more popular version of this type of social technology is LinkedIn, which is targeted at business relationships.



E-learning is a web-based (as opposed to computer-based) application for long distance and ondemand learning and includes the use of other communication technologies such as email, internet forums, collaborative software, and classroom management software; as well as hardware devices such as mobiles and PDAs (in this case it is sometimes called M-learning – for mobile learning).

E-learning for international development allows individuals to gain access to technical and professional education. It reduces the traditional costs (printed materials) and outreach limitations of distance learning. In most cases, e-learning sessions are designed to fit professionals and are therefore accessible on an on-demand basis – allowing users to engage in their own time.

Resources: Hovland, I. (2005) Successful Communication: A Toolkit for Researchers and Civil Society Organisations, ODI Working Paper 227, London: ODI.

### **Peer Assist**

Peer assist is a method of cooperation, based on dialogue and mutual respect and learning, which seeks to share knowledge, elicit feedback on a problem, project, or activity and draw lessons learned for people in similar situations.

This tool encourages participatory learning through asking those with experience in certain activities (or situations) to assist those wishing to benefit from their knowledge. It is based on the premise that for any given activity, someone else has done something that is at least broadly similar. Thus peer assist is a technique which aims at “learning before doing”.

### **Peer Coaching**

Peer coaching is a method of professional development whereby colleagues agree to formally learn from each other. It is a confidential process through which professionals share their expertise and provide one another with feedback, support, and assistance for the purpose of refining present skills, learning new skills, and / or solving task related problems.

### **Scenario Learning/ Scenario Testing**

It means to model several likely scenarios for the future (instead of just one) so that decisions can be made on the basis of a wide range of possible futures. Scenario learning/ scenario testing is a group learning activity, which would generally deliver three scenarios: a positive (optimistic), negative (pessimistic) and neutral (middle-of-the-road) scenario. By actively using scenarios several concerns and outcomes can be addressed at the same time.

The assumption behind is, that once you can see several scenarios you can better understand your options and possibilities.

### **Social Network Analysis**

Social network analysis (SNA) is a research technique that focuses on relationships among social entities, such as members of a group and within or between organizations or nations. It explores both directional and bidirectional exchanges, including sharing of Information or business

relationships. SNA looks at illuminating the informal relationships between people, asking “who knows whom” and “who shares with whom”. It tries to visualise and understand the diverse relationships that either facilitate or impede active knowledge sharing; it is thus also defined as a sort of organisational X-ray.

The results of a SNA can be applied at the level of individuals, departments and organisations in order to:

- Identify individuals or groups who are playing key roles (thought leaders, information managers etc.);
- View opportunities for improved knowledge flow;
- Target those where better knowledge sharing will have the most impact for the organisation/team;
- Raise awareness of the significance of informal networks.



### 4.3. Activities for the 4 chapter

**Activity 4.1. Please read the instruction and perform an exit interview simulation with your learning partner:**

#### Exit interviews

Traditional exit interviews can be conducted in a variety of ways: face-to-face, over the telephone, using a written questionnaire, or via the Internet using an exit interview management system. In a knowledge-focused exit interview, a face-to-face interview is needed.

You will need to think carefully about the information you would like to gather before the interview and start your preparations early. While the traditional exit interview will tend to collect mainly human resources information, the primary focus of the knowledge-focused interview is on knowledge that would be helpful to the next person who will do the job or to others in the organisation doing similar jobs.

Start planning the handover and exit interview as soon as you know a person is leaving. Identify who in the organisation might benefit from that person's knowledge and what they will need to know. Then work out a plan to capture the leaver's knowledge during the time remaining before they leave. This should include both explicit knowledge (knowledge that is already documented such as in files and e-mails, and knowledge that can be easily documented), and tacit knowledge (knowledge that is less easy to capture and that needs to be explained or demonstrated).

In the case of explicit knowledge, make sure the leaver moves relevant files – both hard copy and electronic – into shared folders or a document library. Ask them to prune and organise these files and to create role and task folders or notes for their successor.

For tacit knowledge, you will need to interview the leaver face-to-face. Prepare for the interview by reviewing the key tasks the person does based on a job description or annual performance plan. You can then use that information as the basis for discussing how they go about those tasks, what knowledge and skills they need, any problems or pitfalls to be aware of etc. Find out about their network of contacts and sources of knowledge. If possible, create an overlap period between the leaver and their successor so that a "live" handover can be done.

When conducting exit interviews, think carefully about who will be the interviewer. Someone from the Human Resources Department conducts traditional exit interviews. However this need not be the case in the knowledge-focused interview. Often a peer or a relevant subject expert will be most appropriate. Over and above the obvious interpersonal and interviewing skills needed, you will need to consider issues of trust and honesty. For example, if an employee has had a difficult relationship with a manager or colleague, that person might not be best placed to conduct the interview. Whoever you select, make sure they are appropriately skilled and trained.

Be clear about who will use the knowledge gathered and how it will be used, before you begin to gather it; the purpose of the interview is not to gather knowledge per se, but to gather useful knowledge that will actually be used.

**Please simulate the exit interview with your learning partner and describe how it went:**

**Activity 4.2.**

***Use this form of template for documenting good practices. Prepare an example for presentation.***

**Document good practices**

Best practice descriptions are usually kept in a database in a standard format. A typical template might include the following sections:

Title: short, descriptive title; this can be accompanied by a short abstract.

Profile: several short sections outlining processes, function, author, keywords, etc.

Context: where is this applicable? What problems does it solve?

Resources what resources and skills are needed to carry out the best practice?

Description: what are the processes and steps involved?

Improvement measures: are there performance measures associated with this practice?

Lessons learned: what proves difficult? What would the originators of the practice do differently if they were to do it again?

Links to resources: experts contact details, workbooks, video clips, articles, transcripts of review meetings, tools and techniques used.

**Activity 4.3. Please, provide your remarks on the following points:**

<b><i>Knowledge centres</i></b>	<b><i>Provide your remarks:</i></b>
<p><b>What are knowledge centres?</b>            In short, an enhanced version of a library. The “enhancement” lies in a wider focus on knowledge as well as on information: a knowledge centre typically provides a focus for collecting, organising and disseminating both knowledge and information. This does not necessarily mean that the knowledge centre will actually perform all of these activities itself. Rather, it will create a framework and provide leadership, coordination, guidance and expertise.</p>	<p><b><i>Please find the other definition for knowledge centre and compare them:</i></b></p>
<p>A knowledge centre can bring core knowledge management responsibilities and activities under a single umbrella rather than leaving it to dispersed individuals and teams. Economies of scale can therefore be achieved through:</p> <ul style="list-style-type: none"> <li>• avoiding duplication of effort and resources;</li> <li>• pooling expertise;</li> <li>• achieving bulk purchasing discounts;</li> <li>• reusing knowledge and information in a variety of contexts.</li> </ul>	<p><b><i>What could be other benefits of Knowledge centers ?</i></b></p>

<p><b>How do I go about it?</b></p> <p>The services that a typical knowledge centre might provide include:</p> <ul style="list-style-type: none"> <li>• Maintaining and developing knowledge repositories e.g. the organisation’s intranet, key information databases and collections;</li> <li>• Providing content management services such as cataloguing, indexing and developing taxonomies for electronic knowledge repositories;</li> <li>• Providing pointers to people as well as to information – connecting people who need help with people who can provide it, identifying subject experts, maintaining a skills database, connecting people who share similar needs or are working on similar problems, etc.;</li> <li>• Providing a “one stop shop” for multiple knowledge and information needs;</li> </ul> <p>Providing pointers to resources and/or training in information and knowledge skills”</p>	<p><b><i>What else knowledge centers could provide</i></b></p>
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**Activity 4.4. Final Knowledge Management assignement**

You just returned from your vacations. It’s your first day back at work. As usual your email is full with many messages. Check carefully through them and try to handle them best possible. Check best ways to handle those tasks/ questions; emphasize on the knowledge management aspect. **IMPORTANT:** You do not actually have to **DO** the tasks, but I would like to discuss a bit on how for each of those mails you react, would handle , priorities them, make sure the knowledge does not get lost etc. Carefully read through all the mails, react on each of them. Explain to me your thoughts and planned actions. Your suggested solutions should be based on your thoughts and the practical applying of the new acquired KM understanding and NOT on a Correct/Wrong basis. This sure is not an easy assignment BUT it is a real life assignment! - so i hope you have some fun doing it!

1. -----Original Message-----

From: your Boss

Sent: Di 23.04.2007 12:26

To: you

Subject: km mail 1

Hi

this is your boss, i am leaving for a conference right now. I want you to make sure i get this presentation on marketing you did last months. I am not sure if I can use my corporate email since the file might be too large.. you sure will find a way. Just make sure i somehow can access the file later today. I will stay at the Grand Hotel in Oslo  
this is important

Boss

2. From The Desk of:Eze Ugo Chambers

{Solicitor\$Advocate]

Email:e88\_ugo@post.cz

Victoria Island Lagos.

Dear Sir,

I am Barrister Eze Ugo, a solicitor at law.

I am the personal attorney to Mr.Adams Ritzel,a national of your country,possibly could be your brother, who used to work with shell development Company in Nigeria. Here in after shall be referred to as my client. On the 21st of April 1999, my client, his wife and their two Children were involved in a auto crash in a remote village called Kuru near Jos in Plateau State.All occupants of the car unfortunately lost their lives.

Since then I have made several enquiries to your embassy here in lagos to locate any of my clients extended relatives this has also proved unsuccessful.After these several unsuccessful attempts, I decided to track his last name over the Internet, to locate any member of his family hence I contacted you. I have contacted you to assist in repatriating the money and property left behind by my client before they get confiscated, frozen or declared unserviceable by the bank where these huge deposits were lodged. Particularly, the Bank of Africa PLC where the deceased had an account valued at about eleven million United States Dollars (US\$11,000,000:00). The management has issued me a notice to provide the next of kin or have the account frozen within the next ten official working days. Since I have been unsuccessful in locating the relatives for over 2years now I seek your consent to present you as the next of kin of the deceased since you have the same last name so that the proceeds of this account valued at \$11,000,000:00 can be paid to you and then you and me can share the money. 60% to me and 40% to you I have all the necessary legal documents that can be used to back up any claim we may make.And this I must do to make sure that this fund is not wasted or end up in the wrong hands.

All I require is your honest co-operation to enable us see this deal through. I guarantee that this will be executed under a legitimate arrangement that will protect you and me from any breach of the law.

Reply true my private :e88\_ugo@post.cz

Best regards,

Eze Ugo Esq.



3. -----Original Message-----

From: Marketing Department  
Sent: Di 23.04.2007 12:43  
To: you  
Subject: km mail 5

Hi

You have always such good ideas, help me. We have asked this new design company to come up with a great new design for our upcoming product launch. Now they come up with 3 different designs and we in the team are just absolutely divided. We love them all but we just can't decide which one. What would you do?

Any idea is welcome  
Marketing Department

4. -----Original Message-----

From: Joe your working colleague  
Sent: Di 23.04.2007 15:45  
To: you  
Subject: km mail 7

hi

since you are KM and Technical/Internet experts, ... some of my friends told me that I should use a Wiki instead of a normal email for my upcoming teamworking project. What do you think? ... good idea, what does this has to do with KM?????

thanks for any tips

Joe (your non-technical working colleague)  
say hello to your lovely partner!!

5. -----Original Message-----

From: Training Center Luzern  
Sent: Di 23.04.2007 16:18  
To: you  
Subject: km mail 8  
Dear Sir

You asked for a training from our consultants for your staff on all corporate resources. We are the EXPERTS on this. We propose a 1 day training where we emphasize on Finance-, Human-, and Technical-Resources. Our training will use overhead projector and our Trainer has written a very successful book in 1999. You can really profit a lot from this course.

Our price is at 1000 chf for a one day session

regards

Markus Mueller

Sales

[www.training-center.ch](http://www.training-center.ch)

6. -----Original Message-----  
From: eCorporate Workshops  
Sent: Di 23.04.2007 16:22  
To: you  
Subject: km mail 9

Hello Sir

My name is Tom Mueller.

I am happy to hear that you consider to choose our company to provide you with a one day training session on corporate resources. Our suggestion would be to do a interactive workshop on all corporate resources as there are: finance - technical - human and knowledge. Additionally to our courseware do we provide a supporting Internet website with many more interactive features.

Our prices are not the cheapest but we update our trainers and course material almost daily. We are pleased to offer you our training/workshop and supporting material for chf 1500 per day

regards

Tom Mueller

Sales and R&D Director

[www.ecorporate.ch](http://www.ecorporate.ch)

7. -----Original Message-----  
From: Your BOSS - confidential and high priority  
Sent: Tuesday 23.04.2007 17:03  
To: You  
Subject: km mail 10

Dear colleague

I am a bit worried about the raising cost of our Research and Development department. I pay so high wages for them to come up with new ideas and new products. Still many of their suggested products have been failing since our clients seem not to go for them. I recently read in the Wired magazine an article about crowdsourcing and companies like threadless and zazzle - they seem to work very successfully without even having a R&D team. Please advice

**THIS IS IMPORTANT AND CONFIDENTIAL**

your Boss

8. -----Original Message-----  
From: Human Resources  
Sent: Di 23.04.2007 12:29  
To: you  
Subject: km mail 2

Message from Human Resources Department

I have to announce that our beloved Jeremic is leaving our Organization. After 20 years of work he decided that it is finally time to join his beloved family

We wish him well

PS - he will still be here until the end of the month

-----Original Message-----

From: Training Department

Sent: Di 23.04.2007 12:33

To: you

Subject: km mail 3

Hi

I know you just came back from vacations, BUT we urgently need to train our local as well as the staff based in London and HongKong on the new product launch. I know you have already prepared the training for next week, but please ensure that you can include the others as well.

No way that we can fly them in, the budget is already done

i am sure you will find a innovative solution

Training Department

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