

Knowledge Management: Module 1

GIZ e Academy

What is Knowledge Management?

Successful use of knowledge in an organisation depends critically on the quality of the way knowledge is distributed and shared within an organisation. Knowledge management is not only about managing this knowledge, but also about managing the processes that act upon the knowledge assets. These processes can include: developing knowledge, saving knowledge, making knowledge accessible, using knowledge, and sharing knowledge.

Although knowledge management originally was developed in a business context, when we speak about an organisation we can mean different types of organisations. We could be talking about businesses, but also about non-profit organisations and governments (who of course also need to be able to deal with distribution and sharing of knowledge).

Why is the term knowledge management perceived as being abstract?

There are many elements that are part of knowledge management and with which we deal later in the module. Additionally many people think that knowledge management is about setting up a database. The most difficult part however is to identify the knowledge assets and being able to use and manage them. In order to make effective use of knowledge you need to:

- have an organisation-wide vocabulary to ensure that the knowledge is correctly understood;
- be able to identify, model and explicitly represent the knowledge;
- share and re-use the knowledge among different applications for various types of users; this implies being able to share existing knowledge sources and also future ones;
- create a culture that encourages knowledge sharing.

Definition 1/3

There is no standard definition of knowledge management available. If you would ask 5 experts to formulate a definition, you would most probably get 5 different definitions.

If they would agree on something, it would be on what knowledge management is not. It is not about managing people. Nor is it about managing knowledge! That is why knowledge (in the context of managing knowledge) is often linked to terms like knowledge sharing, organisational learning, and information systems.

Before going into the definition of knowledge management, we will first give a short description:

Knowledge Management is the process through which organisations generate value from their intellectual and knowledge-based assets. Most often, generating value from such assets involves codifying what employees, partners and customers know, and sharing that information among employees, departments and even with other companies in an effort to devise best practices.

It's important to note that this description says nothing about technology; while Knowledge Management is often facilitated by IT, technology by itself is not Knowledge Management.

Definition 2/3

A definition that we will use is:¹

"Knowledge management is the practice of harnessing and exploiting intellectual capital to gain competitive advantage and customer commitment through efficiency, innovation and faster and more effective decision-making."

Definition 3/3

After reading all these descriptions and definitions, you probably do not know what the definition of knowledge is. Since there are as many definitions, as there are authors on this subject, we will give the most important specifics of knowledge management:

Knowledge management refers to managing knowledge in organisations:

- how to improve business by effectively utilising the knowledge available inside an organisation
- how to augment the knowledge of the individuals by means of training, education, etc.
- how to uncover so-called tacit knowledge hidden in people's minds
- how can the management help to implement knowledge management

Can you describe which description or parts of the descriptions are important for you or your organisation and why? Please also keep in mind *the nature of your company's business or organisation*. Additionally, knowledge management should be defined broadly if it's to succeed over the long run (which should be your perspective).

Why knowledge management?

A number of far-reaching changes have been taking place that turned traditional economic thinking upside down. In an increasingly unpredictable and fast changing environment the existence and growth of many firms depends on their day-to-day mobilisation of intelligence. Only by drawing on the combined brain power of all its employees can a firm take up the new challenges head-on. Today's turbulent business environment is, in part, an outcome of a very powerful shift in the world's economic system. A mass production based economy is more and more being displaced by an economy based on information and knowledge. In such an economy, intangible assets like concepts, connections and competencies can be more important for business success than tangibles like mass, size or physical assets.

IT infrastructure provides relevant, rich, timely and accurate information to every employee who may need and use it. Such an infrastructural support system - for example consisting of Internet, e-mail, online libraries and Intranet - make a big difference to a company's ability to cope with its complex and difficult problems and challenges. If information about production, products, services, marketing problems, distribution and other important issues and emerging opportunities, can move through the organisation within minutes and hours, instead of days and weeks; and the concerned people are thereby enabled to work on the issues & opportunities without time lags, the business can enhance its strategic readiness and responsiveness substantially.

Why is knowledge management a complex issue?

Sounds logical, but why is it then, that knowledge management appears to be such a difficult issue? It is a difficult issue as implementing an effective knowledge management strategy depends on a number of hard to influence aspects. The easy part is setting up the IT infrastructure. The more difficult part is storing the information in an easy to understand method that enables employees to relate it directly to their work. The challenge, more importantly, lies in influencing people's behaviour. People need to be motivated to share their knowledge. Their perceptions and behaviour need to change. Also, employees need to be motivated to search, accept, adopt and share best practices. All these requirements make knowledge management the complex issue that it is."

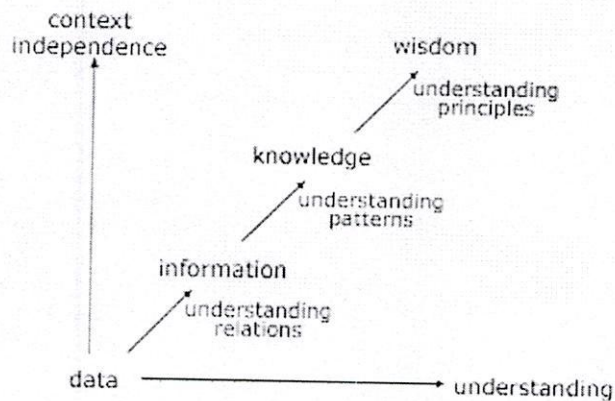
Key to a Knowledge Management programme are:

- People
- Process
- Content
- Technology

Data, information, and knowledge

Before attempting to address the question of knowledge management, we need to develop some perspective regarding the term knowledge. Consider this observation made by Neil Fleming as a basis for thought relating to the following diagram.

- A collection of data is not information.
- A collection of information is not knowledge.
- A collection of knowledge is not wisdom.



Data and information are not the same as knowledge, and although they are related, they are not interchangeable. In order to fully understand the different methods of knowledge management it is important to distinguish and understand the differences between them.

Some authors expand these three categories with other categories like wisdom, insight, etc. Since people already have problems distinguishing the three mentioned categories we will use only these.

Data

Data is mostly described as structured records. For instance if you receive the invoice of your mobile phone, it tells you the number of calls you made, when you made them and how long they lasted. However, it does not tell anything about why you made these calls, who you talked to, whether a conversation made you happy or unhappy, etc.

Mostly data is stored in a technology system, simply because they consist of records only. Every organisation needs to record data, for instance on how much everybody earns and until when they are contracted.

Since data can be easily stored and structured, you can collect and store as much data as you want. However, more data is not necessarily "better". Too much data can mean that you cannot retrieve the right data, simply because you are not able to find it.

- Data represents unorganised and unprocessed facts.
- Usually data is static in nature.
- Data is a prerequisite to information.

An organisation has to decide on the nature and volume of data that is required for creating the necessary information.

Information

Information can be considered as an aggregation of data (processed data) which makes decision making easier. Information usually has some meaning and purpose.

Usually information can be described as a message, either in the form of a document or spoken or visible means. Since it is a message, it has a sender and a receiver. Information is meant to have an impact on the receiver, it must inform.

Unlike data, information has meaning. Not only does it influence the receiver, it is organised with some meaning. In other words, data becomes information when meaning is added.

To transform data into information there are five main processes:

1. Contextualisation: context is added to the data
2. Categorisation: data is structured
3. Calculation: data is analyzed mathematically or statistically
4. Correction: errors are removed from the data
5. Condensation: data is combined and summarised

Although computers can help with some of the above methods, human activity is required to contextualise the data.

Knowledge

By knowledge we mean human understanding of a subject matter that has been acquired through proper study and experience.

A widely used definition of knowledge is:

Definition of 'Knowledge'

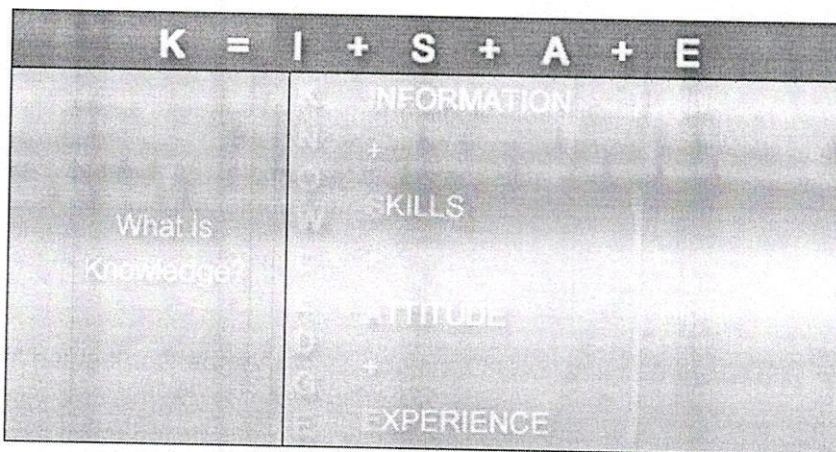
Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organisations, it often becomes embedded not only in documents or repositories but also in organisational routines, processes, practices, and norms.

Source: Thomas Davenport and Laurence Prusak, 'Working Knowledge: How organisations manage what they know', Harvard Business School Press, 1998

Knowledge is derived from information as information is derived from data, by human action. If information is to become knowledge, humans must do virtually all the work. Therefore knowledge is not information and information is not data. We can view it as an understanding of information based on its perceived importance or relevance to a problem area.

What is knowledge?

Before we go into the key aspects of knowledge management we first need to have a closer look at knowledge. To understand the current thinking on knowledge management, it is important to grasp the difference between explicit and tacit knowledge. A simple formula that can be used is illustrated below:



Explicit knowledge

Explicit knowledge is that which has been written or otherwise recorded. Explicit knowledge is systematic and easily communicated in the form of hard data or codified procedures. It can be articulated in formal language including grammatical statements. It includes books, manuals, reports, policy documents and procedures. It can be readily identified, articulated, captured, shared and applied.

Its ready accessibility has led to many ways of using it as a management tool in technological systems. However, it is worth considering whether use of an intra-organisational intranet for example really manages knowledge or merely provides a means of disseminating information about the organisation in much the same way that a staff handbook used to do.

'While tacit knowledge can be possessed by itself, explicit knowledge must rely on being tacitly understood and applied, hence all knowledge is either tacit or rooted in tacit knowledge. A wholly explicit knowledge is unthinkable,' according to Polanyi (1966).

Tacit knowledge

Tacit knowledge on the other hand, is that which does not exist in a physical or electronic form and is consequently usually strongly associated with individuals. It usually takes two forms. The first is of a 'mental model', i.e. beliefs and perspectives so ingrained that they are

difficult to articulate. This is the 'wisdom and expertise' in people's heads: ideas, perceptions and know-how.

The second form of tacit knowledge is created from explicit knowledge, which is internalised, into the framework of a mental model. Thus reading a report (explicit knowledge) may create tacit knowledge in the reader's head as s/he interprets the information and adds his/her own mental models to understand it. In both cases, tacit knowledge can never be made fully explicit. But understanding of tacit knowledge helps in becoming able to communicate it.

Although tacit knowledge, by definition, can't really be adequately captured there are means that can serve as distributors:

1. **Videocamera:** The power of video cannot be underestimated as a means for transferring tacit knowledge, building relationships/trust and just providing a consistent (and quick) means of getting others up to speed on complex situations.
2. **Photo camera:** For situations where video isn't allowed or suitable a still camera can be used. It has similar benefits as a videocamera...just a slightly different application.
3. **Audio recorder:** This can be used to capture conversations or interviews (or even monologues). It is a great resource to go back to later and revisit conversations and hear verbatim what the person was saying, as well as their tone of voice when saying it.
4. **Story telling:** one very old method of distributing tacit knowledge is the art of story telling where the basic structure of the story is set, but tacit knowledge can be added.

Test your tacit knowledge

In order to be able to understand what tacit knowledge is, we have included a small test developed by Karl-Erik Sveiby, a well known author on knowledge management.

*Shut your eyes. Then try to touch the tip of your nose with your index finger. At the same time, concentrate hard on what you are doing and on where your arm is at all times. Do the exercise slowly. **Take a minimum of 20 seconds for this exercise.***

Did you succeed in finding your nose? If you didn't, please try again and try to memorise what you are doing. If you did succeed, continue with the next page.

Describe the process

Now, assume that we would ask you to write an essay on exactly how you did the exercise, describe how you held your index finger, every movement your arm was doing, all different angles, all the way up to your nose. Take a minimum of 30 seconds to think of your description.

Was it easy to describe in words how you did the exercise?

How did you find your nose?

You managed to touch the tip of your nose even though you could not see it. This is because you have tacit knowledge of where the tip of your nose is and how you must

move your arm to touch it. In the exercise, moreover, you were consciously focusing on your tacit knowledge. Normally we do not concentrate so deliberately on the physical motions we make. If we did, we would never get anything done, because our conscious minds are hopelessly inefficient information processors compared to our unconscious minds. On the other hand consciousness is very flexible. It can be switched in a fraction of a second to focus our attention on our heads or our toes, on listening carefully or on reflective thinking.

It was more difficult to write a detailed description of how you did it, than doing the exercise itself, wasn't it? This is because we are very good at doing things tacitly, so good that we can express only a fraction of it in words.

Module: An Introduction to Knowledge Management
Unit 4: Ways of understanding knowledge management

Ways of understanding knowledge management

As we have seen, knowledge management can be explained in different ways. This is not a problem at all, as long as we speak to each other from the same perspective. The table below offers an overview of different views on what knowledge management means.

Content	Community	Computing
Information-based view: premised on managing large amounts of information	Culture-based view: premised on understanding knowledge as a learning process	Technology-based view: premised on exploring the boundaries of technology
Actionable information (e.g. interview guidelines)	Collective and collaborative learning	Data-mining
Categorising of data (e.g. area-specific scientific data)	Continuous learning	Data warehouses
Organisational 'yellow pages'	Intellectual property cultivation	Executive Information systems
Filtered information	Learning organisation	Expert systems
Free texts and concepts	Focus on knowledge creation	Intelligent agents
People information archive		Intranets
Readily accessible information (e.g. organisations mission statements)		Multimedia tools
		Search engines

↑ People

↑ process, Technology

Knowledge Carriers

Who transfers knowledge? Generally, four levels or carriers of knowledge are recognised: the individual, the team or department, the organisation and the inter-organisational domain. See also table below. The social structure in which individuals function (comprised of networks of roles and relationships) allows for interpretations to be shared and for knowledge to transcend individual levels and become embedded in routines, shared invisible assets, capabilities and competences. Utilising this knowledge clearly requires more than the

rolling out of technology oriented solutions and networks designed for information management.

	Individual	Team	Organisation	Inter-organisation
Explicit Knowledge	Encyclopaedic knowledge of facts and figures	Who knows what	Accounting data	Who to contact
		Lessons learned lists	Reports	Library
Tacit Knowledge	Communication skills (matching message to the medium)	Methods of organisation and co-ordination	Higher order organising and strategising principles and knowledge	How to cooperate and facilitate processes and forums
	Problem solving			How to buy and sell knowledge

How important is knowledge sharing?

With the rise of the information society, the meaning of the human factor within the organisation has grown. The knowledge and information that knowledge workers possess, play a vital part in the success of the company. However, it's not just the possession of knowledge that is important: this knowledge needs to be used. Knowledge needs to be embedded and utilised within the organisation. Knowledge management revolves around constantly using the available knowledge in such a way, that it is aligned to organisational strategy and that the organisation benefits from it. Individually acquired knowledge must be made useful for the entire organisation. Different organisations have applied different strategies for achieving this.

What can you do?

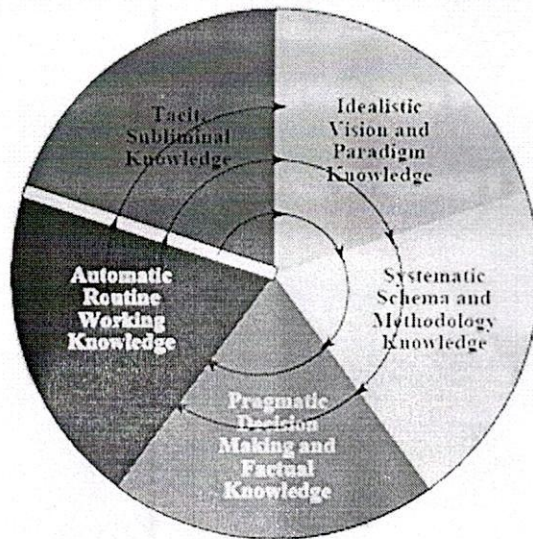
Knowledge sharing is not solely the responsibility of organisations; it starts at the individual! Each one of us has his or her set of objectives, and even more important: sphere of influence. If you believe in sharing knowledge, start to practice it within your sphere of influence and encourage others ("lead by example"). Don't forget: the higher up the organisation the more influence you have. The following list can give you ideas on making it happen:

- Solicit for feedback
- Ask questions
- Tell people what you plan before doing it
- Tell people what you are doing and why you are doing it
- Ask for advice
- Don't just share information but know-how and know-why
- Ask someone to work with you in some way, and do the same the other way around

The Personal Knowledge Evolution Cycle

In the image of The Personal Knowledge Evolution Cycle you can see how this works

The Personal Knowledge Evolution Cycle



Source: Knowledge Research Institute, Inc.

This must be taught every where, not only within of a context. In fact, it will be good to introduce disaptleship (courtesy Willard) using this.

Organisational Learning

Because the personal evolution cycle is important in knowledge management the application of so-called organisational learning was developed and added to it.

A learning organisation is one with the capability to adapt to changes in its environment and to respond to lessons learned by altering organisational behavior. Organisational learning describes certain types of activities or processes that may occur at individual, team or organisational level. For these purposes, a learning cycle can be understood as a process of:

- taking action which results in an experience
- critically reflecting on this experience
- understanding the component parts of this experience (i.e. what worked, what didn't and why did, or did it not work as desired?)
- then applying this into the next experience by creating a learning output that has ramifications at the individual, team and organisational level.

Knowledge cycle
↓
Learning cycle.

Principles of a learning organisation

In principal three levels of understanding and applying the principles of a learning organisation can be distinguished. For instance Nokia focuses its organisational learning on producing concrete 'products' or 'learning outputs'. These outputs are applied at an individual, team or organisational level. For example at an individual level it can result in the acquisition of a new skill, whilst at an organisational level the result of the learning exercise

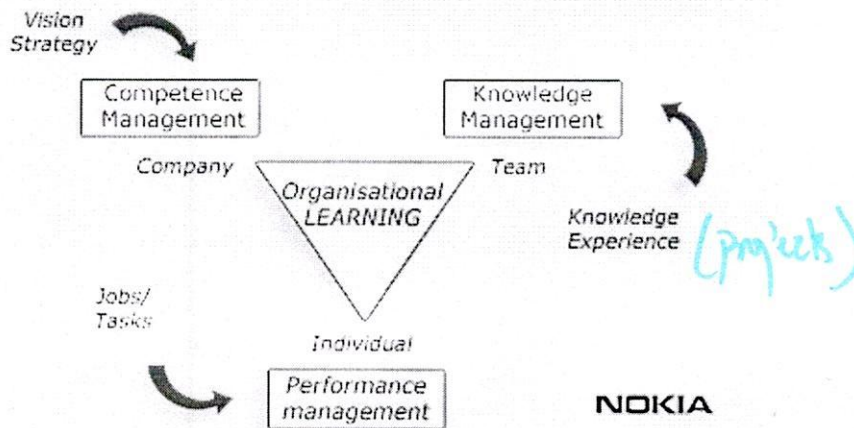
could be a new organisational process that breaks through old hierarchies and departmental prejudices.

The way that Nokia manages and supports learning within the organisation is threefold. Individual performance issues and criteria are centered around 'performance management' (e.g. personal scorecards and job assessment interviews). Knowledge management on the other hand applies at the team level. Teams are supported in their ability to share knowledge and transfer best practices amongst themselves.

Organisational learning

At an organisational level, Nokia applies principles of 'competence management'. Company strategy and vision is applied through country based competence centers that are asked to implement strategy. Please see the graphic below.

How can we support Organisational Learning?



Building a Learning Organization

- ① Competence management on the company (vision) level.
- ② Knowledge management on the Team level (projects)
- ③ Performance management on the individual level (tasks, job descriptions)

Ten principles of knowledge managementⁱⁱⁱ

Thomas H. Davenport, a well known author on knowledge management described ten principles of knowledge management, which are widely accepted as a leading standard. They are:

1. Knowledge management is expensive (but so is stupidity!)
2. Effective management of knowledge requires hybrid solutions of people & technology
3. Knowledge management is highly political
4. Knowledge management requires knowledge managers
5. Knowledge management benefits more from maps than models, more from markets than from hierarchies
6. Sharing & using knowledge are often unnatural acts
7. Knowledge management means improving knowledge work processes
8. Knowledge access is only the beginning
9. Knowledge management never ends
10. Knowledge management requires a knowledge contract

Knowledge Carriers^{iv}

So why do we pay this much attention to all these aspects of knowledge management? As described in this module, knowledge management is a way to organise the full potential of an organisation's capabilities or harnessing the brainpower within the organisation. The anticipated benefits range from cultivation of explicit and tacit knowledge to creation of efficiency in operations, to innovations in products and organisational practices.

As with so many other things, knowledge management is changing continuously, and is different for every organisation or even person.

Why knowledge management?

The previous section leave us with the question of why? This is an important question since implementation of knowledge management is an expensive one.

- Making use of knowledge inside and outside the organisation
- Solving communication and coordination issues which occur with the growing complexity of organisational processes
- Opportunities for innovation
- Making better use of existing knowledge and transform it into a source of value

Wrap-up

Ultimately knowledge management is just a way of organising information in an organisation. It is also a form of recognition of the value of people and what they know as assets in an organisation.

No technology will facilitate knowledge management if this is not linked to culture in an organisation. Not only ~~need~~ people to learn to share and communicate, there also needs to be a culture where they are motivated to do this.

Summary

This module gave you an introduction to knowledge management. You've learnt about:

- What knowledge management is
- What knowledge management can be used for, and why
- What data, information and knowledge is, and their relevance to knowledge management
- Principles for successful knowledge management

This module has provided you with a general introduction to knowledge management: what it is, what it can be used for, and several principles that can be followed. The module did not include detailed information on knowledge management systems, technique or organisational support. By going through this module, you should have developed a good insight into what knowledge management is, why it can be important, and what principles to follow to create successful knowledge management implementations.

ⁱ See Appendix 1

ⁱⁱ See Appendix 2: TATA case study

ⁱⁱⁱ See Appendix 3: Ten Principles of Knowledge Management (full text)

^{iv} To get some more perspective on the different aspects of and changes within knowledge management, please the article written by Karl M. Wiig at Appendix 4