



KNOWLEDGE MANAGEMENT

Dealing Intelligently With Knowledge

Drs. Rob van der Spek
Dr. André Spijkervet

CIBIT
CONSULTANTS | EDUCATORS

Picture front page: Vision and flexibility

The aim of knowledge management is the optimal organisation of the knowledge infrastructure in an organisation. As a result an organisation is able to operate flexibly in a turbulent environment without losing sight of its management objectives.

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Foreword

The development of a new management tool

This publication dates back to 1989. That year we organised the first workshop in The Netherlands (introduced by Otto Laske) on a new concept: knowledge management. The initiative came from Rob van der Spek, who with his background in social sciences has a strong interest in the role of knowledge in organisations.

What is the importance of Knowledge Management?

It is probably partly as a result of the growing interest in the economic value of 'knowledge' that the issue of knowledge management has rapidly become increasingly prominent on the agendas of politicians, policy makers and top management. There are now innumerable national and international academic and business meetings on the subject.

In recent years 'information' has become an important new production factor in the way we think and act in economic terms. The more we have developed this concept the more we have come to the conclusion that organisations should not become obsessed by the logistics of information. It is just as important to focus on the organisation's competence in dealing with information. The only way of combating information overload is to develop knowledge! Effective knowledge management then becomes extremely important for every business organisation. Especially when we realise that countries in the Western world can only survive in a global economy by becoming knowledge economies.

Knowledge Management Network

Ever since the very first activities that CIBIT Consultants | Opleiders organised in the field of knowledge management, Rob van der Spek and André Spijkervet of CSC have been the driving force behind numerous developments, both in The Netherlands and abroad. They have written articles, delivered lectures at national and international conferences, organised a series of seminars, and have run workshops at various Government agencies and companies. In 1989 they

were the founders of the Knowledge Management Network (KMN). As such they regularly advise the management of multinationals on the subject of knowledge management.

The KMN has become a successful platform for the development and exchange of ideas and experience in the field of knowledge management. Today the network consists of hundreds of managers, management consultants, knowledge engineers and other interested people.

In the course of the last few years we at CIBIT Consultants | Educators have become convinced that knowledge management is an important innovation in management thinking.

Johan C.M. den Biggelaar,
Managing Director,
CIBIT Consultants | Educators

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1.1

Introduction

Knowledge is crucial

The world never stands still. It certainly hasn't done so in the last decade. Organisations are exposed to a rapid succession of changes influenced by technology, science, and politics. Markets are changing, and international competition, especially from the Asian continent, is increasing. Old rules disappear and new ones come into force. Customers are becoming increasingly demanding when it comes to flexibility, speed and quality. It's not easy to keep up with all the developments, let alone to take the lead. Many organisations feel obliged to make changes in the way they run their business just to keep up. In the past few years a great deal has been written about this subject. Terms such as Business Process Re-engineering (BPR), process rationalisation, Total Quality Management (TQM) and 'the learning organisation' have become commonplace.



More and more frequently people are coming to the conclusion that it is the optimal generation and application of knowledge that is the key to success. After all, how can you react effectively to your environment if you can't make a complete assessment? Like a chameleon, organisations have to fit in to a constantly changing environment. You need knowledge to do that. Knowledge which can be rapidly accessed and applied. The evidence is there in the best-selling management books where we come across terms like:

‘The rise of the expert company’ (Feigenbaum), ‘The knowledge society’ (Drücker), ‘The intelligent organisation (Quinn) and ‘The knowledge-creating company’ (Nonaka).

However, knowledge is not an easy concept to deal with. This is apparent in the many questions managers ask themselves about the role of knowledge in their company. These questions can vary from strategic questions to operational matters. Questions such as:

- What kind of knowledge do we actually have within the organisation? Who else in the market has this knowledge? Which knowledge provides opportunities for developing new products in the short term? Do we have in-house knowledge with which the market can be changed in the long term?
- Which knowledge areas must we develop in the near future? Which ones must we develop ourselves and which ones will other organisations develop? Which knowledge will dominate the market in the next few years in the form of products and services?
- How are we going to develop this new knowledge? Will we have to work together with other organisations? Can we follow training courses? Who can develop this knowledge within the company?
- How can we transfer existing knowledge better and faster to colleagues and new employees? How can we make knowledge more accessible to others in the company? How can I document my own knowledge so that I can use it again?
- How can we ensure that we apply all the available knowledge when producing a product? How can I ensure that I get a quick reply to a question I am struggling with?

All these questions are related to the way in which we organise and direct the development and application of knowledge in a company or organisation. Management has always been responsible for the effective allocation of people, resources and tools at all levels in an organisation, as well as for the planning of processes and the evaluation of the results. However, in many organisations ‘managing’ knowledge has come to occupy a central place in a manager’s work. It is a role which makes great demands on a manager’s strategic insight, problem solving ability, and tact.

There are a number of developments that are relevant in this context:

- The knowledge intensity of products and services is increasing rapidly; a fact which is mainly reflected in the cost structure.
- The knowledge which is required for implementing business processes is changing more rapidly as a result of technological and scientific developments and changing economic relationships.
- There is growing time pressure when it comes to taking decisions.
- Professionals are becoming increasingly mobile as a result of changing labour relations (e.g. a growing number of free-lancers) and technological opportunities (e.g. tele-working). As a result strategic knowledge can 'leak' more rapidly to competitors. Moreover, knowledge is increasingly being bought-in on a world-wide market.

The key elements in the application and development of knowledge are speed and flexibility in a rapidly changing environment. At the same time the efficiency of knowledge-intensive core processes must be increased to meet the demands of cost reduction. It is therefore not only a matter of applying the right knowledge in the right place at the right time, but it must also be done at a minimal cost. This is a continuous process. Internal and external learning experiences are continually being transformed into new knowledge assets and existing knowledge is being modified. Organisations that are not capable of doing this develop all kinds of bottlenecks which often have far-reaching consequences.

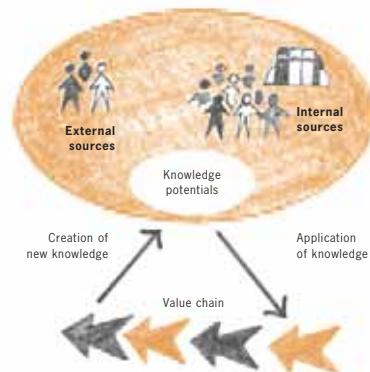
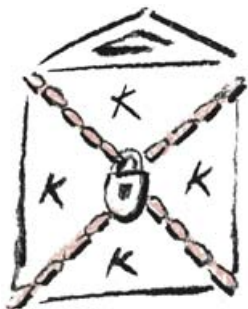
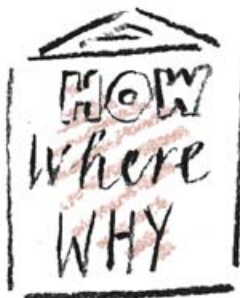


Figure 1:
Knowledge Assets and
the Value Chain

1.2 What can go wrong?

Companies are often not aware of the fact that certain symptoms like high costs and long production times have their origins in a poor knowledge infrastructure. Without paying attention to good knowledge management problems can arise such as:

- It takes too long before new knowledge is optimally applied throughout the whole company. Learning does take place but at a slow rate, while the surroundings are learning faster.
- In order to generate an end-product it is necessary to have a large (often informal) network of people who are able to consult each other.
- There is an unnecessary loss of time during the process because knowledge is not effectively organised. Often knowledge is not present at the point where the company meets the customer (giving an estimate, providing advice, customer service).
- Strategic knowledge seeps away through retirement, reorganisation, project-based work, job rotation and the introduction of shift work.



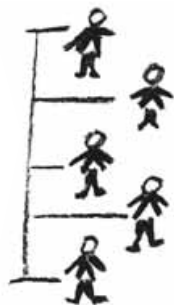
“ A favourable entrepreneurial climate is a self-evident precondition for international competitive power, but technological leadership is also increasingly becoming a requirement. This not only applies to the manufacturers of high-tech products. By dealing intelligently with knowledge and technology we are also able to continue to operate profitably in many other sectors. To do this we will have to give priority to two issues:

- in the first place, to stimulate innovation within companies
- secondly, to increase the return on our public knowledge infrastructure.”

Dr. A. H. G. Rinnooy Kan, Director of the Dutch Employers Federation (VNO- NCW), during his introduction to ‘Knowledge Technology 95’, in Amsterdam, 28th November 1995



- The same knowledge is developed a new because knowledge has not been recorded, or because no one knows which knowledge is present within the company, or who it is who does have the required knowledge.
- Due to inadequate knowledge mistakes are made which result in higher costs for maintenance, after-sales service or replacement parts, or in a direct deterioration in the market position.
- Where knowledge is recorded, it often only covers 'know how' and not 'know where' or 'know why'.
- Employees become frustrated because knowledge is not accessible within the company.
- There is insufficient investment in areas of knowledge which will ultimately develop new markets.



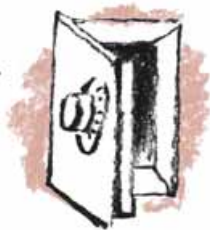
1.3 How can things be improved?

The importance of knowledge for the continuity of companies and organisations is obvious. Yet research has shown that in practice hardly any structural attention is paid to processes concerned with knowledge. Of course there are all kinds of activities in specific areas, some of which already have a long history, e.g. the activities of in-company trainers and human resource managers. What is often lacking, however, is the coordination between various activities and departments, with little synergy as a result. The introduction of the concept of knowledge management is therefore not a luxury, but an absolute necessity.

Knowledge management aims to provide instruments for the optimal organisation and direction of knowledge. KM is strongly problem-oriented and aims at preventing or rectifying the bottlenecks referred to earlier. From a strategic perspective a decision is taken about which standards the knowledge infrastructure must meet. The core of knowledge management is the organisation of processes in which:

- New knowledge is developed.
- Knowledge is distributed to those who need it.
- Knowledge is made accessible both for future use and for use by the whole organisation.
- Knowledge areas are combined.

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This booklet describes what knowledge management can mean to an organisation. To provide this insight Chapter 2 first looks at the role of knowledge in an organisation. Chapter 3 discusses the dimensions of the knowledge infrastructure. The objectives of knowledge management and the application of methods and techniques can be found in Chapter 4. Finally, Chapter 5 indicates which organisations can expect to benefit from knowledge management.

Survey of 60 Dutch organisations and companies

In 1994 the Knowledge Management Network, a joint initiative of various companies and non-profit organisations, carried out a survey among companies and knowledge institutions. The aim was to discover what managers thought about: the role of knowledge as a production factor, the effectiveness of current knowledge policy, the bottlenecks in knowledge application, and the role of management in establishing objectives and conditions for knowledge management. 49 respondents from 42 selected profit-organisations and 31 respondents from 18 non-profit organisations took part in the survey. The survey showed that the majority of the organisations have had problems with the availability of vital knowledge and expect similar situations to occur in the near future. There were a number of surprising results:

52 % of the companies had encountered problems in transferring knowledge during restructuring processes and when transferring personnel.

57 % of the respondents reported that costly mistakes had been made by not having the right knowledge in the right place at the right time.

80 % of all respondents reported situations in which only 1 or 2 people had certain crucial expertise.

2 Knowledge in organisations

Business processes form the core of a company or organisation. Based on a projected or real customer demand, a product or service is delivered through a chain of process stages (figure 2). Within each business process knowledge is used which is present in the form of the people concerned and in the form of other knowledge carriers such as electronic media, computer systems, paper media and machines. The added-value of the final product is determined to a large extent by the quality of the knowledge applied. This quality is in turn determined by the quality of the knowledge carriers involved and in particular by their inter-relationships.

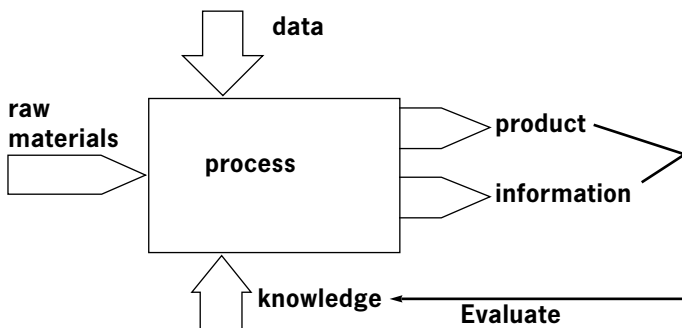


Figure 2: Processes and knowledge

A complementary definition of knowledge is (Gardner 1995):

- knowing which information is needed ('know what')
- knowing how information must be processed ('know how')
- knowing why which information is needed ('know why')
- knowing where information can be found to achieve a specific result ('know where')
- knowing when which information is needed ('know when')

Data are symbols which have not yet been interpreted. We are confronted daily with data in various forms, for example a red light on a dashboard, or a set of process data in a factory.

Information is data which has been assigned a meaning. A chauffeur assigns meaning to the red light and will stop because, according to his interpretation, overheating has occurred. A graph provides information on the relationship between aspects on the horizontal and vertical axis of the graph and shows, for example, that there is a certain trend. Information is always linked to a specific situation and has only a limited validity.

Knowledge is what enables people to assign meaning to data and thereby generate information. It is the whole set of insights, experiences and procedures which are considered correct and true, and which therefore guide people's thoughts, behaviour and communication. Knowledge is always applicable in several situations and over a relatively long period of time.

Knowledge therefore enables people to act and to deal intelligently with all the available information sources. A red light on a dashboard can mean a low oil level, a low petrol level or a warning that the brakes are not functioning. Knowledge about the car is therefore required to choose the right action or to look up the extra information needed! This action component is an essential aspect of knowledge.

People are able to adapt knowledge. In fact, by using it in processes a learning effect takes place. This learning process sometimes occurs consciously but usually unconsciously.

Knowledge is company-specific. A transport company, for example, that wants to serve its clients as cheaply as possible will develop different knowledge from a company that wants to serve its clients within a certain time frame. The generation and application of knowledge is determined by the company's mission and objectives.

Knowledge is part of an organisation’s competence. When combined, under the influence of internal and external factors, with attitudes and skills it leads to present achievements.

2.1 Strategic importance of knowledge

Within organisations not all knowledge plays an equal role. A distinction can be made between different knowledge areas depending on their strategic importance to the organisation, their growth potential and the stage of development these knowledge areas have reached. This approach is analogous to the way in which, for example, strategies are formulated in a portfolio-analysis (e.g. the Boston Consulting Group). The life cycle of knowledge areas describes their rise, maturation and decline (figure 3).

Contribution to core processes Growth potential of the market	High contribution	Low contribution
High growth	Key knowledge areas	Promising knowledge areas
Low growth	Basic knowledge areas	Outdated knowledge areas

Figure 3: knowledge life-cycle

The different knowledge areas which can be distinguished in this way are:

- **Promising knowledge areas.** These are still in their infancy but have demonstrated that they have the potential to radically change the execution of one or more of an organisation’s tasks.
- **Key (‘core’) knowledge areas.** These distinguish the organisation from other companies. They have the greatest influence on the unique position of the organisation. Hamel & Prahalad call these ‘core competences’.

- **Basic knowledge areas.** These are essential for carrying out an organisation’s activities. This knowledge is widely available in all similar organisations.
- **Outdated knowledge areas.** These are no longer or rarely applied in business processes.

People develop ideas in all kinds of situations, and some ideas develop into promising knowledge areas. Some of these develop, under suitable conditions, into a company’s key knowledge areas. In the course of time they gradually become more widely applied in a certain sector and their distinctive effect declines. Finally, knowledge becomes outdated and it is no longer desirable for this knowledge to be applied in the business process.

Not included in figure 3 are the **critical** knowledge areas. These are the knowledge areas which are of vital importance for the prosperity of the company both now and in the future. These can include basic, core, and promising knowledge areas. For example, such critical knowledge areas are the knowledge areas where in the next few years there are opportunities:

- To achieve a significant improvement in efficiency and/or effectiveness.
- To enter new markets, or
- to anticipate (possible) events which may have major negative consequences (e.g. the departure of the only expert in an important knowledge area).

It is not only expert knowledge as applied in the production process which is critical for a company. Knowledge about the company itself and knowledge about the market and relevant external developments is also important.



2.2 Knowledge about the company

In the first place, knowledge about the company is essential for the proper coordination of its primary activities. A salesman, for example, must know about the production process in order to arrange realistic delivery dates. In addition, knowledge about the company is essential to be able to carry out the supporting processes and management activities.

Ask yourself, as an executive, the following questions:

- What is the company's mission?
- Are the objectives known and operationalised down to the lowest level?
- What is the structure of the company?
- Why do we produce the way we do?
- Who is who in the company?
- What informal relationships are there between the employees?
- How do we actually learn things in this company?
- How is our knowledge infrastructure organised?

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We are dealing here with knowledge which can only be built up while working in the company. You will probably have realised that we are talking about knowledge that is crucial for making policy decisions as well as for solving daily problems. Incidentally, this is knowledge which is not only important to the executives but also to the employees on the shop floor! Obviously it is important that when production problems occur the people involved know who can be called in to solve the problem satisfactorily. New employees often have enough formal knowledge, but still lack this company-specific knowledge.

2.3 Knowledge about the market

In addition to knowledge about the primary processes and knowledge about the company itself, a company must of course also have knowledge about the markets in which its products will be sold. This includes: current and potential markets, customer profiles, customer details, competitors, and external developments which may be influential (e.g. changes in legislation and regulations, demographic developments, political and economic factors). This knowledge is of particular importance for marketing activities, but is also important for determining strategic policy.

Recently a lot of attention has been paid to the phenomenon of 'Business Intelligence'. This refers in particular to the competence of a company to analyse the market and to transform soft and hard information into knowledge about the company's competitive position.

3 Dimensions of Knowledge Organisation

Knowledge organisation has two dimensions. In the first place the processes by which the management activities related to knowledge are carried out. In the second place the structure of the knowledge organisation, consisting of the knowledge carriers, their specific characteristics and their mutual relationships.

3.1 Processes

In recent publications four processes have been distinguished in which the basic operations required for knowledge management have been implemented (Wiig 1991, Nonaka 1992, van den Broeck 1994). These processes are represented in figure 4.

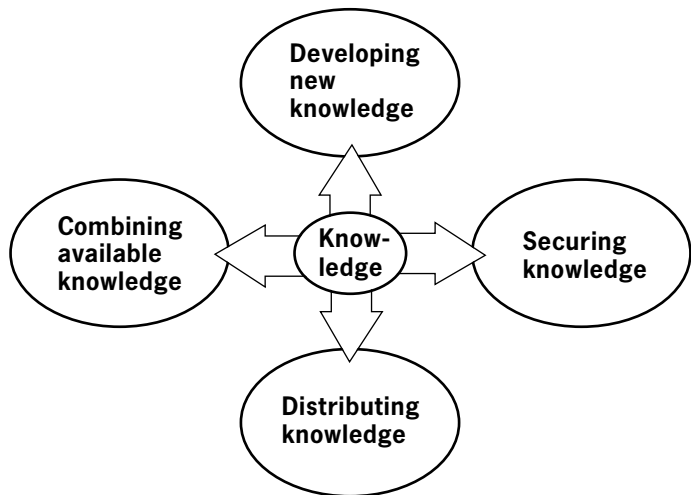


Figure 4: Four basic operations of knowledge management

These basic processes can be described as follows:

- Developing new knowledge. Companies survive by developing new knowledge based on creative ideas, the analysis of mistakes, everyday experience and hard work in R & D departments.

Bottlenecks in the basic knowledge management processes

- **Developing new knowledge.** Not enough is learnt from developments in the market. Knowledge about potential markets, current markets and present or new competitors is not structurally developed.

The structured development of new ideas into products that are ready for the market does not take place.

This is often because there is insufficient patience and commitment to give new ideas a chance. In many cases there is also no clear vision of the future, so that it is actually impossible to determine which ideas need to be worked out.

- **Securing new and existing knowledge.** Implicit knowledge is rarely or never recorded and individual learning processes are not transferred to a collective learning process.

Knowledge which is recorded is often not traceable and is difficult to access. Individual interpretations lead to a decline in the quality of the product.

- **Distributing knowledge.** It takes too long before new knowledge is actually applied in all the places where it is required.

It takes too long before new employees have built up sufficient knowledge. Knowledge which was developed on the work floor is often not passed on to colleagues (e.g. with shift workers or project staff).

- **Combining available knowledge.** Knowledge is not combined because people often do not know who has which knowledge. People often do not know which knowledge is needed to produce an optimal product or service. People from different knowledge areas often do not communicate well with each other due to the lack of a shared set of concepts.

- **Securing new and existing knowledge.** Knowledge which has been acquired on an individual basis must be made as accessible as possible for the whole organisation, and made available in the right place at the time when the company needs it.

- **Distributing knowledge.** Knowledge must be actively distributed to those who need to make use of it. The speed at which knowledge circulates in a company is increasingly crucial for the way the company is run. There are of course various methods by which the distribution of knowledge can be tackled, e.g. by transferring staff, by organising courses, by giving presentations or by internal video productions.
- **Combining available knowledge.** A company can only perform at its best when all available areas of knowledge are combined. Products and services are increasingly being developed by multi-disciplinary teams.

3.2 Structure

There are a number of features (see figure 5) that determine the structure of knowledge organisation.

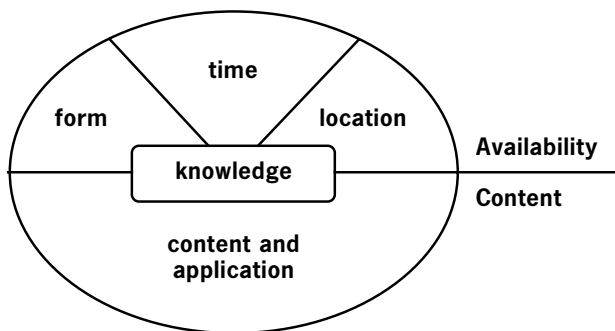


Figure 5: Four features of knowledge

The **form** of knowledge denotes the medium or carrier in which knowledge is stored. In the first place, these are, of course, people. People are active carriers of knowledge which means that they are capable of applying, developing and increasing knowledge in the course of their daily experiences. A characteristic feature of knowledge is that it tends to increase rather than decrease in size! People are often not aware of the knowledge that they are making use of. In this context a distinction is sometimes made between 'tacit' and 'explicit' knowledge.

Knowledge is also present in books, memos, manuals and other documentation. A characteristic feature of these knowledge carriers is that they are passive. This means

that they are not themselves capable of either applying or developing knowledge. Knowledge in a written form must always be applied and updated by people. This has led many people to talk in terms of information carriers, rather than knowledge carriers.



Technology, and in particular computer technology, occupies the middle ground. Certain devices and automated systems are capable of independently carrying out tasks using the knowledge and information that is stored internally. Software makes it possible to program the behaviour of a system on the basis of the knowledge which its designers consider necessary. The rise of 'intelligent software' has played an important role here. Certain computer systems are increasingly becoming active carriers of knowledge which they can apply themselves, for example by making a diagnosis or providing advice. Computer systems are increasingly able to generate knowledge based on input data - which is why we also talk of knowledge-based systems.

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The **location** of knowledge describes the position of the knowledge bearers within the company or organisation. Knowledge can be localised in the front or the back-office, but also on the other side of the world. Paper-based carriers can be made centrally available in a library or to employees in their own rooms.

The dimension of **time** describes aspects which are related to the use of knowledge in a given period. For example, certain knowledge may only be temporarily available or at particular moments. People can be on call 24 hours a day or only for a certain part of the day. In some fields of work humans cannot react quickly enough to the amount of data or the speed at which situations change, which makes it necessary to use computers. This applies, for example, to warfare, but also to detecting fraud in credit card transactions.

The dimension of content describes the procedures and experiences in a field of work as well as the way they can be applied. In these cases we are concerned with the concrete expressions of areas of knowledge (protocols in the medical sector, acceptance rules in the insurance branch, and methods of portfolio analysis in the business world).

Bottlenecks in the structure of knowledge management

The four dimensions of knowledge can also be an aid to group together the causes of certain problems. In reality, however, bottlenecks will often have combined causes.

- **Form.** Knowledge is not present in the most optimal form, e.g. knowledge is only present in one person or is hidden in thick manuals.

The form in which knowledge is stored is not well suited to maintenance, which is why that knowledge is not maintained, or only at a very high price.

- **Content.** Knowledge is not complete, e.g. because knowledge is only applied from one discipline.

Knowledge is not up to date, e.g. knowledge has not been adapted to changing circumstances ('nothing is learned').

Knowledge is not uniform, e.g. decision-makers use personal interpretations which lead to different results.

- **Time.** Knowledge is not available when it is needed, e.g. because the expert is only present in the office between 10.00 and 11.00.

- **Location.** Knowledge is not present where the business process is carried out, e.g. knowledge is only present at the head office but is particularly needed at branch offices. Knowledge can also be fragmented across an organisation so that no synergy occurs.

Availability of knowledge

One rule of thumb from the guru of the Business Process Re-engineering movement, Michael Hammer, says: Make complete handling of the business process possible where the customer comes into contact with the company.

Michael Hammer, in: Restructuring Business Processes. In Harvard Holland Review, no. 27, pp. 7-15 (1991)

Actual implementation of this rule of thumb can only take place if all the knowledge is also available where the business process has to be dealt with. If this is not the case, it inevitably leads to delay.

3.3 Knowledge Assets

Knowledge assets in an organisation are applied in business processes and are tied functionally to management roles which are filled by people (and currently also computers). These roles can be formally defined as function descriptions (teacher, consultant, help-desk employee, computer programmer) but are also often informal roles (expert, information provider, mentor, innovator). Figure 6 shows the connection between business processes, knowledge assets, and roles.

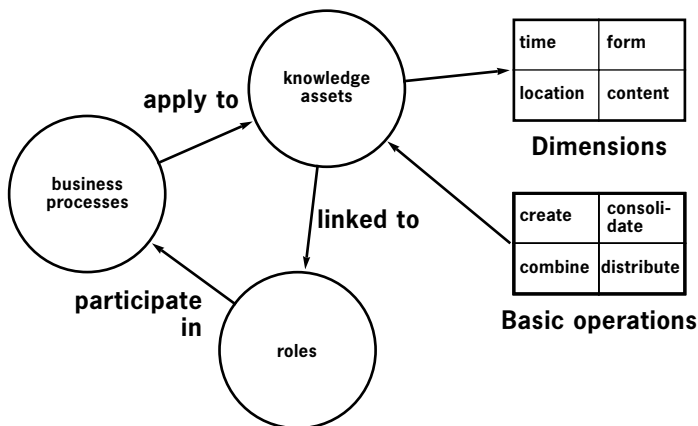


Figure 6: Knowledge assets in relation to other factors

The requirements posed by the business processes and the way roles are organised determines how the knowledge assets should be configured on the four dimensions. Furthermore one has to decide on how to organise the different basis processes to ensure that the business processes are carried out efficiently and effectively.

4 Knowledge Management

As explained in the previous chapters, knowledge is becoming more and more important for an organisation's survival. More than ever before organisations are being confronted with dramatic developments which appear at a rapid pace. To maintain a strong competitive position an organisation has to react flexibly to changes. Knowledge is therefore indispensable, as is its correct application and management. Knowledge Management therefore focusses on:

- formulating a strategic policy for the development and application of knowledge
- implementing a knowledge policy with the support of all the parties in the organisation
- improving the organisation where knowledge is not being used optimally or is not being adapted to changing circumstances
- monitoring and evaluating the achievements of knowledge assets and management activities in knowledge terms.



The added-value of the concept of knowledge management lies mainly in the fact that it seeks improvements beyond the borders of the 'traditional' management functions of knowledge carriers like personnel management, training, and documentation management. KM aims at improving the performance of processes, organisations and systems in general from the perspective that knowledge is a crucial production factor. Moreover, KM aims at an integration of strategy formation and implementation in which learning about the application and development of knowledge occupies

a central role. The control and management of the life cycles of knowledge areas in organisations forms a crucial aspect of strategic policy in organisations. Structural innovation is only possible if a company is able to relate the various life cycles of different knowledge areas to each other and to deploy materials, people and tools so that the life cycles can enhance each other.



There is no cut-and-dried approach to KM. For each organisation the approach, the techniques and the methods used will differ. Ultimately, it is not important how KM is expressed and with which tools, just as long as it happens. In this chapter we will discuss the goals that are set in knowledge management (paragraph 4.1) and at which different levels these can be aimed (paragraph 4.2). Attention is also paid to the different approaches to knowledge management (paragraph 4.3). Knowledge management operates on the basis of the more general problem-solution cycle. This conceptual model will be considered in paragraph 4.4, followed by the different instruments which can be utilised in knowledge management (paragraph 4.5). Finally in paragraph 4.6 we will look at knowledge management as a continuous learning process.

4.1 Knowledge Management Objectives

In the objectives of knowledge management we can recognise the dimensions of processes and structure (see chapter 3). In terms of the processes of knowledge management the following objectives can be set:

- Ensure the effective and efficient **development of new knowledge** and the improvement of existing knowledge while keeping in mind the strategy of the organisation and the individual objectives of the employees.

- Ensure a **targeted distribution of new knowledge** to other departments and the transfer of knowledge to new employees through knowledge transfer or the relocation of knowledge carriers.
- Ensure that **knowledge is effectively secured** so that it is easily accessible to the whole organisation and can be easily re-used.
- Ensure the **effective and efficient combination** of the best knowledge available within a company or network of companies.



In terms of the structure of knowledge organisation the following objectives can be set:

- Keep the **content** of knowledge carriers up to date and accurate in the light of changing circumstances. Make use of the best available knowledge.
- Make the **location** of knowledge carriers optimal in the context of business processes. Make use of knowledge in the best location.
- Improve the **form** of the knowledge carriers in relation to their users and the use anticipated. Make use of knowledge in the best form.
- Adapt the **availability** of knowledge to the times when that knowledge may be needed. For example, consider the availability of knowledge when knowledge is needed in the context of a business process. Make use of knowledge when it is required.

4.2 Levels of Ambition in Knowledge Management

Based on Deming’s work in the field of quality management, Wiig distinguishes four levels of ambition at which knowledge improvement can be tackled (see figure 7).

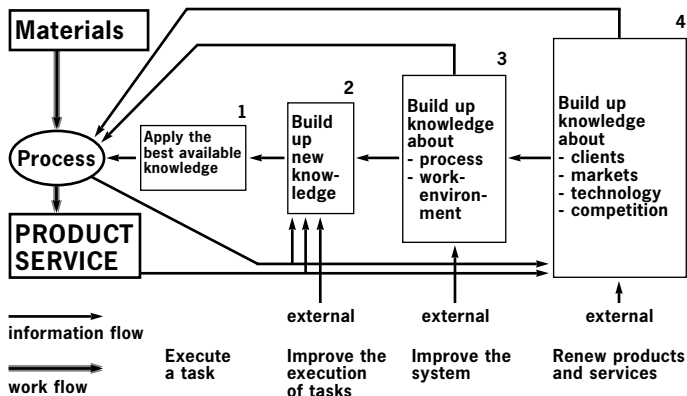


Figure 7: Levels of ambition in knowledge management

At level 1 the focus is on applying the best available knowledge in order to carry out a task. At level 2 new knowledge is built up with the aim of improving the way the task is carried out. Level 1 and 2 are very similar to ‘single loop learning’ as described by Argyris. At level 3 knowledge about the process and its properties is built up in order to improve the system. This level closely resembles what Argyris calls ‘double loop learning’. Finally, at level 4 knowledge is built up about the market, the competitors and the position of the company in its surroundings. The aim then becomes renewal of the product or even of the market itself.

4.3 Different Approaches

In publications about knowledge management a broad range of approaches are presented, each with its own emphasis on problems and possible solutions. The two most prominent approaches might at first sight seem to be ‘competitors’. On one hand there is a **system-oriented approach** which aims to provide a better insight into the supply and demand of knowledge and the quality of

the organisation as a 'knowledge system'. It does this by analyzing and documenting processes, actors, knowledge carriers, knowledge fields and the dynamics of the work field. On the basis of such an analysis bottlenecks and effects are identified. The characteristic feature of this approach is that knowledge is considered as a production factor which can be analyzed in isolation from the current carriers of the knowledge. Several options are then available for making improvements. This approach resembles theories like Business Process Re-engineering and Quality Management, as well as the 'soft systems' approach which forms the basis for the theories about learning organisations.



Secondly, there is the approach which focuses on the improvement of professional organisations based on **people's behavioural criteria** and their cultural context. The independent professional is the central figure here. Actions taken to make improvements are not so much based on an analysis of knowledge as on an abstract concept. The emphasis is much more on facilitating professionals so that they can apply their knowledge to the advantage of the organisation. Furthermore they are expected to repeatedly update their knowledge so that their organisation will still be able to benefit from it in the future. From this perspective knowledge is considered as inseparable from human-beings. An extreme position within this approach maintains that making knowledge carriers and knowledge areas explicit in relation to business processes will lead to rigidity, and that this is mainly a way for the management to keep a better grip on their employees. Within this approach too there are several possible directions in which solutions can be found.

4.4 Conceptual model of knowledge management

4.4.1 Problem-oriented

Knowledge management is different to other management activities in that it focuses on the aspect of knowledge itself. Still, in reality it encompasses activities which fit within a more general problem-solving cycle (Argyris). A specific interpretation of this model for knowledge management activities produces a conceptual model as represented in figure 8.

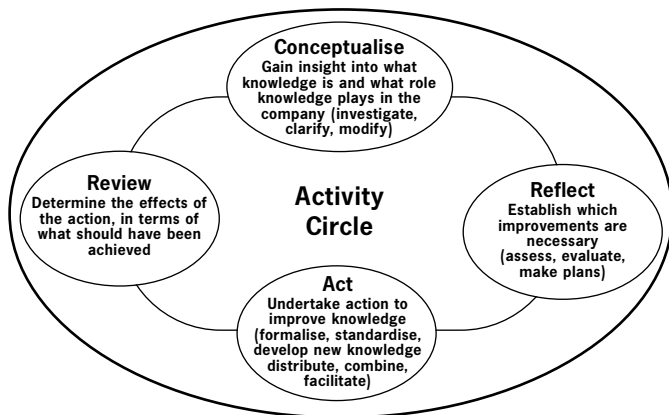


Figure 8: Conceptual model of knowledge management activities

The knowledge management activities ultimately direct the basic operations of knowledge organisation and produce the following products:

- **Objectives** for knowledge development and application
- **Assessment of the risks** involved in making improvements
- **Conditions required** for making improvements
- **Instruments** for achieving the objectives set
- **Criteria** for measuring the performance of business processes and specific knowledge carriers

This conceptual model is well suited to the idea of knowledge management because:

- **KM is a learning process just like all management activities.** In this conceptual model the learning process is made explicit. Through the repetition of conceptualising, reflecting, acting and evaluating it is possible to adapt the results of KM activities to changes in the surroundings, to changing insights and to the changes which the KM activities themselves cause in the organisation (the intended ones, but inevitably also the unintended ones!). The motto here is: changes happen anyway. The trick is not to ignore them but, rather to anticipate them.



- **It provides support when structuring activities and offers the necessary methods and techniques.** Modelling techniques, for instance, are specifically applicable in the conceptualisation phase whereas concrete approaches for the realisation of new knowledge carriers are specifically applicable in the action phase.
- **It can be used at all levels in the organisation.** KM is a management activity which can be given a specific significance at all levels in an organisation. At a **strategic** level the general conditions that are required for a knowledge policy can be established, along with the general objectives which must be attained in the long run. At a **tactical** level, a specification can be made of the action needed to make concrete medium-term improvements. Objectives can be further specified and the use of instruments can be worked out in more detail. Finally, at an **operational** level concrete action can be taken to make improvements. At each level, however, all the activities in the problem-solving cycle are present.

- **It is applicable in various situations** KM can, for example, focus on the performance of a single work process, or the way a group or department works. Furthermore knowledge management is not only applicable in the context of the whole organisation, but also across a range of organisations.

On the basis of the phases described in the model mentioned earlier specific techniques and instruments can be utilised. It would go too far to go into these in great detail here. In appendix 1 a global summary is given of the possible activities and products.

Knowledge audits provide a ‘fitness’ check

During a ‘knowledge audit’ an examination is made of how the various dimensions of knowledge influence the critical customer demands: time, cost, quality and flexibility. This can be done, for example, by following a chain of business processes and analyzing how the application and quality of knowledge influences the final result. For example, a workshop was organised by the ‘InnovatieCentrum Midden-Nederland’ in which 12 medium-sized companies, supported by the Knowledge Management Network, independently carried out an audit on the quality of their knowledge infrastructure. A number of checklists were developed for this purpose. Filling in the checklist was actually only an aid. The main aim was to systematically examine a number of issues so that hopefully a discussion will develop in the companies themselves.

4.4.2 Future-oriented

We have already indicated that knowledge management is both reactive and proactive. This means that it is not enough to know what we want to achieve now, but we must also know what we want to achieve in the future. A proactive stance in KM requires us to develop a vision about which knowledge areas must be examined and which ones must be developed. For that purpose promising knowledge areas have to be identified. In addition one has to decide which basic knowledge areas have to be maintained and which ones perhaps have to be abandoned.

A crucial question here is how organisations can predict the life cycle of knowledge areas. It would be natural to

look for solutions in the direction of scenario models. We must however bear in mind here that modern society is changing at such a pace that predictions are often only wild guesses. An interesting development in this context is that KM is also being applied to the knowledge which forms the basis of predictions.

Knowledge about the future

One of the most renowned scenario theorists, Peter Schwartz, has the following to say about this:

“Articulating your Mind-set, People often do not realise that their decision agendas are usually unconscious. Thus, the first step of the scenario process is making it conscious.

(..)

You begin by examining the mind sets which you personally use -consciously or unconsciously - to make judgements about the future. Think of this process as a form of research. Instead of gathering information out in the world, you gather information from within yourself.”

Peter Schwartz, The Long View, page 53

4.5 Techniques and Instruments

KM has a broad range of instruments at its disposal which can be applied when acting to bring about improvements. The organisation of knowledge management is shaped in particular by components such as culture, staff motivation, organisation, management and information technology (figure 9).

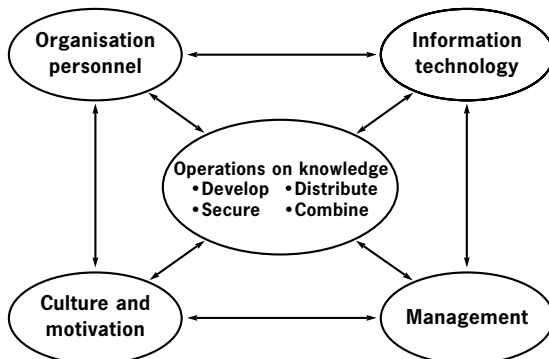


Figure 9: Different components of the structure of operations on knowledge

In general 3 groups of instruments can be distinguished:

Management, culture and personnel

- Strategy-development.
- Education and training.
- Recruitment and selection.
- Reward models.
- Adapting management style.

Organisational adjustments

- Redesigning business processes.
- Adapting the control model.
- Mergers.
- 'Outsourcing'.
- Project-based working in which various disciplines are represented.
- Lessons-learned office.
- Introduction of a buddy system.

Information technology

- Documentation technology.
- Information systems.
- Systems for supporting cooperation between persons/departments (groupware).
- Telematics.
- Workflow management systems.
- Personnel information system in which knowledge profiles are stored.
- Knowledge-based systems.
- Data mining.
- Intranets (internal knowledge server utilising WWW-technology).

Which instruments are the most suitable depends on a complex set of factors, including the characteristics of the knowledge carriers involved, the specific problem areas and the environment in which the company operates. The major factor, however, is the corporate philosophy which sets objectives and conditions with regard to the application of instruments. This covers aspects such as dealing with employees, the vision of the role of technology, social responsibility, etc.

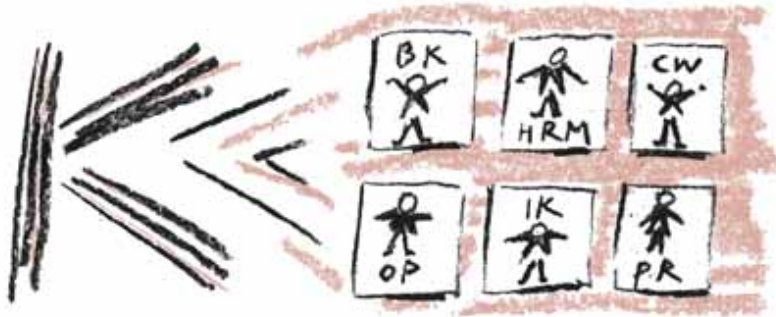
Rewarding knowledge-sharing

How many organisations are there really where the sharing of knowledge is rewarded? Employees are either rewarded without any evaluation of the way they function, or it is on the basis of the individual results achieved. The emphasis on results forces employees and business units to erect barriers to protect their knowledge in order to maintain their competitive position. This is obviously not a good basis for starting to improve the knowledge infrastructure.

Multi-Disciplinary Approach

The nature of the activities involved makes it clear that KM requires a strongly multi-disciplinary approach. Different disciplines such as Business Economics, Human Resource Management, Organisational Psychology, Communication Science, Computer Science, and Operations Research can all make a contribution here. This not only covers the instruments for making improvements, but also includes the methods and techniques for understanding knowledge-intensive work processes and tracing the causes of problems. Several projects have also demonstrated that the added value of the KM approach for organisations lies in particular in the fact that the focus is on knowledge rather than on specific methods and techniques from a single discipline.

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Knowledge management must primarily be seen as an integral part of the task of management. We do not expect to see 'knowledge managers' emerging. In principle every manager will have to manage knowledge as one aspect of his/her daily work.

Interfaces between knowledge intensive business processes

A crucial point to consider when identifying the causes of bottlenecks in the organisation of knowledge is the interface between the knowledge carriers. In business processes different people, departments or even organisations work together to produce a product. Poor results are often due to an inadequate exchange of information so that the knowledge present cannot be optimally applied and new knowledge can not be built up. Better insight into the knowledge which is, or should be, present in co-operative processes, can improve the communication between the people involved. The central principle of this approach is therefore, that the optimal application and development of knowledge is paramount, and that it should direct the way in which information is exchanged and stored. In this approach information policy is therefore a derivative of knowledge policy.

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Benchmarks are necessary

In the context of knowledge management activities there is a clear need for benchmarks to measure the performance of knowledge-intensive work processes. Both for the analysis of the current situation (‘How well are we doing?’) as well as for the evaluation of improvements that have been made. (‘How well are we doing now compared to before?’). It is obvious that KM uses certain approaches here which have proved themselves in quality assurance.



A weak point in the KM approach is the analysis of financial aspects of knowledge. There are actually no methods available with which knowledge can be evaluated in financial and economic terms. However, if knowledge is considered as a production factor, then

it is likely that knowledge will somehow figure on the balance sheet. A remarkable development in this context is the so-called 'techno-lease' construction which Philips and Fokker have arranged with the RABO bank.

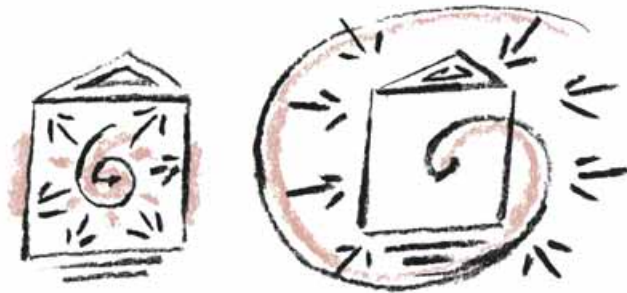


'Fortune' magazine (October 1994) devoted a cover story to companies such as Canadian Imperial Bank of Commerce, DOW Chemical, Hughes Space & Communications and Skandia, who had attempted to assign economic value to knowledge. The most important conclusion was actually that no one really knows how to do it, but that everyone is convinced that it is important. Companies are also not inclined to publish information about such crucial business factors, which means that research in this field is having trouble getting off the ground. It would therefore be fair to conclude that a lot of work still has to be done in this area.

4.6 Knowledge Management as a continuous learning process

Many publications make mention of the ideal type of organisation: the learning organisation. In fact a learning organisation is an organisation which is structurally capable of evaluating the results of knowledge intensive work processes, adapting the knowledge and applying the new knowledge quickly. Learning in an intelligent organisation takes place consciously. It is highly focused on collective learning and on the deliberate improvement of the capacity to learn. That means specifically that not only is new knowledge being developed, but that people are also thinking about the way in which this development is taking place, how the new knowledge is being distributed, what (time) factors play a role, etc.

The organisation of the learning process itself has therefore become the subject of management activities! Knowledge management thereby supports the improvement of the learning capacity of organisations and is thus closely linked to the concept of a learning organisation. Organising the learning process is an important part of KM. Conceptualising, assessing, acting and evaluating, alternate in cycles. The often turbulent internal and external developments have to be frequently analysed. Actions must repeatedly be related back to policy and, if necessary, be re-adjusted. Figure 9 illustrates the way in which a continuous exchange takes place with the surroundings. The most important processes and stages of knowledge management have been incorporated in the diagram.



Each phase of the learning process utilises specific instruments to achieve the desired objectives. These objectives and the way in which they can be achieved can in fact be considered as the knowledge areas of knowledge management. Providing simple recipes for carrying out the activities in each phase is virtually impossible because this is determined by unique internal and external factors. For instance, in the context of the conceptualisation phase, we could ask whether it is always desirable to make an inventory of what knowledge we already have before we can determine which knowledge we need. Perhaps time and money are limited. We should also not lose sight of our competitors. Perhaps they have already developed new knowledge just as we have finished the inventory. In the box below a number of internal barriers are mentioned which in practice have influenced the effectiveness of knowledge management.

Internal influences

- People (too few, shortage of good staff).
- Lack of time (fashionable excuse).
- Attitude to quality.
- Inadequate support for development, sharing and securing knowledge.
- Company culture with regard to information transfer.
- Lack of insight into the need for collective learning.
- Inadequate tools.
- Nobody feels responsible.

External influences

- Labour market.
- Competition.
- Laws and regulations.
- Technological developments (rapidity, complexity).
- Uncertainty.
- Changing client-demands.

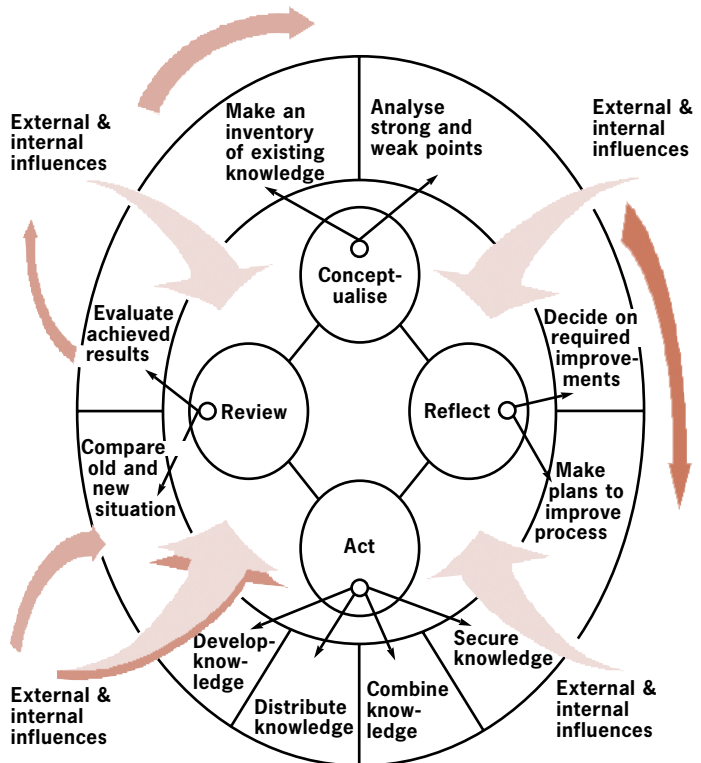


Figure 10: Framework for knowledge management

Example of a specific approach to knowledge development

NEDAP is a company that attempts to promote the exchange of knowledge between its 430 employees as much as possible. Manager Westendorp:

“It is very important that people do not limit themselves to the boundaries of their job, but can see the whole picture. That promotes creativity. That is why people in the five product groups, in sales, and in the development and production groups cooperate intensively. Anyone who has an idea, or wants to develop more knowledge in a certain field, is allowed all the space they need.

What does or does not belong to our core activities right now, is not relevant. The only guiding principle is that you have the feeling that the company may need it.”

Westendorp describes the knowledge development process at NEDAP as controlled coincidence. “It is based on feelings, but it is practically directed by your own background, the trade fairs you visit, and the customers you talk to.”

Westendorp, Director of NEDAP in ‘Management team’ 4/4/94

Lessons Learned Office of the Royal Army Corps

In June 1993 the R.A.C. set up a Lessons Learned Office. Major Rondel on the objective of this office:

“The Lessons Learned Office tries to prevent situations whereby peace-keeping missions have to keep re-inventing the wheel. There is, for example, a good deal of experience spread over the whole country in different units. This experience has partly been gained by evaluating the exercises which the units have taken part in. Unfortunately, this information often remained at the battalion or brigade level, meaning that other units could not benefit from it. Nowadays these experiences are analysed by our office and we then attempt to extract the ‘Lessons Learned’ from them: practical facts that indicate how something can be done better or how it should not be done.”

Source: LLC Courant, March 1994

The learning process will ultimately be strongly influenced by external developments, opportunities, and threats, which can occur at any moment. The fact that we are now enthusiastically taking stock, does not mean that the outside world is sitting still and waiting patiently until we have finished. But then, who said that knowledge management was easy?

5 Which organisations can benefit from Knowledge Management?

Experience has shown that various motives exist for companies and organisations to embark seriously on KM. A number of broad groups can be distinguished:

Companies which must reorganise due to various circumstances or companies that have already been reorganised. These may be industrial companies whose competitive position has been seriously weakened but also, for example, parts of the government which must cut costs or which have been privatised. KM is considered by such companies as a means of gaining a better picture of critical knowledge areas and of the employees who have this knowledge. For many organisations the need to return to their core business is the reason for examining the extent to which knowledge management can contribute to this process.

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From knowledge-driven to market-driven

In the past few years many companies have switched from a product-orientation to a market-orientation. Business Units based on markets were set up in order to improve the links with the market. Whereas these companies were previously organised around products with their related technologies and knowledge areas, knowledge is now often scattered across the various Business Units. This also means that knowledge is no

longer automatically maintained as was the case in the past. In areas where benefits have been achieved by combining market knowledge an extra effort is needed to control and manage expert subject knowledge.



Companies that have just gone through a major expansion

In contrast to the start-up phase in which everything was organised informally and on a small scale, the scaling-up process in these companies, coupled with a lack of time, often results in employees losing their overview of their colleagues' activities and the organisation as a whole. That is why in many such cases not only the management, but also the employees, get the feeling that they should step back a bit and take stock of the available knowledge. Moreover, all kinds of management processes are often inefficient, resulting in frustration or missed opportunities.

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Industrial companies that want to enter markets where the knowledge areas required are scattered over the whole organisation

For a separate business unit it can be very expensive to develop all the knowledge areas in-house which are required to compete in markets with complex products. This creates the necessity to make good use of the expertise of other business units. This is only possible if one can make an inventory of the knowledge required and where it can be found.

Companies that have completed a re-engineering phase

Following the implementation phase of a BPR-project many companies often experience a decline in effectiveness which is just as drastic as the advantages they hoped for when embracing the BPR-philosophy.

In particular, the experience of American companies shows that this is partly due to the poor organisation of the processes which should ensure the development, security and distribution of knowledge within the company. In many cases the emphasis was only on making the primary processes as lean as possible. But this appears to have had an adverse effect on the capacity of organisations to maintain their knowledge infrastructure. In retrospect, middle-management often turned out to be of great importance when it came to managing knowledge!

'Profit with safety'

In Poland the damage due by industrial accidents represents 2-6 % of GNP. In order to drastically reduce the total damage from industrial accidents, the Polish Ministry of Social Affairs set up the ARA (Accident Registration and Analysis) project, which was carried out by CSC and the department of Safety Sciences.

In the ARA project:

- Knowledge relating to the registration, analysis and learning from (near) accidents is transferred from the Netherlands to Poland.
- This knowledge is integrated with existing Polish knowledge.
- This knowledge is then distributed to Polish companies.
- Companies are taught how to use the new knowledge to learn from the (near) accidents in their own organisation.
- A 'knowledge circle' has been set up on a national level, in which companies can learn from each other and develop new knowledge.
- Steps are taken to distribute this new knowledge to the companies.
- A knowledge infrastructure has been set up so that Poland can become 'self-supporting' in the near future.

The organisations participating include: companies, trade unions, the Health and Safety inspectorate, technological institutes, universities, and the Ministry of Social Affairs. The first phase has recently been successfully completed.

Networks in which several companies and organisations participate

In a network several companies and organisations work together to achieve a common goal. The right combination of knowledge plays a crucial role here, along with the joint investment in the development of new knowledge. Such co-operation is however often frustrated by poor communication between the various parties involved. There is no clear picture of the available knowledge, there is no common language, and there are often business and cultural barriers. The explicit and conscious guidance of relevant processes can make an important contribution to improving the knowledge infrastructure of such networks.

Body of knowledge in the sports world

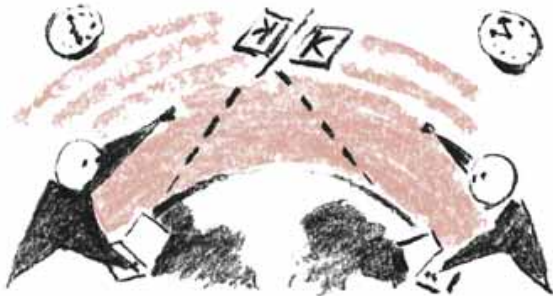
The following report appeared in the Dutch newspaper 'De Telegraaf': "The cyclists national coaches lack the knowledge necessary to give the national teams the perfect preparation that is absolutely essential for competitions at this level" and "Thanks to an initiative by the National Olympic Committee and the National Sports Federation last year the so-called Body of Knowledge (BOK) was set up in which all the available sports science coaching was brought together, expanded and made available to coaches and athletes."

Summary

The world is becoming smaller and moving faster. New technologies appear, the political situation changes daily, and competition is increasing. This all has serious consequences for companies, institutions and other organisations. The way business is done has to be adapted in order to remain competitive.

Knowledge plays a central role in all this. Without the appropriate knowledge at the right moment and in the right place, an organisation is not able to react effectively to internal and external developments. For example, decisions cannot be made in time if the necessary knowledge is not available. Or a company loses half of its market share because the competitor has put a better product on the market with the help of the latest technology. In the current turbulent environment knowledge is of tremendous strategic importance. This applies to both knowledge inside the company (like who knows what in the company, and what are the priorities) and to knowledge of the market (e.g. which knowledge will be crucial in the future for product development, or what knowledge does the competition possess).

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In **Knowledge management** knowledge plays a central role as a crucial factor in the production process. It strives for the optimal use and development of knowledge, now and in the future. It determines the form, the place and the time, as well as what kind of knowledge must be available in a company or network of organisations. To achieve this a broad range of techniques are utilised which vary according to the situation and the organisation.

The crux of knowledge management is organising processes in which:

- New knowledge is developed.
- Knowledge is distributed to those who need it.
- Knowledge is made accessible for future use **and** for collective use.
- Knowledge areas are combined.

A good balance in the supply and demand of knowledge makes it possible to reduce the time involved in crucial business processes and to reduce the costs. In addition, the flexibility of the organisation will increase along with an improvement in the quality of products and services.

Knowledge management is driven by the strategic choices that are made in an organisation. A central question in this respect is which expertise will provide the company with a competitive edge in the future. This is important for all the managers in the organisation. Knowledge management is by definition multi-disciplinary because knowledge is required from all different angles such as political science, communication studies, information technology and management sciences. In this way an organisation can gain insight into the relationship between business processes, knowledge, people, culture and technology.

An important aspect of knowledge management is improving an organisation's learning capacity. Knowledge management is a continuous process of developing, evaluating, relating back, and adjusting. Ultimately, improvements will always be about changing people's habits and their way of working. However, the aim is to enable them to operate more effectively in rapidly changing surroundings. The culture of an organisation and the existing coalitions will have far-reaching consequences for any attempts to make improvements. However, knowledge alone is not sufficient: everything depends on the people who make use of it.

Activities and products of knowledge management

Phase conceptual model	Possible activities	Products
Conceptualise 'Gaining insight'	<ul style="list-style-type: none"> - Identify critical knowledge intensive processes and knowledge carriers and their connections - Describe features of critical knowledge areas and knowledge carriers - Describe interaction of knowledge carriers - Culture analysis aimed at knowledge application and development - Examine communication habits 	<ul style="list-style-type: none"> - Overview of critical knowledge areas - Overview of knowledge per actor - Relation between knowledge intensive work processes - Relation between knowledge carriers
Reflect 'Assess qualities and plan improvements'	<ul style="list-style-type: none"> - Diagnose the quality of knowledge carriers - Analysis the fitness of critical knowledge areas - Establish value of knowledge - Simulate current/ desired situation 	<ul style="list-style-type: none"> - Quality model of knowledge in relation to critical demands - Identification of new markets based on existing knowledge - Strong/weak points - Plans for improvement
Act 'Actually improve'	<ul style="list-style-type: none"> - Improve performance of knowledge carriers - Develop new knowledge carriers (e.g. knowledge-based systems) - Develop new knowledge 	<ul style="list-style-type: none"> - New/better interfaces between knowledge carriers - Change of behaviour of knowledge carriers - New knowledge carriers - Infrastructure for knowledge sharing - Consolidation of expertise - Better indexing of knowledge
Evaluate 'Looking back' but also the start of a knowledge management-cycle	<ul style="list-style-type: none"> - Measure performance of new or current situation - Determination of bottlenecks and opportunities 	<ul style="list-style-type: none"> - Performance list of knowledge-intensive work processes - Feed back effectiveness and efficiency improvement actions

Frequently asked questions about Knowledge Management

Based on our experience in the past few years we have drawn up a list of the most frequently asked questions about knowledge management and added a brief response to each.

Isn't knowledge management the same as information management?

No, information management generally focuses on the final product or knowledge intensive work processes. It controls processes which are aimed at storing, retrieving and distributing data.

Knowledge management focuses on the competence of organisations, namely the capacity to interpret data and assign it a value. In addition, knowledge management focuses on another essential product of knowledge intensive work processes, namely new knowledge. Information management is however an important instrument for knowledge management when dealing with the supply of raw materials for knowledge application and development. Information policy is therefore also a derivative of knowledge policy.

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Do theories about learning organisations have the same objectives as knowledge management?

This is indeed the case. KM is however a precondition for creating and maintaining a learning organisation. Learning organisations sometimes develop spontaneously, for example in the case of start-up companies. In practice, however, it appears to be much harder to remain a learning organisation. Learning is adapting, enlarging and deepening knowledge, a process

that can be enhanced through a knowledge management approach. In our opinion KM is what makes a real learning organisation possible.

Is knowledge management the same as knowledge engineering?

Certainly not. Knowledge Engineering is a specialist field within information technology. It aims to collect and structure knowledge, programming it into so-called knowledge based systems. KE can be an instrument with which the organisation of the knowledge household can be improved, but only provides one of the many technologies which can be applied.

Is knowledge management always a lengthy and time-consuming process?

No, knowledge management is very similar to quality assurance. At various ambition levels improvement actions can be implemented. Using the conceptual model described above it is possible to choose a specific approach which fits the level of ambition.

Is knowledge management the same as 'business intelligence'?

No. In general 'business intelligence' refers to the capacity to transform data from the environment into valuable strategic information and knowledge. KM can focus on promoting this 'business intelligence' or improving the use of this function but is broader than the concept of 'business intelligence'.

CIBIT's view on Knowledge Management

Land, capital and machinery are no longer decisive in a world-wide market of products and ideas. Individuals, companies and even nations have become more and more dependent on the way they leverage their competencies and apply their knowledge in order to realise their goals. The impact of knowledge is getting more and more important in our society. Knowledge, like any other asset, needs to be managed pro-actively.

Knowledge Management is about smart ways of working and smart businesses. It is worthless unless people turn their knowledge into action. Enterprises should manage knowledge in order to convert it into business benefits.

Smart businesses know how to:

- share knowledge across borders (functional, divisional, regional and cultural) in order to improve business performance;
- learn lessons before, during and after activities to increase efficiency and effectiveness;
- learn from colleagues, customers and other parties to improve products and processes;
- realise that networked activities focused on innovation, knowledge creation and synergies become more and more important to cope with competition and take on opportunities so your organisation meets the challenges of a 21st century knowledge-based society.

Specialisations

What can CIBIT Consultants | Educators do for you? To date, CIBIT has acquired considerable experience in the following fields, and can work with you to help you meet the challenges you face:

- Meeting the challenges of the 21st century knowledge-based society by centres of excellence & networks of expertise.
- Combining and improving knowledge within organisations with a strategic approach.
- Auditing your corporate processes from a knowledge perspective (knowledge audits).
- Facilitating workshops for knowledge portfolio analysis and Knowledge Management action plans.
- Creating scenario's for Knowledge Management activities.
- Coaching of Knowledge Management programmes.
- Building competencies in the area of communities of practice, learning on the job, story telling, best practices, learning histories and scenario thinking.
- Identifying opportunities to make knowledge from internal and external sources more accessible.
- Designing an infrastructure that will enable your employees to learn from one another more rapidly, and which will ease their access to others who possess the knowledge required.

- Establishing processes and structures to trace and record lessons learned and/or best practices and make them more accessible.
- Conducting targeted research into knowledge gaps.
- Knowledge analysis and indexing knowledge.
- Deploying IT support tools for Knowledge Management.

Consultant and Educator

We provide consultancy in the area of Knowledge Management to a large range of customers in multiple sectors and we provide a full portfolio of services to plan, initiate, develop, maintain and evaluate centres of excellence and knowledge networks.

We have an enthusiastic, multidisciplinary team of 70 professionals, thus guaranteeing quality and commitment. We collaborate with various partners in Europe, Asia and the USA in order to bundle disciplines and to be able to perform worldwide activities.

Training & education

Our services also include training and education in Knowledge Management issues. We have delivered many successful Masterclasses in the Netherlands, in London in collaboration with the business school of the Middlesex University and in Taipei in collaboration with Angel Net Universal. In several companies the Masterclass was conducted for internal purposes. e-MCKM, an e-learning version of our successful Masterclass is now available with on-line coaching and support. For more information about our educational services, please contact the head of education Marco Frijlink

The Knowledge Management game

We also offer KM Quest, the interactive KM Internet-based simulation to help you experience KM decision-making in a safe environment. The simulation is based on a fictitious manufacturing company but we can adapt a new storyline for your own context if necessary. Please click the logo for more information.

Clients

Over the past 14 years we have undertaken a number of Knowledge Management assignments in both the non-profit and the profit sectors in Europe. We have also been involved in several activities in Taiwan and mainland China.

We can support you if you are:

- About to restructure or have been recently restructured: Knowledge Management can provide insights into the critical knowledge fields and the staff who possess this knowledge.
- About to shift from product orientation to market orientation: When benefits are derived from combining market knowledge, an extra effort is required to manage this specialist knowledge.
- Experiencing a period of strong growth: increases in scale necessitate improved organisation of knowledge processes. Things do not run themselves the way they used to.

- An industrial company that is seeking to operate in a market in which the fields of knowledge required are split between internal and external partners.
- Involved in or have recently experienced a period of re-engineering: in many cases the emphasis will have been laid entirely on cost cutting. This often appears to adversely affect the knowledge household, which has adverse consequences for long-term continuity.
- Seeking to recycle the experience gained from projects. And optimise the knowledge created in a programme of innovative project.
- A government agency wishing to improve your service to your customers.
- An economic development agency wishing to provide synergy of services to the business sector.

Information

We would be happy to discuss with you how we might help you to improve your Knowledge Management activities and to become a smarter company or organisation. For further details check our website www.cibit.com or contact one of our team members: Managing Consultant knowledge management Rob van der Spek (rvdspek@cibit.com), Senior Consultant Eelco Kruizinga (ekruizinga@cibit.com) at email or by telephone +31-30-2308900 or Senior Consultant Michael Kelleher (mkelleher@cibit.com) at email or by telephone +44-1495-774884.

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