Guide

of competence and knowledge management

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Preface

Knowledge management has great significance to organisations. With the help of knowledge management, the organisation can more efficiently coordinate and develop the knowledge and learning of individuals and teams as well as of the whole organisation. Moreover, knowledge management also helps keep risks of knowledge under control. From the worker's point of view, knowledge and constant knowledge development improve sense of work command and well-being at work. Knowledge management in organisations refers to all the appropriate activities that contribute to the development, revision, utilisation, acquisition and spreading of knowledge in accordance with the goals of the organisation (Viitala 2006.) The implementation of the strategy, more developed procedures, customer-oriented services, new innovations and even better economic results can among other things be regarded as the results of successful knowledge management.

The eOSMO project was carried out in North Karelia in 2009-2011. The aim of the project was to develop knowledge management in the involved organisations. As a result of development work, different tools for knowledge management were created, which were compiled as the guide of knowledge management. The guide was drawn up to support knowledge management and leadership as well as development work in different fields and in companies of a different size. The original guide was in Finnish. This version in English is a summary of the original guide. The translation has been carried out in the Sis Catalyst project funded by the European

Commission. The project is administered by Karelia University of Applied Sciences.

The guide at hand introducing a short course to knowledge management is designed for all of you that are interested in developing knowledge management and leadership. The aim of the guide is to help the reader develop knowledge management and leadership in his/her own organisation. With the instructions and examples described in the guide, it is possible to create a model and tools for knowledge management in each organisation. In knowledge management, the strategy-oriented and systematic perspective is emphasised. Knowledge management is a natural part of leadership operations in the organisation. Therefore, the term used in the guide is knowledge management.

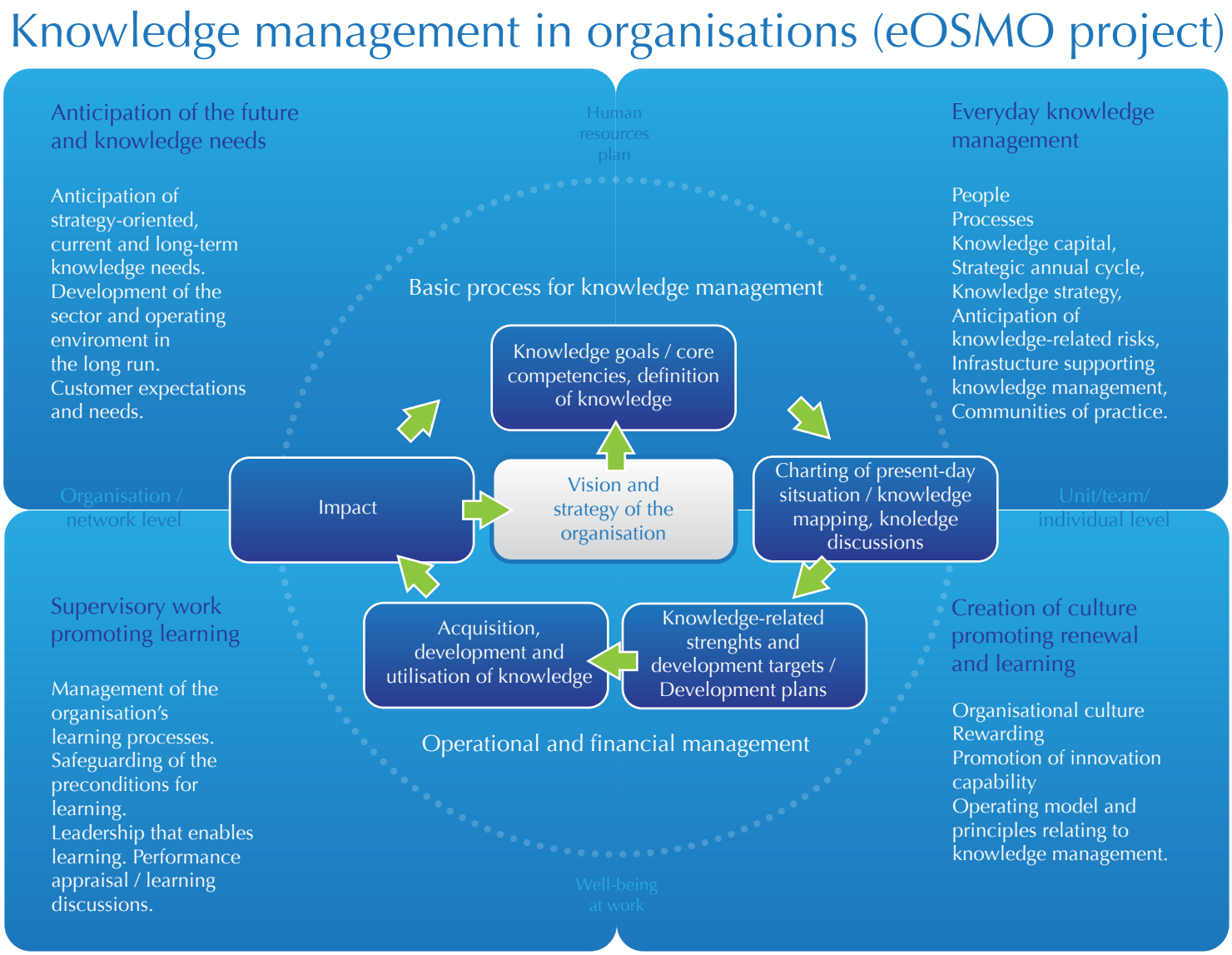
It was found out in the eOsmo project that there is no complete solution in knowledge management. Instead, knowledge management has individual features in each company and it is being developed according to the operational environment and the strategy. The figure of knowledge management and the dynamic puzzle have turned out to be practical instruments in supporting the development of the model of knowledge management as well as in integrating the model as a part of the organisation's operations and leadership. Based on the results of the pilots, job rotation and job shadowing were very good methods in the developing and transferring of knowledge. At the same time, these methods have an empowering effect on workers. Development work carried out in knowledge communities has proved to be fruitful, at the same time supporting communal learning.

As can be seen from above, knowledge management is a broad composition. In the guide, this composition is dealt with according to the enclosed figure 1, which is called knowledge management in organisations. The figure has been drawn up in the development work of the eOsmo project. The themes of the figure define the content of knowledge management. If knowledge management is a completely new issue to you, we recommend you to start from the middle of the figure and advance according to the arrows. The process in the middle of the figure is called the basic process of knowledge management. Anticipating of knowledge needs, everyday knowledge management, creation of culture promoting renewal and learning as well as supervisory work promoting learning are described in the exterior circle. These issues have a strong influence on the success of knowledge management and they also have a role in carrying out the basic process.

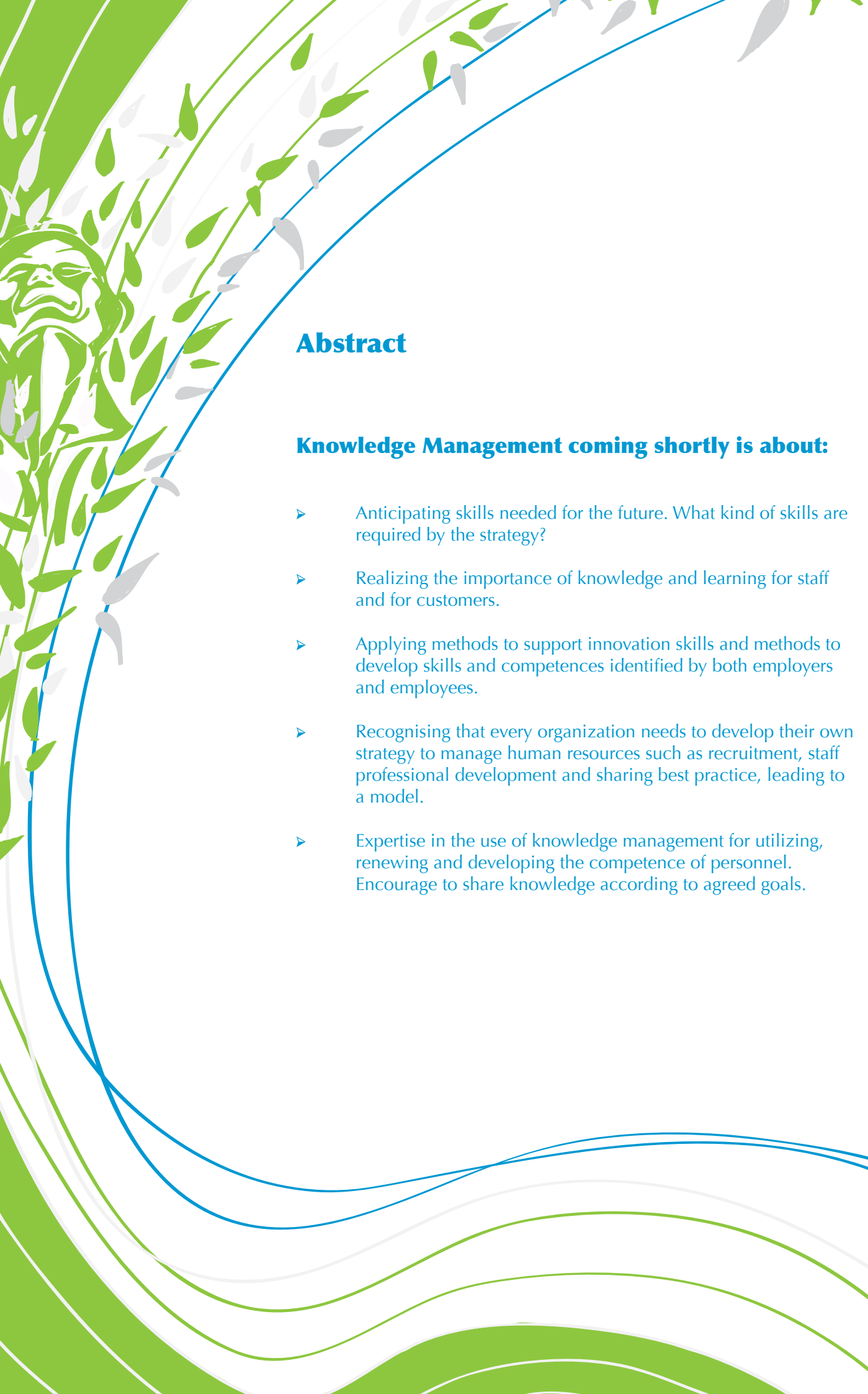
Enjoyable reading experiences with the guide!

The authors of the workbook

Figure 1: Unity of Knowledge Management



An application of the Manual of Knowledge Management produced within eOsmo project – http://www.eosmo.fi/tyokirja/tyokirja.html



Abstract

Knowledge Management coming shortly is about:

- Anticipating skills needed for the future. What kind of skills are required by the strategy?
- Realizing the importance of knowledge and learning for staff and for customers.
- Applying methods to support innovation skills and methods to develop skills and competences identified by both employers and employees.
- Recognising that every organization needs to develop their own strategy to manage human resources such as recruitment, staff professional development and sharing best practice, leading to a model.
- Expertise in the use of knowledge management for utilizing, renewing and developing the competence of personnel. Encourage to share knowledge according to agreed goals.

Strategy and vision of the organization

The vision, i.e. the future goal, and the strategy of the organization guide the operations of the organization, the work community, and the working individual. These also form the core of knowledge management. The realization of the strategy requires knowledge in accordance with the strategy on all levels of the organization as well as the implementation of this knowledge by the personnel in order to achieve the goals. Hence, knowledge management is part of the implementation of the strategy.

- Acquaint yourself with the goals of your organization typically described in the vision and the strategy. These will form the thread that knowledge management follows. Think: what actions does the realization of the goals require?

- On various levels of the organization, discuss the ways in which the goals (the vision and the strategy) guide the practical operations on the levels of workers and work community.

Defining knowledge – core knowledge and knowledge aims

In order to achieve the goals, the organization must ensure that knowledge on all levels of the organization is in accordance with the vision and the strategy. To do this, the organization must define its knowledge aims.

Firstly, the core knowledge the organization needs is derived from the vision, the strategy, and the critical factors of success. Core knowledge refers to the strategic knowledge vital to the organization and the realization of its goals and utilized to maintain and improve its competitiveness or revise it operations. In practice, the identification and definition of core knowledge is achieved through figuring out what knowledge the realization of the vision and the strategy particularly requires. Core knowledge should be distilled into about 3–5 fields of knowledge. Core knowledge is typically defined by the management of the organization. In defining core knowledge, the strategy is translated into the language of knowledge, discussions of which should occur on various levels of the organization.

Secondly, the form of a knowledge chart should be decided. The knowledge chart is a tool of knowledge management for documenting the knowledge required on various levels of the organization. In deciding the form of the chart, you should be aware of whether to portray the knowledge aims of the whole organization or those of different units and/or individuals with different roles/tasks. The formulating of the knowledge chart is thus guided by the set goal of the specificity and the levels of portraying knowledge. In smaller organizations, the defining of knowledge may occur within knowledge discussions.

Finally, the knowledge that the achieving of the strategic goals requires is defined for different units of the organization and/or for different tasks/roles (the knowledge aims). Knowledge should show and be evident in the operations, for which the knowledge aims should be described in terms of practical actions (compare: I know how to work economically – I work economically).

In short:

- Define your organization's core knowledge
- Decide on the structure of the knowledge chart and the specificity of describing the knowledge aims
- Define the knowledge needed in different units and tasks in order to realize the strategy (the knowledge aims)
- Encourage the involvement of various parties in the defining task
- Describe the knowledge aims in terms of practical actions
- Document the knowledge aims in a knowledge chart

Defining the needed knowledge

Before defining strategic knowledge and knowledge aims, it is advisable to discuss the organization's knowledge architecture typically described in the form of a knowledge chart. The chart portrays the knowledge needed on the various levels of the organization in order to achieve the strategic goals (the knowledge aims).

The knowledge aims can be derived straight from the identified core knowledges or they can be defined in accordance with the core knowledges, the strategic goals, the identified changes in the operational environment, and future challenges. However, there are several alternatives for how to formulate the knowledge chart. The defining of the knowledge aims is guided by the answer to the question: what problems are sought to be solved by knowledge management.

Knowledge aims can be defined in various ways and by managers and workers in various roles: the management group defines the knowledge aims for the whole organization, units define the knowledge they need, a separate team defines the knowledge aims for the whole organization, or a developer maps the needed knowledge through personnel interviews. The needed knowledge can also be identified and defined as part of a group knowledge discussion. Then the managers and workers of a unit answer to such questions as: what are the strategic goals of our organization and how do they concern us, what are our future goals and challenges, what knowledge do we need in order to achieve the goals and face the challenges, what does customer feedback tell us about our knowledge? It is important to notice that knowledge aims should be regularly revised when the strategy and the operational environment change or when customer feedback so requires. In other words, knowledge aims are dynamic, not static.

Documentation of knowledge aims is important. The knowledge aims can be recorded in the form of a knowledge chart, which illustrates the needed knowledge and the aimed levels. If the knowledge aims are defined during a group knowledge discussion they can be written down on a memo or a form formulated for the knowledge discussion. The level aims should be clearly distinguished, and they should describe the organization's operations, which facilitates knowledge assessment. In addition, the knowledge levels should be challenging so that "the wheat can be separated from the chaff" in the answers. For example, on a high level of knowledge, one may require sharing of knowledge and producing of new knowledge. A level 5 may also be added to the high end of the scale describing a recognized national or international expert. Defining this top expert may facilitate knowledge assessment in expert organizations. The most important aspect in defining the level requirements is the collective discussion about the content and significance of the aimed levels. The aimed levels of knowledge can, for example, be defined on a scale from 1 to 4 as follows:

1. Introductee (I need introduction to the matter)
2. Basic expert (I mainly operate as required. I occasionally need my colleague's / superior's support)
3. Professional (I operate as required. I instruct / guide / assist my co-workers when necessary. I act as an introductor if necessary)
4. Developer (I actively participate in developing the matter and, if necessary, may act as a trainer / educator in my working community)

When the needed knowledge and its level aims have been defined in the organization, they can be portrayed in a knowledge chart.

A simplified example of a part of a knowledge chart:

Knowledge levels: → / Knowledge claim: ↓	0 - not included in my task	1 - Introductee (I need introduction to the matter.)	2 - Basic expert (I mainly operate asrequired. I occasionally need my collegue's / superior's support.)	3 - Professional (I operate as required. I instruct / guide / assist my co-workers when necessary. I act as an introductor if necessary.)	4 - Developer (I actively participate in developing the matter and, if necessary, may act as a traine / educator in my working community.)
I operate according to the quality manual					
I solve potentional contradictions in a solution-centered manner					
I am familiar with the legislation-related to my work					
I use the relevant equipment and tools in my work diversly and safely					

Mapping the current state – knowledge mapping and knowledge discussions

The mapping of the current state of knowledge, or knowledge mapping, may be carried out in the organization after defining the needed knowledge for realizing the vision and strategy (the knowledge chart). Knowledge mapping provides information about whether the different levels of the organization possess the knowledge the strategy requires. This may be implemented using various methods.

Knowledge mapping may be carried out in the form of an enquiry based on the formulated knowledge chart. The enquiry may be either electrical or on paper. Before the enquiry, the respondents are briefly informed of such matters as knowledge management and its benefits, the meaning of knowledge mapping, the idea of the knowledge chart, when and how to respond to the enquiry, and when and how the answers are processed. After this, the members and management of the organization assess their knowledge by responding to the enquiry. It is advisable to go through the results in a development discussion and/or in a group knowledge discussion.

If you do not utilize an enquiry, knowledge mapping may be carried out based on development and group knowledge discussions. If so, it is important to carefully plan and design the method of documenting the results of the knowledge mapping in the long term.

The mentioned methods may be combined according to the needs of the organization.

In short:

- Plan the implementation of knowledge mapping
- Inform the personnel
- Utilize an enquiry and/or development and group knowledge discussions for the knowledge mapping
- Go through the results with the personnel
- Document the results of the knowledge mapping

Smart practices in formulating development schemes

Knowledge development schemes should answer such questions as: what knowledge is developed, how is it developed (a concrete method of knowledge development), who is in charge of the development, what is the schedule of the development, what resources does it require, and how is the development monitored and assessed? The knowledge development scheme should encourage a worker to leave his/her comfort zone and to practice the target of development.
The development scheme should also describe the learning process so that it does not only describe the goal of learning but also how the goal is achieved. Describing this process requires knowledge leadership of the managers.

The development scheme should prioritize the targets of development in order to make the achieving of the goals realistic. For example, the scheme can include 1 - 3 goals per year, and in addition other targets of knowledge development may be planned for forthcoming years.

Knowledge development can be guided by the 70-20-10 rule, which means that 10% of knowledge development occurs through purchased training from outside, 20% through internal training and knowledge sharing, and 70% through learning while working.

The knowledge development scheme for a group or a unit may be formulated during a group development/knowledge discussion, which enables everyone to influence the formulating of the scheme. This collective discussion supports communality and understanding the significance of knowledge management. For more information, see **Management that promotes learning** -- *Development and knowledge discussions.*

Development schemes – knowledge strengths and areas to develop

The results of the knowledge mapping help to determine the areas of knowledge in need of further development as well as the knowledge strengths. Based on these, the knowledge development schemes are formulated for levels of individuals, groups/units, and the organization as a whole.
The aim of the scheme is to guide and systematize the development and acquisition of knowledge, the sharing and transferring of the knowledge strengths, and learning and the remodelling of knowledge. The formulation of the development schemes includes rendering visible the process of learning and the desired change in practice.
It emphasizes mutual dialogue and discussion.

The knowledge development scheme takes into account and comments on the actions, the schedule, the person in charge, and the required resources of the knowledge development.
For an individual worker, the scheme may be formulated while having a knowledge/development discussion. The scheme for a group/unit may be formulated in a group knowledge discussion.
In that case, the schemes also take into account the required personnel resources, loss of knowledge, and the need for unlearning.

The knowledge development scheme is also formulated from the whole organization's perspective, which enables a more wide-ranging utilization of the knowledge strengths as well as a cost-efficient knowledge development. The scheme for the organization compiles the development needs of the units into one document. This document may take a stand on such things as the structure of the organization and its personnel, the need for recruiting, the loss of knowledge, the common actions for developing knowledge in the organization, and the required resources. The development schemes for the organization and its units are based on the focuses of knowledge development set by the management and described, for example, in the knowledge strategy.

In short:

- Analyze the results of the knowledge mapping
- The individual's knowledge development scheme is formulated in the annual development discussion, which fits together the special needs and goals of the worker and the organization.
- Be happy for the knowledge strengths and formulate a knowledge development scheme promoting learning and well-being of and for the working community
- Compile the organization's needs for knowledge development, examine the whole, and formulate the knowledge development scheme for the organization.
- For this, choose the relevant development methods that encourage learning.

Knowledge acquisition, development, and utilization

Knowledge is acquired and developed according to the formulated schemes. Knowledge development is part of everyone's work, and everyone has their own important role. For example, the organization may identify those members who possess strategically significant silent knowledge. These so called "knowledge masters" operate with a coaching approach and are motivated to develop, share, and utilize their knowledge. The knowledge masters may be identified at various phases of their careers, and they may be utilized, for example, in recruiting, introduction, work rotation, peer development, implementing internal coaching and education, mentoring, and development work.

The management's task is to resource and mandate the knowledge development. The managers have an important role as inspirers and knowledge leaders as well as learning guides. The constructive interaction between co-workers enables the learning from others, sharing of knowledge, and the so called intellectual cross-pollination. The most challenging task of the worker is to remodel his/her practices and knowledge.

The results of the knowledge mapping and the knowledge chart should be utilized in the acquisition of knowledge. The missing knowledge can be acquired through external or internal recruiting or by purchasing the knowledge from outside the organization, for example from partners in cooperation. The missing knowledge can also be acquired through developing the knowledge of the existing personnel.

The proportion of educating and training in developing knowledge is limited. The bulk of the development can happen through learning while working and by sharing and transferring knowledge. Part of the personnel may possess strategically significant knowledge. These experts can be utilized by placing them in strategic positions etc. (compare Talent Management).

The key tool in knowledge development is the constant dialogue on all levels of the organization about the future goals and the required knowledge aims. If the aim of the organization is to remodel its operations, then the knowledge development emphasizes various types of breakaways and detachments from the everyday work, encounters with diverse people, and new outlooks and perspectives on matters.

In short:

- Develop your knowledge according to the set goals and rejoice in learning
- Share and transfer your knowledge to other workers
- Inspire learning and developing new knowledge
- Remember the significance and opportunities of learning while working
- Enable the realization of the knowledge development schemes
- Monitor the implementation of the schemes.

Assessing impact

The premise for monitoring and assessing the results of knowledge management are the set and recorded goals. When knowledge in the organization is developed through various methods and actions, the goal typically is to achieve such development in knowledge that shows in enhanced operations, improved quality, and ultimately improved profitability and enhanced conditions for success of the organization. It is a matter of impact, which means the ability of the development actions to realize the set effect goals and to achieve the desired effects. The impact of the actions might mean bringing about change, prevent change, or maintain the current state. Of course, this chain of impact is also affected by other factors besides knowledge development.

In addition to knowledge development and the assessment of its actions, the assessment of the impact of knowledge management may include the ability of the knowledge management and leadership to generate the pursued impact. It is also important to assess the impact of the process of knowledge management. It is the matter of assessing whether and to what extent the pursued impact has occurred, as well as what other effects have occurred. What are the factors that have enabled, hindered, or even prevented the desired impact?

The impact of knowledge management can be assessed on three levels:

- Assessing the knowledge development and the utilized development actions; how well have the development actions been implemented, and to what extent have the set goals been achieved? This includes both the process of having an effect and the result of the process, the impact itself. These results are illustrated by indicators and barometers of knowledge.
- Successfulness and impact of knowledge management; how well the knowledge management has promoted the realization of the goals of the actual operations described by the organization's key performance indicators.
- The assessment of the knowledge management and the process and the operations model of management/ leadership.

The impact assessment should be well planned and its implementation on different levels of the organization agreed upon. For example, for a development action, you should choose in advance an indicator and a method with which to monitor and acquire information about the action. Essential aspects include who assesses and what, and how and when. On the organization's level, the assessment should be done as part of the process of planning and monitoring of the operations and finances.

The basic process of knowledge management

The basic process of knowledge management may be considered as the whole including the defining of core knowledge and knowledge aims, the implementation of knowledge mapping, the formulating and implementation of knowledge development schemes, and the impact assessment. Portraying the basic process encourages the consistent implementation of knowledge management on all levels of the organization and enhances the understanding of its meaning.

Based on the experience gained within the eOsmo project, the development of the basic process must also take into account other sectors of knowledge management (anticipating the future and knowledge requirements, every-day knowledge management, leadership encouraging learning, culture encouraging learning and reforming). The experience shows that knowledge management is a wide-ranging whole. Thus, the implementation of the basic process of knowledge management alone seems not enough to achieve the goals, since the various sectors of knowledge management are interlinked.

In short:

- Clarify the aims of knowledge management within the organization
- Develop the required tools for knowledge management
- Portray the whole of knowledge management in the organization
- Ensure the functionality of the basic process.

Management of operations and finances

Knowledge management should always consist of actions that are systematic and persevering, are attached to the strategic pursuits of the organization, and support its successfulness. The basic process of knowledge management should be engaged with the organization's management of operations and finances. The management of operations and finances may be portrayed by the strategic year clock, in which are portrayed the important tasks of the financial year. The year clock can also show the actions of the basic process of knowledge management, in which case the knowledge management better supports the management of operations and finances and thus becomes part of the system of management of the whole organization.

The set actions of knowledge acquisition, development, and utilization as well as the required resources are described in the knowledge development schemes. This information should be included in the plans of operations and finances of the forthcoming year, in which case the resources required for knowledge development would be ensured. Therefore, the year clock should portray when to formulate and conduct the knowledge mapping and development schemes, so that the information they provide would be at hand when formulating the plans of operations and finances.

Knowledge management also supports the management of finances in other ways. The knowledge development scheme on the organization's level enables a wide-ranging perspective on the knowledge development needs. Thus, it is possible to combine the similar knowledge development needs of different units, which saves the organization's resources through shared coaching etc.

Hence, knowledge management and the management of operations and finances are seamlessly intertwined. They promote actions according to the strategy and provide each other with meanings and goals.

See figure 2. on the next page

In short:

- Build the connection between knowledge management and the management of operations and finances with such tools as the year clock, process descriptions, and flowcharts.
- Ensure the visibility of the resources required for the knowledge development schemes and their implementation in the plans of operations and finances.

Figure 2. Knowledge Management, Operational and Financial Management are comlementary to each other

Every-day knowledge management

Knowledge capital

The success of an organization is greatly dependent on its knowledge capital, which is also called immaterial capital. Knowledge capital consists of individual human capital, cohesive structural capital, and relations capital. These three components of knowledge capital provide the organization with sustainable operations premises and enable the organization's goal-oriented operations now and in the future.

Human/person capital consists of the people in the organization and of their knowledge, commitment, motivation, and enthusiasm. It also includes a person's ability to collaborate and to produce knowledge surpassing that of an individual. It is also linked with the persons' creativity and innovativeness, by which the organization is renewed and developed. Human capital refers to the capacity of the members of the organization to work and develop the operations.

Structural capital consists of those structures that enable the individual knowledge to be turned into the organization's knowledge and practical actions. It includes systems for maintaining knowledge, for renewing, developing, and acquiring it, as well as such structures that support the distribution/mobilization and utilization of knowledge. Thus, structural capital includes the organization's technologies, information networks, processes, and practices. Structural capital also includes the organization's values, management culture, and atmosphere, which enable collaboration and co-learning on various levels. Through investing in and developing its structural capital, an organization can affect the benefits and efficiency of its human capital.

Relations capital includes such relations with partners and networks and other organizations that supplement the organization's own knowledge or promote the ever quicker creation of new knowledge.

Knowledge capital is always dynamic and there must be a constant flow between its various parts. Constant learning ensures the development, growth, and renewing of knowledge capital.

An organization should describe its knowledge capital in order to manage, control, and develop it as a part of the daily activities of the organization.

Knowledge strategy

Knowledge strategy guides the practical implementation of knowledge management in the every-day activities. Knowledge strategy is an important strategic tool for knowledge leadership.
The knowledge strategy, derived from the organization's strategy, describes the focus areas and development actions of knowledge development.
It expresses the ways of binding knowledge to the planning and development of the organization's operations as well as what resources and structures are emphasized in knowledge leadership.
The knowledge strategy may comment on and distinguish the knowledge that is developed within the organization, and its methods, and the knowledge that is acquired from outside, from partners etc., and the methods of acquisition. This alignment may enhance the use of resources.

When compiling the knowledge strategy, the structures and structural capital of the organization are reviewed in order for them to enable knowledge development. The knowledge strategy may also comment on the utilization and usage of Internet-based information generating tools. Knowledge strategy may be recorded in the organization's strategy or in the personnel strategy, or it may be a strategy on its own. Knowledge-strategic tasks and targets of development are included in the goals and result indicators of the organization's management. The knowledge development schemes are constructed according to the knowledge strategy.

The knowledge strategy may describe:

- The goals for knowledge and knowledge capital development and leadership
- The key knowledges that the development targets, and their prioritization
- The chosen development actions (such as the acquisition of the chosen knowledges, development, utilization, etc.)

Anticipating knowledge risks

Knowledge management must also take into account various risks related to knowledge. As the operations of the organization are based on knowledge and information, the related management becomes more and more important. The risks of knowledge capital are mostly targeted at knowledge and information, particularly at the silent knowledge people possess. When anticipating the knowledge risks, it is advisable to ask: what are the risks and the subsequent costs of the lack of knowledge in your organization? The realization of the knowledge-related risks may hamper the every-day operations. Such risks may include: a person leaves your organization (a key expert changes the employer or moves to retirement); a person gets sick or exhausted at work and loses his/her creative capacity; a person minimizes (for some reason) the utilization of his/her knowledge; persons whose collaboration creates significant output cannot collaborate effectively; recruiting fails; the knowledge potential is badly utilized; the level of knowledge of the personnel is not sufficient for the requirements.

The knowledge within the organization includes such risks as: knowledge is stolen, lost, destroyed, or counterfeited; knowledge becomes obsolete, it is incorrect or insufficient. In addition, the significant knowledge for working may be installed around the organization, making the location of knowledge potentially unclear to some levels of the organization. Particularly in public organizations, the diversity and incompatibility of information systems cause information risks, hampering the every-day working.

The anticipating of knowledge risks and risk management include the following stages:

- Identify the knowledge risks: what knowledge risks are there on various areas of the operations. These may be explored with knowledge mapping and in individual and group knowledge discussions.
- Analyze the impact of knowledge risks on the operations and the acuteness and probability.
- Choose the relevant methods for managing the knowledge risks. These methods include increasing knowledge, commitment and rewarding of key persons, searching for the hidden knowledge potential, and transferring knowledge.
- Agreeing on the implementation and responsibilities of the methods of managing the knowledge risks.
- Monitor the risks
- Agree the actions related to eliminating the knowledge risks. How can the risks related to knowledge be eliminated, evaded, diminished, or transferred? What issues can be risked and why?

The comprehensive model of knowledge management

In knowledge-related issues, knowledge should have its position and receive adequate attention in the organization's management system. Therefore, knowledge should not be managed in isolation from other management. Knowledge management should be a conscious part of the organization's ordinary annual management and leadership.

The whole of knowledge management may be conceived in very different ways from the perspectives of different areas of responsibility in the organization. A comprehensive model of knowledge management can ensure the consistent understanding of knowledge management, its goals, tools, and their use. It is important to consciously construct and develop the model to fit the organization's needs and culture. The comprehensive system of knowledge management/leadership, or the comprehensive model of knowledge management, includes all the structural solutions, agreed operations models and principles, and tools that support and guide knowledge management in practice. The comprehensive system of knowledge management/leadership includes the following: The ways of organizing the organization's structure and work, the designing and monitoring systems ensuring the quality and quantity of learning, knowledge development system (e.g. introduction and personnel development), other HR-operations supporting knowledge (e.g. recruiting, career planning), the practices supporting learning and the systems supporting those practices, information systems, and knowledge risk management.

The comprehensive model of knowledge management should be recorded and the related concepts clarified in order to enable communication. With guidance of the model, its users can implement knowledge management and its tools in the every-day activities in accordance with the mutually agreed methods, and everyone knows his/her role in it.

The basis for the model of knowledge management is the identifying of the organization's knowledge capital in order to maintain, develop, and increase it. The model helps the organization to ensure the achievement of its goals and the effective allocation of its knowledge capital resources.

The comprehensive model of knowledge management may include the following: what is meant by knowledge management in the organization, what is it made for, the goals of knowledge management, the description of the whole of knowledge management in the organization (e.g. the basic process of knowledge management) and the related choices and knowledge management tools, and the relevance of the model for strategic management, personnel planning and other HR management, and management of operations and finances.

Issues to be taken into account in describing the comprehensive model of knowledge management:

- Utilize the mutual dialogue in designing and developing the model (you may use the dynamic puzzle).
- Focus on the contents, what is important in the situation of your organization.
- Portray the model so that it can be realized.
- Set the responsibilities for implementing and assessing the model.
- Communicate the model and monitor its realization.
- Assess its functionality and utilize the assessment in developing the model.

Knowledge management in customer / service processes

So far in this manual, we have dealt with knowledge management from the organization's and the individual's perspective. One important perspective is the binding of the significance of knowledge to the organization's processes.
If the workers creating customer and service processes do not possess the required knowledge, the customers will not receive the needed quality services and products. Thus, knowledge management is also linked to the management of these processes.
In process-based operations, knowledge and its correct allocation are essential from the customer's point of view. Using knowledge efficiently for the customer's benefit is an important part of a smooth service process. This goes both for the personnel and the customer. Knowledge management in service processes includes the maintaining and correct allocation of the workers' knowledge and the enabling of collaboration between them.
Knowledge management in service processes is also about renewing, utilizing, and sharing knowledge.

In welfare and health, customer/service processes are typically produced together by various units and also different organizations. This is referred to as a sequence/chain of care/service. Particularly in expert organizations, in which the service is produced in a customer- and operations-oriented process work by several professionals, the coordination of the experts' knowledge is essential in the comprehensive management of the service chains. Therefore, knowledge management is also important from the perspective of the fluency and management of the service processes. In knowledge management, all areas of information and knowledge penetrate as a horizontal whole the entire organization and/or the other organizations participating in the process. The challenge of knowledge management is to merge individual knowledge and continuity of the service process beyond the organizational boundaries in for the customer's benefit in order to form a fluent chain of service. It is also advisable to figure out the role of the customer in the process and the knowledge the customer should possess in order to achieve the goals set for the service.

In welfare and health, the fluency of the customer/care processes and the service chains necessitates a constant communication and collaboration between workers on the interfaces of the organizations, e.g. when a patient moves to follow-up treatment.
On the interfaces of the service chains, the critical issues related to knowledge are communications, collaboration between experts, and the correct allocation of knowledge. The expert's knowledge is the foundation of the whole operations, and that is why it is important to define the knowledge requirements for the various stages of the process.
The individual's knowledge is not enough, but various knowledges must join together seamlessly and create even such new areas of knowledge that the previous operations modes have not produced or required.

Knowledge management in service processes:

- Defining the knowledge requirements and ensuring their connection to the organization's knowledge chart.
- Allocating knowledge according to the operations and the service needs.
- Ensuring the sharing of knowledge, particularly on various interfaces and boundaries.
- Securing, maintaining, and renewing knowledge.
- Measuring the impact of the service process also includes the questions of knowledge.

Creating a culture that promotes renewing and learning

Organization culture

The success of knowledge management depends on the organization culture, which communicates and illustrates the level of appreciation for knowledge in the organization.

The creation of a culture that promotes renewing and learning requires skills to guide people away from their comfort zones. The appreciation of knowledge, innovativeness, and learning must be brought out in many ways by both the managers and the personnel. The strategic goals must be discussed with the organization's personnel, so it is advisable to observe the understanding that has been formed of the goals. It is also advisable to observe the way the personnel and the management view the wondering of things, new development ideas, and the self-knowledge and the reflecting of what has been learned of the personnel. The organization culture affects the worker's motivation. The workers' motivation and collaboration are increased by innovativeness and creativity.

The features of the organization culture are visible in the structures (the artefacts). This refers to such things as accessing the common documents and training schedules. The culture also shows at the questions on the development discussion form (sharing of learning and knowledge) and at common training sessions, discussions, and in the interest of the personnel to utilize their own knowledge.

These factors support the feeling that learning and knowledge development are considered important and desirable. In order to realize the needs for appreciation and self-fulfilment, a person directs his/her doing-energy at things that result in positive feedback and appreciation and echoes by the community.

The expressed values and goals are described in the organization's strategy and in various scheme documents. Having interest in and measuring learning and renewing convey an image of a forward-looking organization to the workers.

Organization culture produces predictability and significance for the members of the community. That is why renewing requires knowledge leadership and abundant argumentation. The best innovations are created as a result of dialogue between as many people as possible. Every worker influences the atmosphere and may set an example for others, but the managers in particular have a significant role in creating an organization culture in which creativity, innovativeness, and learning are considered important. This must be visible, audible, and tangible, i.e., expressed on all levels of communication. When innovation is taken into account on the strategic level, it becomes more easily a part of the organization culture. The management may set an example by utilizing difference in development teams and by encouraging for a listening working habit, open dialogue, and for bringing out ideas.

In short:

- Support and encourage your working community, and allow attempts that may lead to failure and learn from them.
- Make sure your organization has an operations culture that supports the vision. If it does not exist, take up the necessary manager-lead actions and begin the mutual learning process.
- Communicate openness with your discourse, tool communication, and body postures. Enable interaction, for in interaction with others your thoughts are clarified and can result in something new and collective that develops operations and adds value.
- Define the goals for innovation operations. These operations should be systematic, continuous, instructed, and encouragingly lead.
- Create a physical environment and practices that support learning. The things created in the innovation environment cannot be anticipated or controlled, but the environment can be consciously constructed. The chances of creating something new and value-adding are good, if not excellent, when the organization has a strong vision and clear goals for the innovation operations, or even a described innovation strategy, and when the management encourages and allocates enough resources for the development of innovations.

Organization culture that supports learning

In addition to trust and openness, one factor in successful dialogue is a culture that appreciates individual creativity. Organization culture refers on several levels to a rather stable understanding of the acceptable ways to operate that affects the structures, practices, and expressed values of the working community. It can be perceived in the common features of the workers' activities but particularly by observing the managers and by analysing their actions. This observation may, for example, focus on what they pay attention to, what they assess and control, on what and how they allocate resources, how and for what they reward, and what kind of experts they recruit. Observing the mere visible structures is not enough, nor is the visibility in itself of the adapting of values described in the strategy. Their effect on the operations must be discussed. Only through understanding and learning the underlying, common, and latent assumptions, the understanding is born of the organization culture and its special characteristics that guide the operations of the members of the community. This also enables communal learning and thus creates the precondition for a learning community. Organization culture that supports learning arises, for example, in the management's role as a supporter, encourager and enabler. Through discussing, listening to, and minding the ideas and thought of the personnel, the management conveys the message of trust and is able to guide learning occurring within the organization. This increases work satisfaction, coping at work, and initiative. Moreover, it is important that the organization's communication and knowledge discourse support learning, innovativeness, and renewing.

It is the responsibility of the managers to form the strategy, to handle it, and to create a collective interpretation. Reputation, i.e. the stories told about the organization, should also bring up these issues, for stories evaluate the organization. The impressions of the personnel, customers, and stakeholders thus have great significance.

What happens when problems and development needs are detected? What about when an idea develops into a concept outline for a product or service and it must be tested or piloted with users? Whose responsibility is it to utilize it? And how to choose the strategically most significant and important innovations? How is their development rewarded? Who collaborate naturally? What kind of new knowledge is needed? These questions often remain unanswered in organizations.
Many organizations are way off when people are assigned to development work or offered the roles of innovator or developer. Having given the task of development only for few persons has limited the opportunities, and the detected development needs are discussed without the management hearing about them or the development ideas.

Promoting innovativeness

The creation and brainstorming of new things takes people, but innovations and their implementation requires organizations. Overcoming the obstacles of creative thinking requires conscious actions and enables the observation of one's own attitudes.
in organizations, this question is linked both to individuals and to leadership.
In leadership, the internal and external collaborators are important because the innovation operations and competitiveness of organizations depend on their abilities to acquire, receive, and apply new knowledge, creativity, and knowledge.

Innovations refer particularly to the ability to produce new products, services, and methods, and to create additional value with them. Common to various innovations is the process nature. It is formed of the early stage of ideation and the wide implementation stage, during which a very wide range of knowledge and vision is needed. Creativity is particularly needed at the early stage of the innovation process, at which ideas are developed and service and product concepts sketched. Through creative activity, we add to our previous knowledge new information and knowledge, the functionality of which is tested in various practical situations. The implementation stage requires analytic approach, collaboration between various experts, and user experiences.

Innovativeness is the result of both the creative process and the operations culture producing novel knowledge and combining things. The innovative ability can be managed and also measured.
In developing the innovative ability, it is important to know where we are coming from and where we are heading, what we are aiming at. This requires setting goals, measuring the operations, and information on the results.

Innovations should be managed, meaning bringing out comprehensive vision of how to promote creative thinking, innovativeness, and learning and how to apply them in order to develop work processes, services, and products in the organization. It is also necessary to be able to utilize and develop solutions through identifying existing irregularities or observed new opportunities. Innovation management includes creating and managing the resources, structures, and processes required in the birth of innovations, as well as building an innovation strategy and abundant communication.

The birth of innovations and innovative ability can be supported in various ways in organizations:

- Take/give time for the developed matter and brainstorm, collect ideas, get enthusiastic, experiment.
- Make use of various environments for activities, detach yourself from the hurry for a moment -- seek impulses in various situations.
- Venture out of your comfort zone and seek opportunities to develop the operations.
- Present your observations and ideas, discuss them with various people.
- Group together and get to know people, for dialogue is only born in trust, and dialogue enables the cross-pollination of ideas. Innovation has the opportunity to take place when the people, the time, and the environment are right for it. Face-to-face innovations are more subversive and further developed than those born in solitude.
- Create a concept, an aim state, and realize the designed concept by beginning the actual development work.
- Collect user experiences: the ideas, observations, experiences, and feedback from real users enable the fine-tuning of the service or product.
- Utilize the InnoFlower solution tool.

Management that promotes learning

Knowledge developing career path

The knowledge developing career path refers to a worker's journey in the organization (the life cycle of service) and a goal-oriented learning and growth process. This career path can be observed from the perspectives of the organization and the worker. For the organization, it signifies how well the worker's knowledge can be developed and utilized for achieving goals. For the worker, the career path signifies how his/her career enables learning and knowledge development.

Due to the abundance of the organization's development challenges, career can no longer be perceived like before. Instead of progressing upwards in the organization, the knowledge of the workers can be widened horizontally. This means developing into new tasks by advancing and broadening knowledge. The tasks should be modified into meaningful and suitable wholes that best utilize the individual's knowledge. The goals of both the organization and the individual should be coordinated and integrated to better utilize the organization's knowledge capital.

Career path model

The eOsmo project has sought new perspectives on career perception. The idea of the knowledge developing career path model can be crystallized in a communal knowledge development that connects the organization's goals and the individuals' needs, life situations, and knowledge as well as the collective learning process of the working community. This provides the opportunity to achieve the strategic goals through developing the knowledge of individual and organization. In other words, the organization's knowledge is managed systematically with methods of knowledge management.

Development on the career path does not have to be upward movement, but the broadening of job description and knowledge is another good way to progress in working life. In the knowledge developing career path model, knowledge management and leadership is closely connected with recruiting, introducing, knowledge developing work rotation, and with identifying, utilization, and sharing of silent knowledge, as well as shadowing. In addition, it observes the identifying and utilizing of the knowledge masters in a new way.

For knowledge development in accordance with the career path model, the knowledge of individual and organization must be made visible while identifying the knowledge strengths and the areas to develop. This can be done in several ways (e.g. development discussion, knowledge discussion, knowledge mapping, group knowledge discussion), and it enables the acquisition and development of the knowledge needed in the organization, which then reduces knowledge risks, enables the organization's learning, and encourages the worker towards autonomous activity. Moreover, the worker can more consciously utilize and share his/her knowledge and so participate in a goal-oriented communal learning process. For the worker, knowledge and its constant development improve the feeling of control over one's work and work well-being.

In the career path model, the prerequisite for development is the acknowledgement of the worker's motivational factors, learning styles, and worker type while developing knowledge. It is advanced and broadened in accordance with the goals of the organization and the worker. Knowledge masters may be identified at various phases of the career path and utilized, for example, in challenging situations, as agent of change, in recruiting, introduction, work rotation, peer development, implementing internal coaching and training, mentoring, and development work. Knowledge master refers to a worker who possesses silent knowledge strategically significant to the organization. Knowledge masters operate with a coaching hand and are motivated to develop, share, and utilize their knowledge. Organizations should be aware of their knowledge masters in order to utilize them.

Knowledge masters can be identified in the following ways:

- Knowledge mapping
- Development / knowledge discussion -- individual and group
- Every-day work practices -- colleague and superior
- Introduction, mentoring, bringing out one's own area of expertise
- Recruiting -- work history and knowledge
- The person's enthusiasm shows in the working community
- A worker seeking innovations and opportunities
- Outside work analyst/observer -- shadowing
- Experienced experts may declare themselves, the community may identify them

The career path should be observed with regard to the course of the individual's life. Different life situations affect one's development in his/her career in different ways. According to a study, the personnel only utilize the supporting tools of coping at work if the managers actively inform the community of them. The effects of the flexible work and career development arrangements have been positive. The employer must create a working environment that supports learning and sharing and utilizing one's knowledge and manage the learning, for instance, by creating collectively agreed practices. The role of managers is changing into that of knowledge leaders.

Knowledge mapping and the career planning taking place at development and knowledge discussions enable the flexible utilization of the needed knowledge in the right place at the right time. In addition to learning while working, growing on the career path also requires learning by traditional education and studying. The individual's knowledge can be developed by getting familiar with the literature and publications of the field. The applying of new information should, however, be contemplated together -- what does the new information mean for the operations of the organization? Thus, the organization must have a suitable, systematic way of sharing and applying new, acquired information, which enables communal learning. Out of the methods of knowledge development, the career path model has particularly emphasized recruiting, introduction, knowledge developing work rotation, shadowing, and identifying and utilizing silent knowledge, but many other methods may also be utilized.

Organization's learning

Learning enables the knowledge development of organization, group, and individual. Organization's learning refers to the increase in the organization's knowledge and understanding of the organization itself, its environment, and the relationship in between. An organization's learning is visible in its ability to observe its environment and to renew its operations accordingly. Rapid changes in the environment challenge the organization to learn quickly. Learning happens in dependence on the people in organizations.

Organization's learning is a process of turning the individual/personnel capital into the knowledge capital of the organization. Managing this process is central responsibility of the management. Organization's learning is about creating a collective vision and applying it into collective activities. Learning should be systematic and a integral part of the operations of the community or organization. Learning also concerns the organization's partnerships, and it is important to develop such interfaces that promote reciprocal and mutual learning among partners.

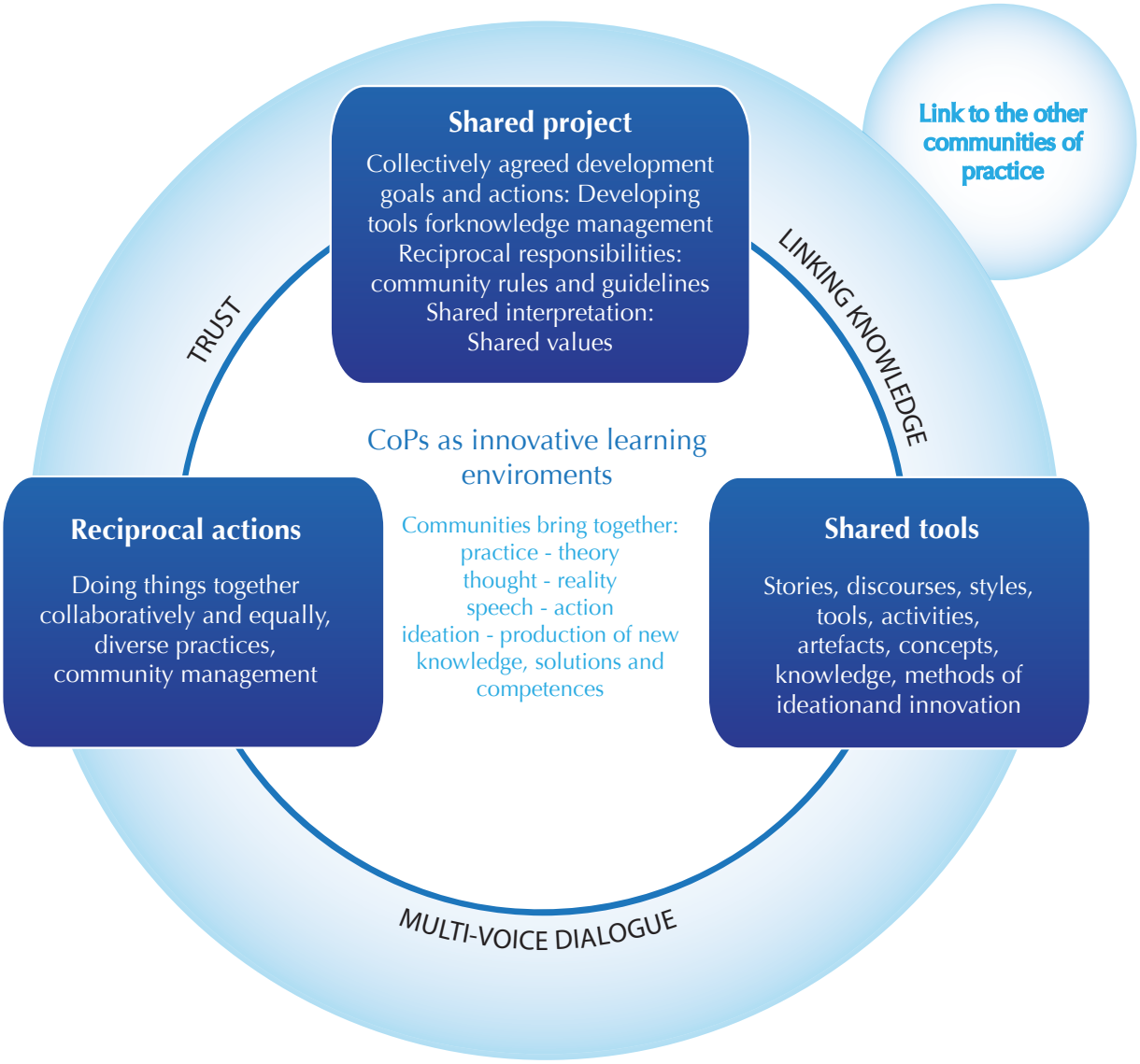
Renewing and profound learning only happens if the people in the organization are sensitive to observe the changes in their environment and skilled in assessing their own actions in the light of the changes. In addition, it is necessary to be able to learn and to alter one's actions quickly and efficiently. Individual learning will not turn into operations of the organization if the workers cannot collaborate or if they can or will not share their knowledge. In addition to the social processes of the organization, this requires the framework of the organization's structures, systems, and operations models supporting knowledge development and learning. The advancement of these enables the organization's level of knowledge and learning.

Organization's learning is a process that generates new information and knowledge for the organization. Learning is a permanent change in the operations or thinking of the organization or individual. The process of the organization's learning is guided by the organization's strategic goals and knowledge strategy. New knowledge enters the organization through the learning of individuals. In order to turn the new knowledge of the individuals into new kinds of collective activity and thinking, the individual knowledge must be shared and formed into a collective perception. This new perception of the new knowledge is applied in collective operations, which then provide experiential knowledge of the matter. Sharing these experiences produces new collective learning on the matter. The assessing of the learning results provides information on whether the collective operations have changed, and if it has, how it has changed, whether there have been encounters with obstacles in learning and what they were and how they were minimized, whether additional learning is needed and in what issues. The true learning result of the organization shows in the measuring of the actual operation.

Communities of Practice

The successfulness of organizations is dependent on their ability to construct an internal system of social learning. A community of practice consists of a group of people who want to share their knowledge, learn together, and create and develop new knowledge within the framework of common values. The community of practice is bound together by a common interest, set of problems, or a passionate dedication to a cause. The community advances and shares their knowledge and expertise by being in constant interaction with one another. High quality knowledge and new ideas are born and distributed precisely through such communities. The communities of practice within the organization may be official or unofficial. They may also operate across organizational boundaries, as networks, or completely virtually.

Figure 3. Innovative communities of practice in the eOSMO project. (adapted from Wenger 1998; Hakkarainen, Paavola & Lipponen 2003)



The traditional community of practice thinking has been criticized for not acknowledging enough the innovation perspective. When the generation of new information is more strongly integrated into the perspective of communities of practice, we may speak of innovative information communities or innovative knowledge communities. The operations of such communities aim to the generation of new knowledge and supporting practices. They actively and deliberately implement changes that support the generation of new knowledge and constantly seek inspirations and inputs outside the community (new perspectives, methods, ideas). Through fringe and other weak connections, the community receives new information and experiences that form the basis of creating new practices of thinking and operating. In renewing the operations, the communities create new operations and knowledge for the organization and the environment, thus acting as reformers of the organization.

In communities of practice, knowledge can be said to be formed through three elements:

- The members of the community have a collective understanding of the goal of the community and they share this goal
- The members interact with one another and create a set of norms for this interaction, which must be based on trust. In the interaction, emphasis is on equality and multi-voiced dialogue.
- They form a variety of common resources including language, artefacts, tools (e.g. innovation methods), stories, styles, knowledge, etc.

Communities of practice are a functional way of developing and reforming knowledge and operations, and to implement cooperation with other organizations. The management should identify the potential communities of practice, enable their forming, provide them with the operational infrastructure, and to assess with a new method their benefits to the organization. Community of practice working is a perfect example of learning while working. Nevertheless, the communities operating within an organization also need the support of the management.

Knowledge leadership

Leadership that promotes the organization's learning refers to the type of learning in which the manager clarifies with his/her workers the direction of knowledge development, creates atmosphere that promotes learning in the working community, and supports learning processes on individual and group levels. He/she does this particularly by creating reflexive discussion and systems and models that support constant learning together with his/her workers. In addition, he/she inspires with his/her own example the workers to continuous and spontaneous development. (Viitala 2006)

As this definition of leadership promoting the organization's learning illustrates, leadership of learning is an important task of the management. The role of knowledge leader brings new challenges and skill requirements for managers. Each work and working place requires different knowledge and learning. The ability to guide and lead the learning process and the forming of collective thinking is an increasingly important managerial skill. Managers must be able to identify and figure out future knowledge needs and to develop and acquire the needed knowledge. Additionally, he/she must enable the learning of new of groups and individuals, which is particularly emphasized in the changing or remodelling of operations. The learning of new things and unlearning of the old must be allocated resources (time) and attention and given feedback. In addition, it is important to create systems and mechanisms supporting learning in order to enable learning. Atmosphere of confidentiality and support by the manager support learning. Work related learning also requires guiding, support, and encouragement. The enthusiasm for learning and development is increased when the interaction is based on confidential relationships.

The managers must be familiar with the methods with which people create knowledge and learn together so that the methods may be used automatically according to the situation. In order to lead learning, it is necessary to be aware of how each worker learns best. The worker should also be aware of whether he/she is an auditory, kinaesthetic, or visual learner. Some learn most efficiently through sight, some through hearing, and others kinaesthetically or through kinaesthetic sense and sense of touch. This information is particularly needed while compiling the knowledge development scheme for individual/group. Knowledge development methods should be planned so that they enable and support the learning of very diverse learners. The awareness of the workers' learning method helps the manager and the members of the working community to understand how each member conceives the world and learns most efficiently.

The tasks of a knowledge leader also include taking care that the structures and culture of the organization and working community enable learning and the applying of what is learned to the work itself. Learning at work, like the forming of new knowledge, occurs in social interaction. This must be enabled by the working community. Situations of social interaction can be incorporated in the existing structures such as the meeting practices, or new practices may be deployed such as community of practice working, "brainstorm quarters", or tools of social media. Momentarily, this type of learning takes some time, but it can facilitate the utilizing of the whole community's knowledge potential and development opportunities as well as increase the organization's collective knowledge.

The nature of the work and how it is organized significantly affect the opportunities of learning at work. There are numerous opportunities for learning. The key issue is the nature of learning. For example, a nurse's great desire to learn arose from the need to manage and cope with hard work. Through constant studying and learning, the nurse managed to get some distance from the work and new conceptual tools better to control the work.

The working community has an important task in promoting learning: it must confirm and support the implementation of what is learned so that the learning shows in the operations. The knowledge leader should also ensure that the worker's experiences of knowledge development are positive and that

the development procedures have been equally allocated.

Tasks of a knowledge leader:

- Maintain and develop the mutual dialogue culture
- Create enthusiasm and inspiring atmosphere of learning and doing
- In the development schemes, take into account versatile learners and the proceeding of the learning process
- Ensure that the unit has the prerequisites for learning, such as the structures and tools
- Utilize the opportunities of ICT: eLearning, social media, etc.
- Pursue to develop the operations of your unit/organization towards the condition of a learning organization.
- Enable the creation and sharing of new knowledge
- Skilfully utilize the tools of knowledge management
- Apply the methods of coaching managerial work in order to enable learning
- Remember your own learning, development, and support

Development and knowledge discussions

Development discussions have established themselves as management practices. The aim of development discussions is to form a mutual understanding of the meaning, goals, and areas of development of the operations of both the individual and the unit and of the worker's own role and knowledge as a part of unit's goal-oriented operations. In addition, the aim is to plan and agree on the individual's knowledge development and its assessment, i.e., to formulate a knowledge development scheme for the individual. Including the knowledge perspective in development discussions helps the worker and the manager to find a mutual perception on the person's current knowledge and its level and on the opportunities for utilizing the knowledge in accordance with the goals of the unit/field.

Implementing knowledge discussions as part of the development discussions adds depth to the discussion, creates consistency, and guides knowledge development towards the strategic goals. The aim of the discussions is to plan and agree on the knowledge development of the individual/ community and its assessment, i.e., to formulate a knowledge development scheme for the individual/ community.

Knowledge discussions for individuals can be implemented during the development discussions and the group knowledge discussions after knowledge mapping. Knowledge mapping may also be implemented through group knowledge discussions if an electronic questionnaire is not an option.

Group knowledge discussion is a discussion in which the focus is on the community's knowledge. It is implemented by the manager as soon as possible after the results of the knowledge questionnaire are ready. The aim is: to go through the result on the working community's level, to operationalize the strategy by going through the units' goals, to sketch the future vision, knowledge, and knowledge development methods of the community, and to assess their impact.

It is important to create the preconditions for open and relaxed conversation, to proceed stage by stage, and to write down things in a notepad/memo or in the community's knowledge development scheme. The individual results are discussed during the individual development discussion with the help of the development discussion form. The manager writes a summary of the results of the group development discussion and records it in an agreed place (e.g. knowledge management/ community's development scheme). It advisable to have someone act as a secretary and record the information straight into an electric form for the manager's further procedures.

Anticipating the future and knowledge needs

Anticipating the strategy-based, current, and long-term knowledge needs;
The development of the field and environment in the long run;
The customers' expectations and needs

One of the key aims of knowledge management is to define the future knowledge needs in order for the organization to prosper. The defining of future knowledge needs is supported by the strategy, the anticipatory information of the changes in the operational field and environment, and the expectations and needs of customers.

The guidelines of knowledge management include the organization's vision, its target state in the future, and the strategy. The vision and the strategy are aimed at the future, so future knowledge needs can be defined based on them. In practice this means answering the question: "what knowledge does our strategy require".

The additional necessary information includes vision on the future short-term and long-term development of the operational field and environment and feedback on the customers' expectations and needs. The development of the operational environment is linked with such matters as the changes in legislation that present new challenges for the knowledge of the personnel.

Customer feedback tells of the quality of the current operations and of the knowledge level of the personnel. In addition, the results of the demand and customer analysis provide information on the types of services the customers wish to receive in the future.

The knowledge of the organization is mainly increased in solving the problems and fulfilling the needs that are set by the customers and tackled by the organization. Therefore, it is important to be able to anticipate the needs and wishes of the customers as well as the relevant knowledge. This premise helps to define the needed future knowledge in order for the organization to prosper.

Anticipation should be carried out constantly. If the anticipation informs of new challenges, this should also show in the organization's knowledge aims. Thus, knowledge management is dynamic and reactive. If the organization's operational environment is anticipated to face changes, then the organization's knowledge aims should also be altered. Thus, anticipating the future ensures that knowledge is in accordance with the future needs.

In short:

- Name the owner(s) of the anticipation process
- Find out the sources of qualitative and quantitative anticipatory information related to your operational field.
- Anticipate the future constantly through the vision, the strategy, your operational environment, and the needs of the customers.
- Check and, if necessary, change your organization's knowledge aims.

Innoflower

www.eosmo.fi/tyokirja/innokukka

Inno Knowledge Flower

– *a new solution tool for development*

The purpose of the Inno Knowledge Flower is to produce new perspectives and ideas for development and to incorporate knowledge management into all phases of the development process. The Inno Knowledge Flower connects the process of creative problem-solving with the questions of knowledge management. The Flower supports innovativeness and utilization of knowledge.

Start at phase 1. Proceed step by step by clicking the petals, which open up instructions to support your work. Write down all your answers.

1:
Define a matter in need of development – anticipate future challenges. Which matters do you want to develop, which issues do you want to resolve – what challenges will the future bring? How do you formulate the development challenge into a sentence so that all parties understand it? Write it down.

1A:
Analyze the matter to be developed: does it contribute to the achieving of the strategic goals of the organization, and/or is it in line with the work community's foci for development? If the answer is yes, proceed to phase 2. If the answer is no, define the development challenge anew.

2:
Brainstorm on and describe ideal solution alternatives as if you had unlimited resources. Abandon the limits of thinking. Think up various methods of solution to the development challenge in a situation when everything is possible – imagine miracles as possibilities.

Describe the solution alternatives – what qualities, features, and actions do the alternatives include when there are no limits? Write down all the solution alternatives to be visible for all participants.

Do not fear failure! In your work, utilize simple methods of throwing ideas, such as brainstorming etc.

2A:
Think: what knowledge and resources are needed to realize the ideal solution alternatives?

3:
Focus the vision – describe and distil the pursued goal. On the basis of the ideal solution alternatives, specify the original development challenge and present it as a goal sentence. You may further define the goal with qualities that came up at the previous phase.

3A:
Discuss: what should be learned and what kind of support do you need to achieve and realize the vision? Do you have the knowledge and resources as well as supportive leadership and operational cultures the vision requires? Are the search of possibilities and creation of new solutions encouraged?

4:
Using one or another brainstorming method, think up various alternatives for achieving and realizing the vision. Choose a method according to the time you have to spare. For a short brainstorming, you may use the following methods: 6-3-5, idea walk / open space, six hats of thinking. If you have more time, you may try such methods as the aquarium, distant thought models, three characters / helicopter method. Develop solutions in cooperation with the others and share your expertise. The greatest potential for innovation lies at the borders of different fields of knowledge.

Examples: see Brainstorming Methods

4A:
Assess the impact, the related knowledge, and the realization potential of the outcome alternatives for achieving the vision. Go over the alternatives. Are they effective, that is, do they help achieve the pursued impact? What knowledge does their realization require, and are they realizable and how?

The impact of the alternatives can be assessed by their usefulness, the benefits for customer, economy, efficiency, usability, repeatability. NB: The criteria for the impact assessment must be laid out case- specifically.

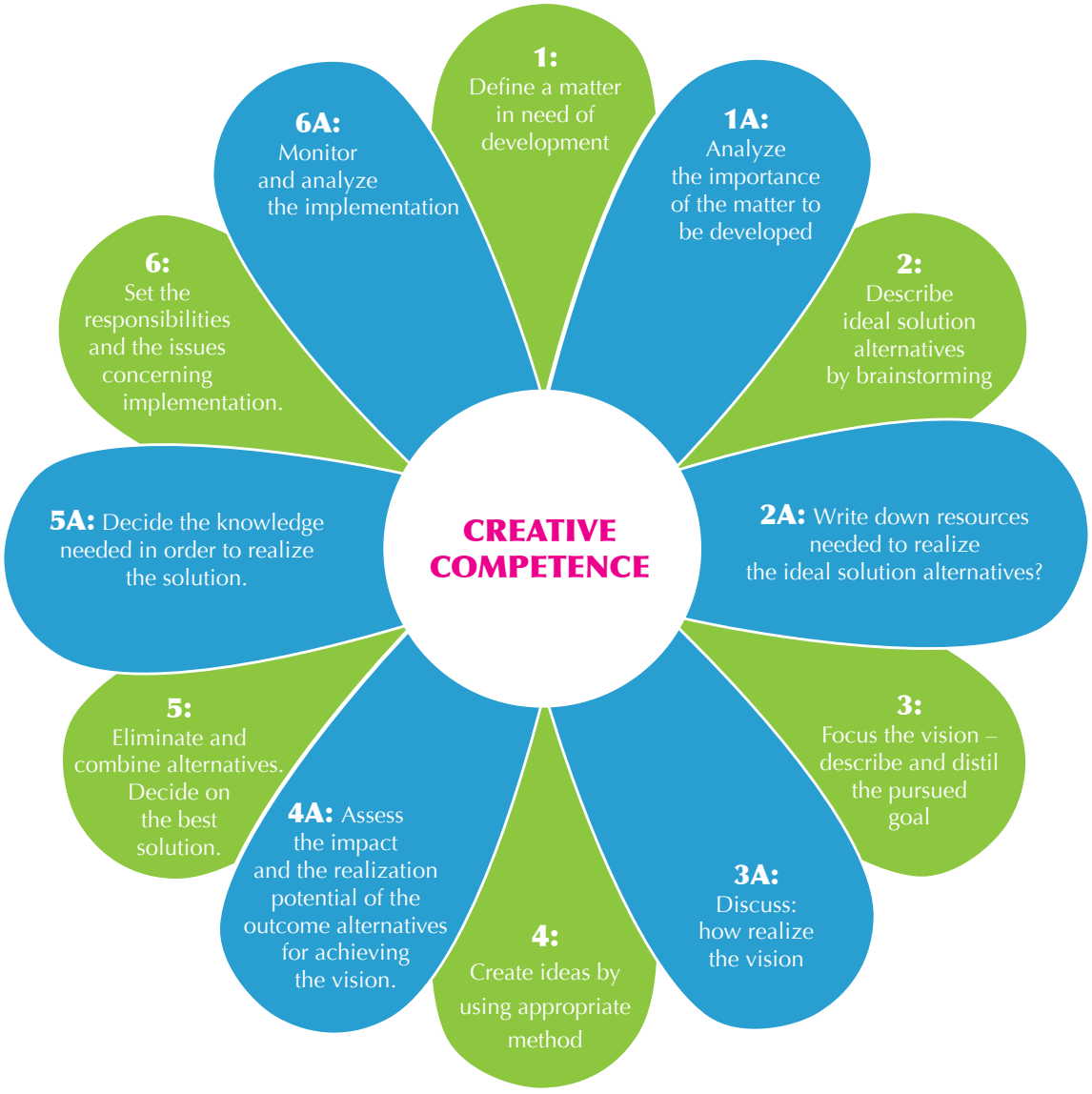
5:
Eliminate and combine alternatives. In this phase, you may still create a new solution by combining previous alternatives. Decide on the best solution for achieving the vision. In making the decision, you may utilize the contemplation and the requirements for alternatives from the previous phase.

5A:
What knowledge do we need in order to realize the solution? How can the knowledge be secured? Does your organization possess the knowledge required by the solution? If not, how to obtain it? Which experts are in a key role?

See the Manual for examples of methods for gaining and developing knowledge and knowhow.

6:
Take matters to a practical level – set the responsibilities and the issues concerning implementation. Formulate a description of operations which addresses, among other things, schedule, resources, realizers, partners in cooperation, user testing, and the method of assessment and its indicators. Realize the planned solution. In this phase, it is worthwhile to think how the realization is supported and inspired.

6A:
Monitor and analyze the implementation, gather feedback, and assess the impact with the help of the compiled indicators. Developfurther. In addition, observe convenient practices and reward the successful development work.



Brainstorming Methods to use with Innoflower

When choosing the brainstorming method, it is advisable to take into account:

- The size of the group of participants
- The amount of time to spend
- The space in which the brainstorming takes place
- You may produce your own application of any of the methods
- Whatever your method, the outcome ideas will go through elimination and selection, and the best ideas will proceed either to further development or straight to the phase of describing and realization of actions.

Brainstorming / think tank

Time and participants: 5 – 15 minutes, 1 – 15 persons

Tools: Pens and paper

Instructions: The participants are introduced into the target issue of development. In case of several participants, a clerk is chosen. The participants (incl. the clerk) share all their ideas with each other. All ideas are written down without elimination, since the principle is to produce quality with quantity. After this, the ideas are discussed, combined, and eliminated in the group.

Open space / idea walk

Time and participants: 30 – 60 minutes, for brainstorming with big groups (e.g. work community theme days)

Tools: a large space, flip paper, tape, pens

Instructions: The participants are introduced into the target issue of development. The participants stroll around the space (realizable outdoors too) with flip paper attached to the walls. The participants write down their ideas on the flip papers.
The moving around facilitates the producing of ideas, and the ideas written down by others spark new ideas and chains of ideas. With consideration, the papers may be titled with a theme/question to guide the brainstorming. After the walk, the ideas of each paper are discussed, and they may be combined and eliminated for the next phase. If possible, a clerk and inspirer may be assigned for each flip paper, him/herself also participating in the brainstorming.
Brainstorming Methods

6-3-5

Time and participants: 5 – 20 minutes, more if necessary. Suitable both for small and large group working.

Tools: Pens, A4 size paper, a watch.

Instructions: The name of this method comes from six persons, each writing down three ideas in five minutes, producing 108 raw ideas. The persons are given a development task, after which each writes down three ideas on his/her paper.
The papers should be exchanged preferably between each participant, but at least thrice. After exchanging, the participants read each other's ideas and continue the brainstorming drawing on or further developing the others' ideas. Finally, the ideas are presented and brought to a quick preliminary elimination.
The surviving ideas proceed to the elimination phase.

Helicopter

Time and participants: 5 – 10 minutes + 10 minutes for discussion. Suitable for quick brainstorming and presenting various perspectives.

Tools: Paper, pens.

Instructions: The participants are given different roles to adopt for a while and think what is important for and typical of (etc.) their characters. After this, the participants think up solutions for the development challenge from the perspectives of their characters. The outcome ideas are written down and discussed. Finally, a quick preliminary elimination is carried out, and the surviving ideas proceed to the elimination phase.

Coincidental input

Time and participants: 20 – 30 minutes,
for individual and small group brainstorming.

Tools: Pen(s), paper.

Instructions: Write down the target of development. Next to it, write or draw the first word, image, or object that comes to mind. Develop new ideas and solution alternatives with the help of the qualities, functions, etc. of the coincidental word/image/object. Write down the ideas. The method is particularly useful when the innovation of ideas is jammed, and when you need quick innovation and ideas. Finally, the ideas are presented and brought to a quick preliminary elimination. The surviving ideas proceed to the elimination phase. Brainstorming Methods

Metaplan

Time and participants: 30 – 60 minutes,
for a fairly large group.

Tools: Sticker notes, pens, some wall surface.

Instructions: The group is given a development task. Each participant writes down ideas on sticker notes, which are placed on a surface (such as wall). The notes are then sorted out and classified. The ideas on the notes are further developed and combined, after which the combined ideas proceed to the elimination phase.

Distant thought models

Time and participants: 15 – 30 minutes, for quick brainstorming, when ideas are sought through very distinct qualities.

Tools: Paper, pens.

Instructions: Write down on one side of a sheet any word and next to it 5–10 different qualities related to it. The aim is to find new ideas through the qualities of the chosen word/thing/object, and thus create specifying idea input for the target of development. (E.g., Target: comfortable work space; Word: car; Related qualities: mobile, metallic, cushioned, airbag, music – these could produce ideas like easily movable furniture, space with small speakers located about for listening to music, cushioned armchair, etc.)

Sharing cafe / collaborative learning

Time and participants: 45 – 60 minutes,
for a large discussing group.

Tools: Paper, pens, a fairly large space.

Instructions: This method is particularly well suited for development related to the working community, as everyone can and should present their own raw ideas in a group and then together discuss a common topic. The brainstorming takes place in like-sized table groups, in which everyone writes down their ideas on their own papers. The group splits, and new groups are formed so that each member of a previous group is in a different new group, presenting the previous group's ideas to the new group. The ideas are then further developed and written down. The ideas proceed to the elimination phase. Brainstorming Methods

Brainstorming locomotive

For customer-oriented brainstorming.
Can be implemented together with customers.

Time and participants: 30 – 60 minutes
and particularly when there are customers joining in.

The product/service idea an outline presented by the customers, and it indicates the target group and the qualities and ways of using of the new product/service needed by the customer.

It is okay and advisable to intentionally exaggerate the idea in order to make the desired qualities clearly visible.

Tools: Paper, pens.

Instructions: In a few words or phrases, present and write down three or four needs/goals for brainstorming. Continue brainstorming choosing a desired quick method. The produced ideas are already fairly refined and proceed to the elimination phase.

Customer panel as the driver

Time and participants: 60 minutes.
This method is well suited for customer-oriented development involving all parties. It also enables the setting of certain preconditions and to an extent limits the brainstorming. It is not the most innovative of methods, but it is the most dialogic and highly motivating.

Tools: A large paper / Excel worksheet, paper, pens, customers, and a fairly large space.

Instructions: A group consisting of customers presents their views and wishes for the product/service. The criteria are written down onto the chart/worksheet. The providers of the product/service may then add their criteria. After this, the brainstorming is done together so that the providers think up ideas and solutions which the customer panel (the customer drivers) then refines. Write down all ideas refined by the panel's comments. After the brainstorming, the set criteria are used to eliminate and combine the ideas, and the best solution alternative is used as the basis for a scenario compiled together with the panel of customers.

Double team

Time and participants: 1 – 2 hours.
This method is well suited for communal development.

Tools: Pens, paper. Brainstorming Methods

Instructions:

- Defining: What is the issue or problem at hand?
- Contemplation: Everyone writes down alone 5–10 thoughts or ideas.
- Work in pairs: Within the pairs, the ideas and thoughts are exchanged, and the best three are chosen.
- Presentation: The pairs place their suggestions on a wall and briefly present them to the others. No critique at this stage.
- Pair discussion: The pairs discuss the presented suggestions and choose the best three. The pairs mark their choices (e.g. with a pen).
- Counting of votes: The suggestions with the most votes continue, and the rest are removed.
- Collective discussion: In the group, the remaining sheets are thematically classified. The suggestions are discussed if necessary and voted for if they still need further elimination.
- The chosen ideas proceed to the elimination phase.

Six hats of thinking

Time and participants: 30 – 45 minutes.

Tools: A large space, paper on the walls and for the participants, pens, tape.

Instructions: The participants roam the space and write down their thought on the papers on the walls (etc.). You can write down at the top of the papers the perspective/viewpoint from which to consider the issue under development. Another way (without flip paper) is to distribute the perspectives/colours and continue with the brainstorming so that the roamers do the brainstorming and the clerk writes down everybody's ideas.

- White – Information: What information is needed for the solution?
- Red – Emotions: What emotions does the issue raise?
- Black – Risks, suitability: What must be taken into account within the solution?
- Yellow – Benefits: What is the usability of the solution, what additional value does it bring?
- Green – Innovation: What ideas are sparked within you?
- Blue – Thoughts of the whole, of the process of the problem solving.

The things written down are discussed, and some are chosen for further development.

The future workshop

Time and participants: 2 – 4 hours.
Well suited for workshop working.

Tools: Paper, pens. Brainstorming Methods

Instructions: The aim of this method is to sketch and conceive together the future and set desired guidelines. Simultaneously, it encourages collaboration and goal-oriented development. The implementation follows four phases which utilize the participants' knowledge and creativity. Finally, the results are compiled into a common plan.

The stages:

- Preparation: The presentation of and commitment to the work.
- Deep analysis of the community: the defining of goals, the search for common dreams.
- Imagination phase: Seeking new and innovative solutions for problematic issues.
- Realization phase: The work is distilled into a concrete plan.

Learning café / collaborative learning

Time and participants: 45 – 60 minutes, for large group of participants.

Tools: Large papers on the tables, pens, possibility to move from table to table.

Instructions: A good method for various participants to bring up their ideas and freely write them down while moving from table to table. The movements may be done either freely or together on a signal. Finally, the ideas are compiled, and the best are chosen for further development. You may use background music!

Aquarium

Time and participants: 15 – 20 minutes, for large group brainstorming.

Tools: Note-taking equipment.

Instructions: The participants are divided into two groups. One group discusses the challenge to be solved. The other group does not participate in the discussion but takes notes on the ideas brought up in the aquarium discussion as well as their own ideas sparked by what they hear. Finally, the ideas arisen from the discussion are presented, and their further development is implemented as mutually agreed. This method may also be implemented as a two sided aquarium

Dynamic puzzle

Dynamic puzzle

Welcome to try the dynamic puzzle of knowledge management. With this puzzle you can outline the big picture of knowledge management for your organization. The aim of the puzzle is to support the common dialogue on knowledge management and to increase common understanding of its significance in your organization. The puzzle works as a supportive tool for boards, managers, HR-experts, and the whole work community in conceiving and developing knowledge management. You can play the game alone or in a group (e.g. with the board/ managers of your organization). This way the game stimulates dialogue and enables reflection.

The puzzle is dynamic, so you can place the pieces as you like. At each stage of the game, you also have auxiliary pieces, with which you may determine the relationships between pieces, describe roles and responsibilities, and portray the operations on various levels of your organization. You do not have to use every piece available; you can choose to use only the pieces you need. Thus, in knowledge management, you may take into account your organization's strategic goals and system of management.

The dynamic puzzle consists of six stages. Each stage has its own pieces, which you may place as you like. The stages of the game are:

1/6 Defining strategic knowledge – knowledge aims

2/6 Knowledge assessment and mapping

3/6 Knowledge development schemes

4/6 Acquiring and developing knowledge

5/6 Assessing impact

6/6 The "cornerstones" of knowledge management

While playing, always answer the question – what pieces of the puzzle are needed in our organization in order for knowledge management to support the goal-oriented operations of our organization?

1/6 Defining strategic knowledge - knowledge aims

Help: What matters are linked with the defining of your organization's strategic knowledge?

Move the relevant pieces onto the working area and sketch their connections and related matters. With the auxiliary pieces, you may define the relations between pieces, describe roles and responsibilities, and to
illustrate operations on various levels of the organization. You do not have to use all pieces of the puzzle, but you can choose the relevant ones. You may also proceed to the next stage if you find this stage unimportant from the perspective of your organization's knowledge management.

Main pieces:

- Knowledge aims - defining strategic knowledge
- Formulating and revising of the organization's common knowledge chart (or another tool for defining knowledge)
- Identifying core knowledges
- Formulating and revising of the units' knowledge charts (or another tool for defining knowledge)
- Defining the worker's knowledge requirements

Main pieces on page 47

Auxiliary pieces (at all stages of the puzzle):

- [Arrows up, down, left, right]
- Level of individual
- Level of group/unit
- Level of organization
- Worker
- Close superior
- Management
- Management group
- HR manager
- Council
- Board
- Committee
- Figure
- Process description and flow chart
- Instructions
- Information system
- Personnel strategy and plan
- Plan of finances/operations
- Strategy
- Work wellbeing
- Customer feedback/perception
- Rewarding and encouragement
- Other, what?

Auxiliary pieces on page 46

2/6 Knowledge assessment and mapping

Help: How do you figure out whether there is strategic knowledge in your organization? How and on what levels is the knowledge in your organization mapped and assessed?

Move the relevant pieces onto the working area and sketch their connections and related matters. With the auxiliary pieces, you may define the relations between pieces, describe roles and responsibilities, and to illustrate operations on various levels of the organization. You do not have to use all pieces of the puzzle, but you can choose the relevant ones. You may also proceed to the next stage if you find this stage unimportant from the perspective of your organization's knowledge management.

Main pieces:

- Knowledge assessment - mapping of current state
- Minding the changes in the personnel
- Summarizing/Analysing
- Compiling/recording information
- Knowledge/Development discussions
- Knowledge/Development discussions
- Group knowledge/development discussion
- Knowledge mapping

Main pieces on page 48

3/6 Knowledge development schemes

Help: How will you utilize the results of knowledge mapping? How and on what level are the knowledge development schemes formulated in your organization?

Move the relevant pieces onto the working area and sketch their connections and related matters. With the auxiliary pieces, you may define the relations between pieces, describe roles and responsibilities, and to illustrate operations on various levels of the organization. You do not have to use all pieces of the puzzle, but you can choose the relevant ones. You may also proceed to the next stage if you find this stage unimportant from the perspective of your organization's knowledge management.

Main pieces:

- Knowledge development schemes
- Results of knowledge mapping
- Formulating of the development schemes on individual/units' level
- Formulating of the development schemes on individual level
- Enabling of knowledge developing career path
- Formulating of the development and personnel scheme on organization's level
- Minding the personnel plan, compensating for knowledge loss
- Training plans

Main pieces on page 49

4/6 Knowledge acquisition and development

Help: What matters are linked with knowledge acquisition and development in your organization? What methods of knowledge development do you utilize?

Move the relevant pieces onto the working area and sketch their connections and related matters. With the auxiliary pieces, you may define the relations between pieces, describe roles and responsibilities, and to illustrate operations on various levels of the organization. You do not have to use all pieces of the puzzle, but you can choose the relevant ones. You may also proceed to the next stage if you find this stage unimportant from the perspective of your organization's knowledge management.

Main pieces:

- Knowledge acquisition and development
- Implementing of the development schemes
- Connection with personnel planning
- Transferring of knowledge
- Sharing of knowledge
- Learning while working
- Introduction/Orientation
- Utilization of knowledge
- Trainings - internal and external
- Recruiting
- Work rotation
- Independent studying
- Shadowing

Main pieces on pages 50-51

5/6 Measuring impact

Help: How do you measure the impact of knowledge management?

Move the relevant pieces onto the working area and sketch their connections and related matters. With the auxiliary pieces, you may define the relations between pieces, describe roles and responsibilities, and to illustrate operations on various levels of the organization. You do not have to use all pieces of the puzzle, but you can choose the relevant ones. You may also proceed to the next stage if you find this stage unimportant from the perspective of your organization's knowledge management.

Main pieces:

- Assessing the impact of knowledge management and leadership
- Indicators used in the assessment of impact
- Link with strategic indicators
- Monitoring and assessment of knowledge development

Main pieces on page 52

6/6 The connections between the whole of knowledge management and its components

Help: So far, you have sketched the phases and contents of your organization's knowledge management. On this page you see a few cornerstones of knowledge management. Move the pieces onto the working area and sketch their relationships – how do they influence each other and the

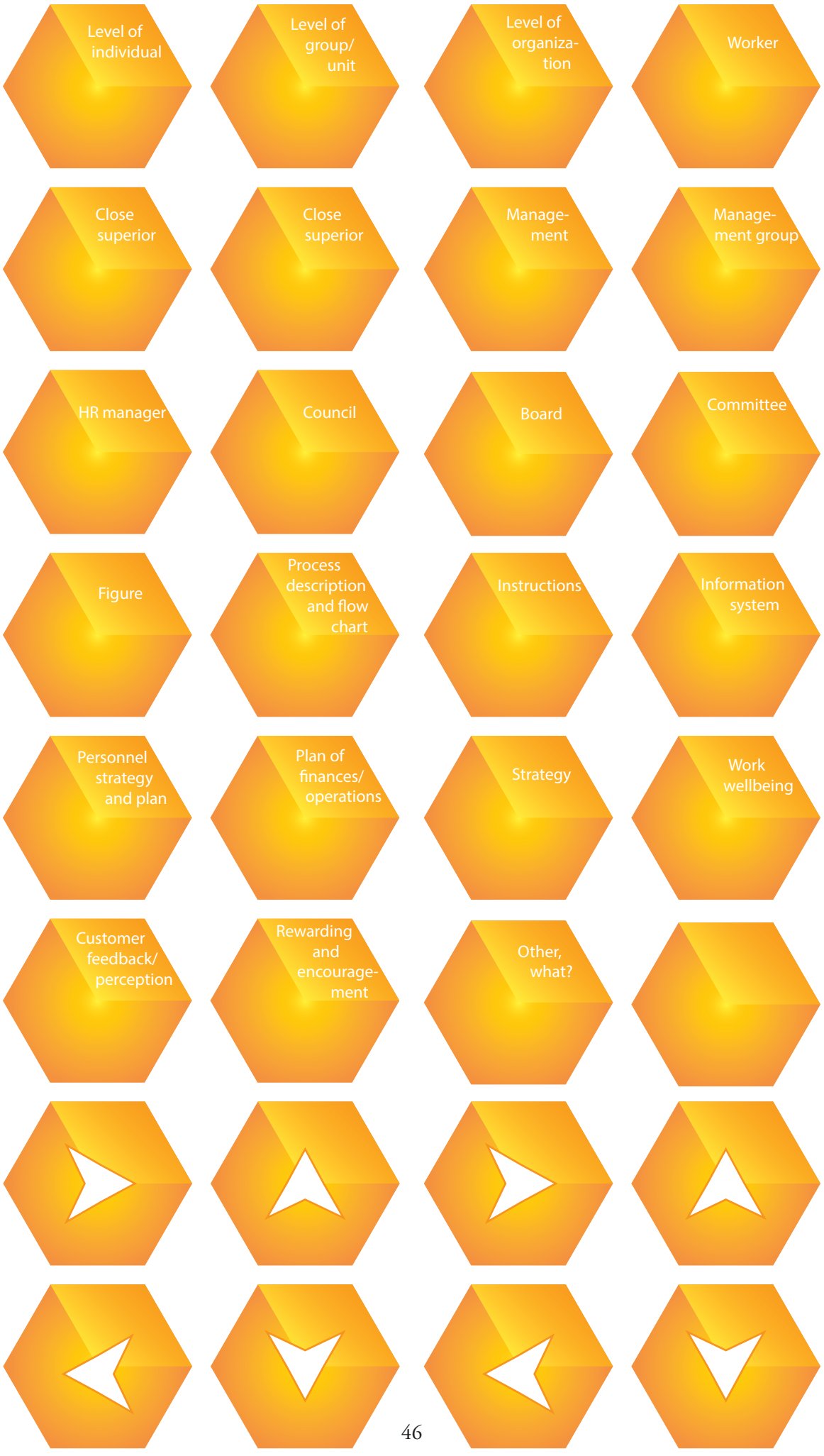
previous stages of the puzzle and what is their significance in your organization (e.g. how do you implement management that promotes learning)? The result of this contemplation may be recorded in the operations model and guidelines of your organization's knowledge management.

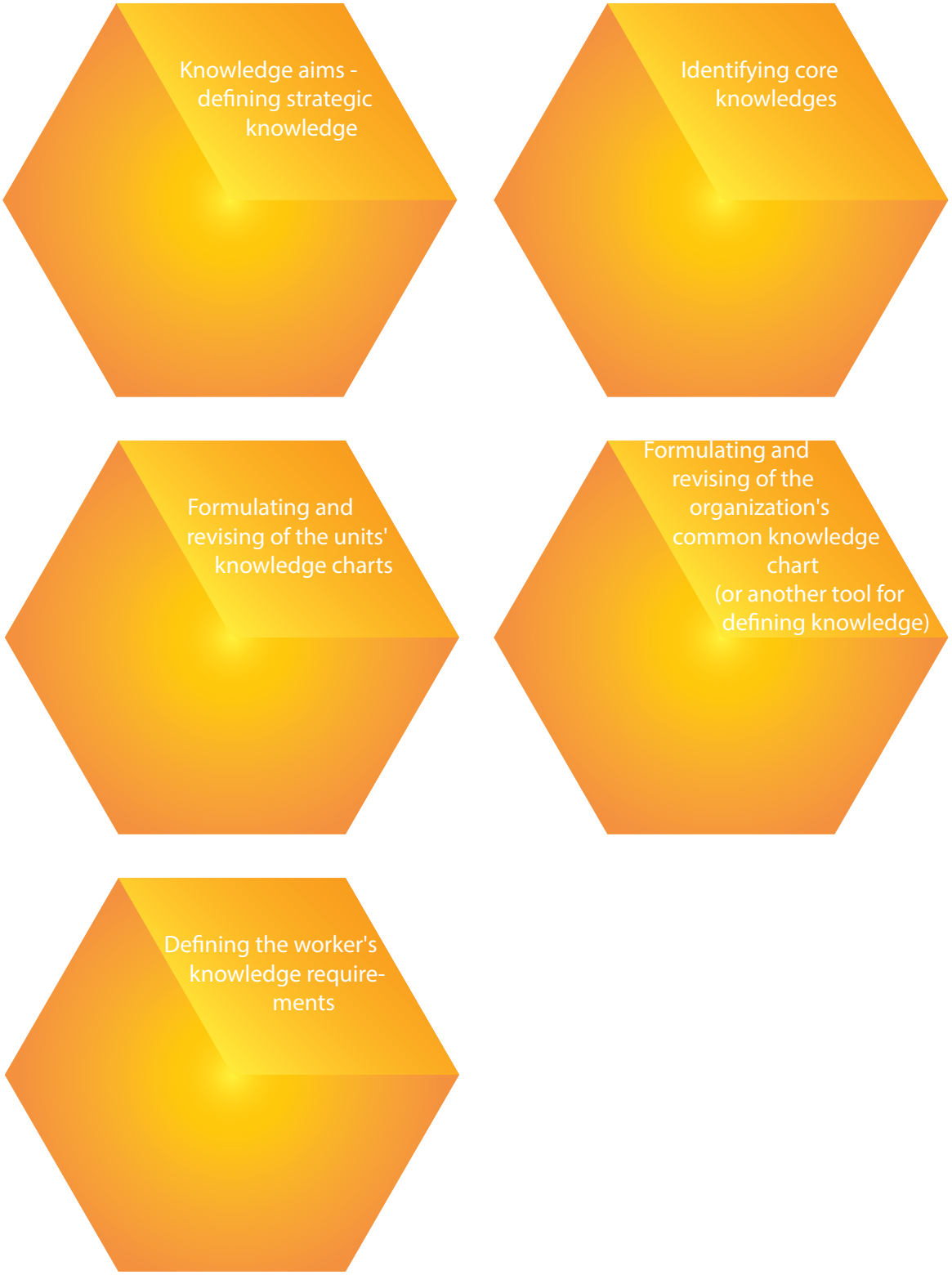
Main pieces:

- Describing the whole of knowledge management and leadership
- Culture that promotes renewing and learning
- Management that promotes learning
- Year clock of knowledge management, operations, and finances
- Knowledge strategy - guidelines for knowledge management and leadership
- Infrastructure that supports knowledge management and leadership
- Connection of knowledge management with management of operations and finances
- Anticipating of knowledge needs
- Objectives for knowledge management
- Anticipating of knowledge risks

Main pieces on pages 53-54

Auxiliary pieces
(at all stages of the puzzle):




Knowledge aims - defining strategic knowledge
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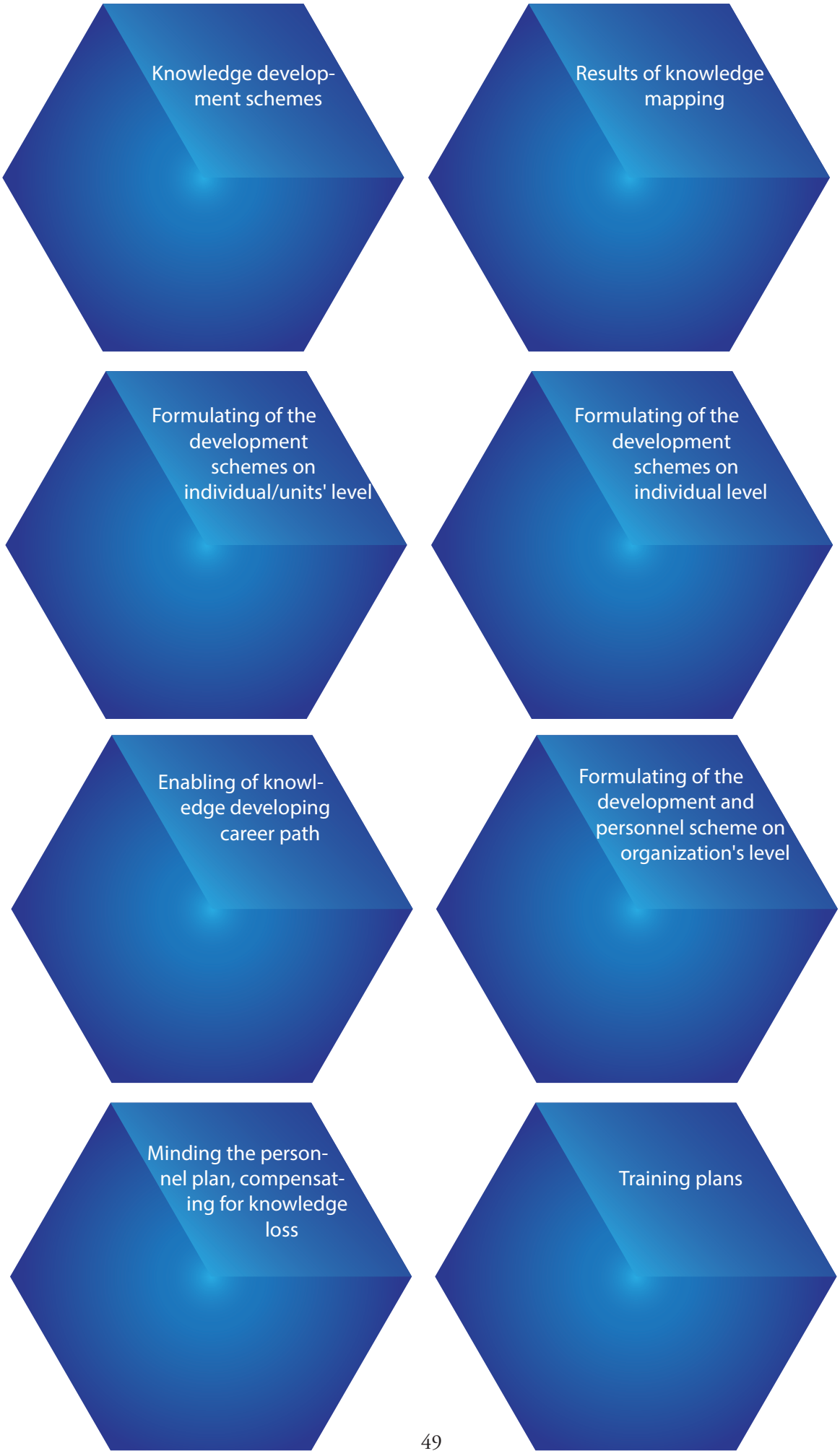
Knowledge/Development discussions
Knowledge/Development discussions
Group knowledge/ development discussion
Knowledge mapping


Knowledge develop-
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Results of knowledge
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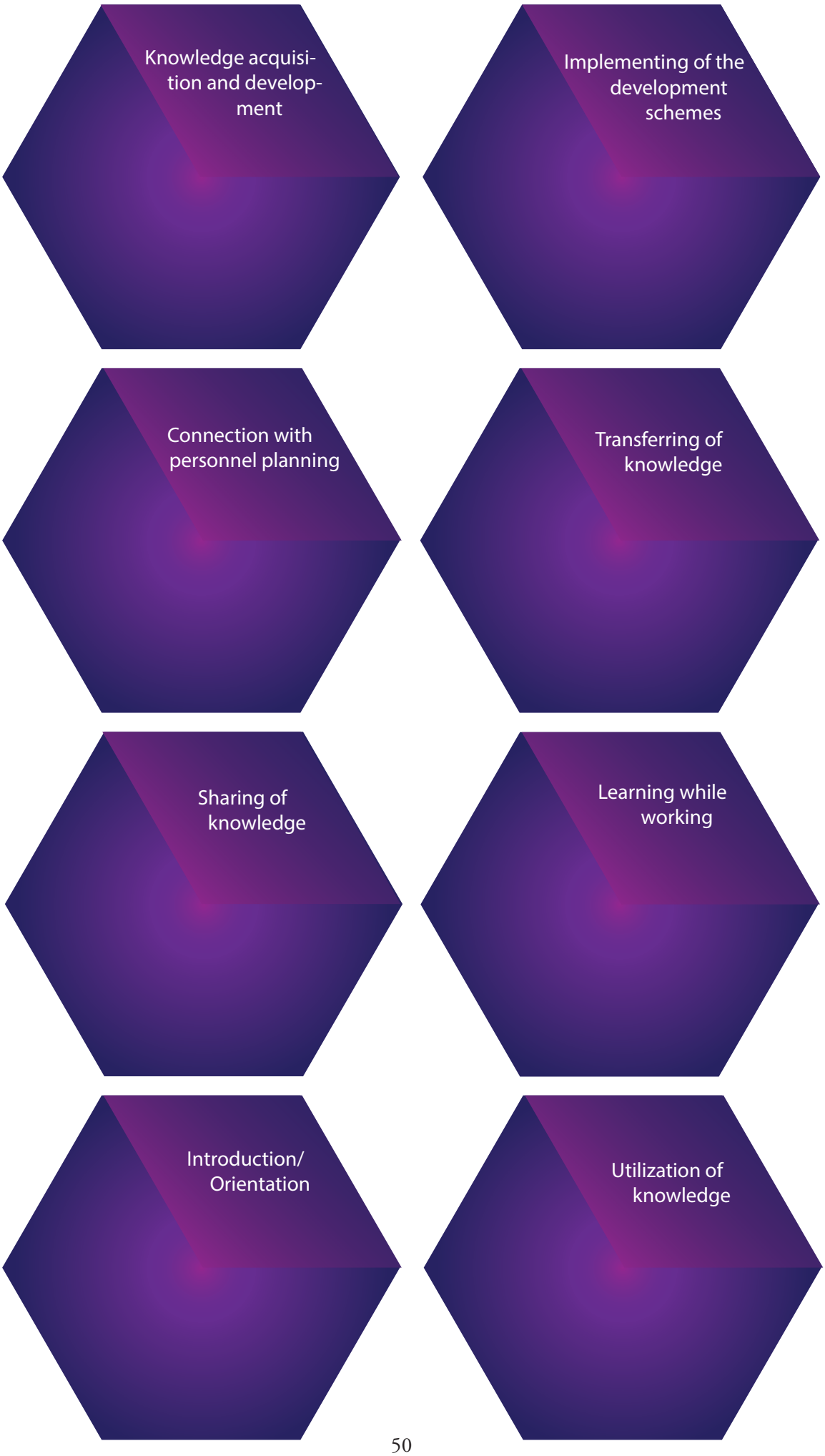
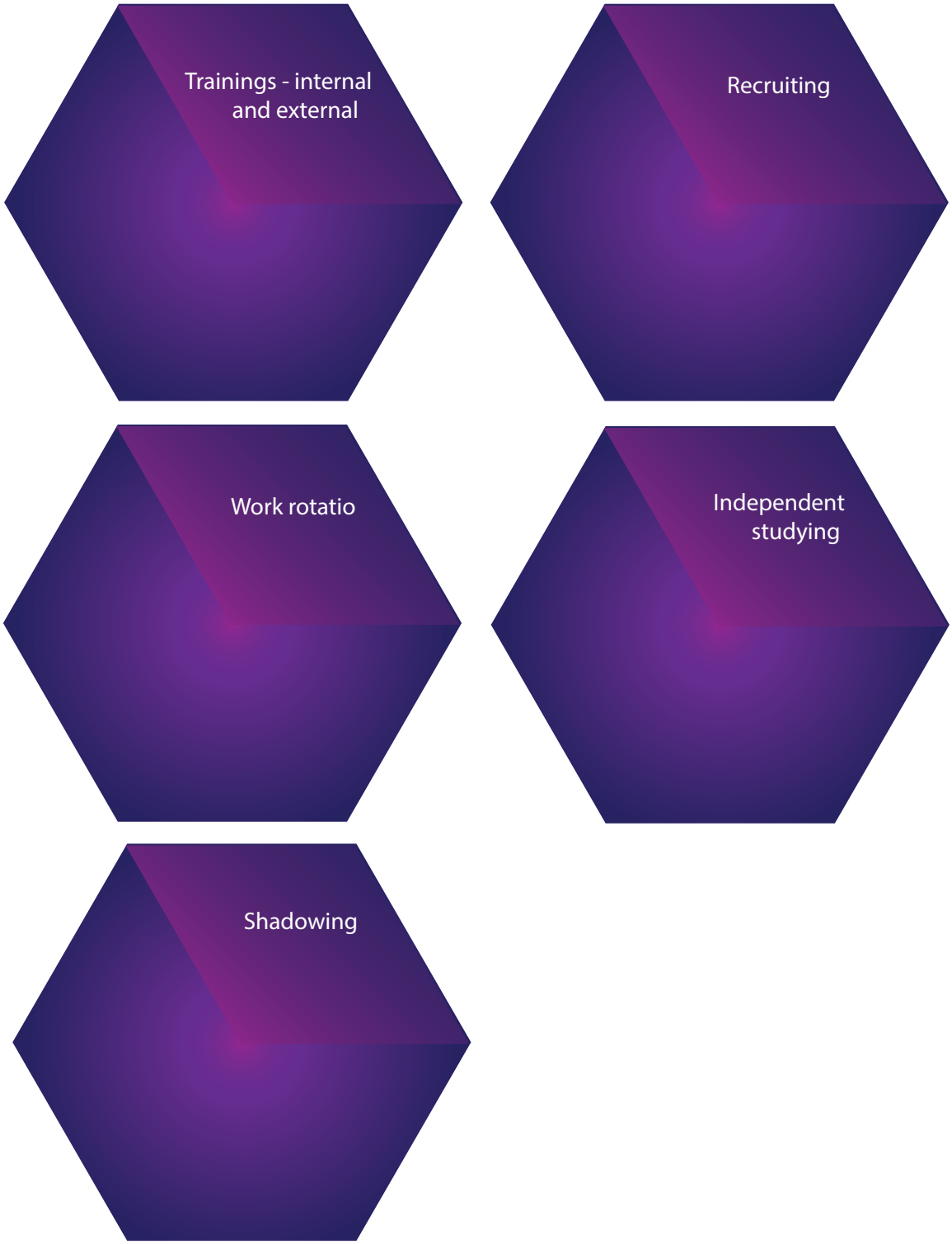
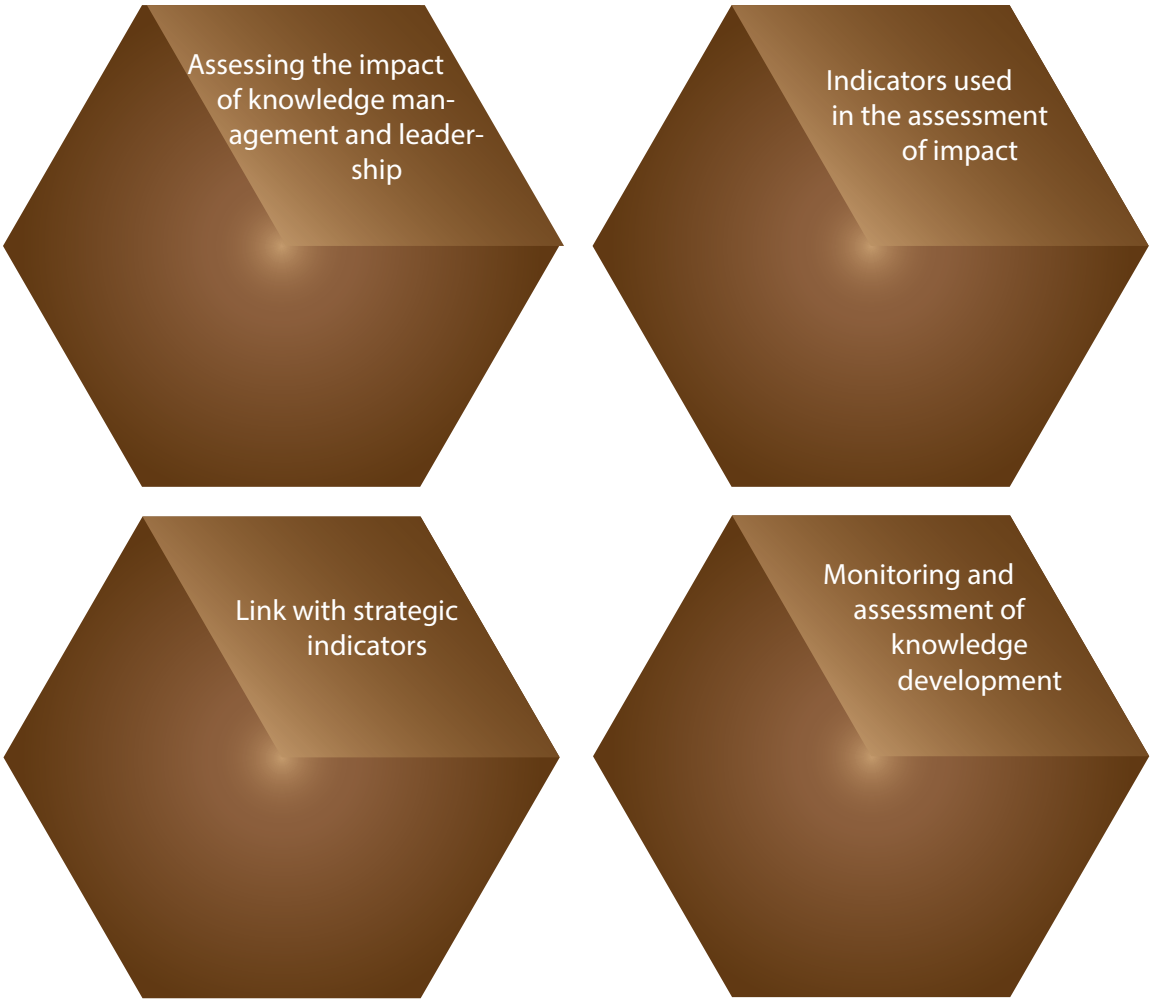
Training plans


Knowledge acquisition and development
Implementing of the development schemes
Connection with personnel planning
Transferring of knowledge
Sharing of knowledge
Learning while working
Introduction/ Orientation
Utilization of knowledge


Trainings - internal and external
Recruiting
Work rotatio
Independent studying
Shadowing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Connection of knowledge management with management of operations and finances
Anticipating of knowledge needs
Objectives for knowledge management
Anticipating of knowledge risks

Work rotation

Knowledge Developing Work Rotation

What is knowledge developing work rotation?

Work rotation is a method of personnel and organization development. Making work rotation a solid part of the whole of the organization's knowledge management and leadership enhances the benefits of work rotation for both the organization and the worker. Then we may talk of knowledge developing work rotation, which helps to develop the knowledge of both the organization and the worker. Knowledge developing work rotation refers to planned and goal-oriented development of knowledge and professional expertise by comparative learning. It also enables the development of strategically significant knowledge by learning while working.

Work rotation, like any other methods of knowledge development, should not be implemented self-purposefully. Work rotation should have a goal or it should be utilized to solve a problem. Typically this is recorded in the scheme of individual/work community's knowledge development.

From the workers perspective, the goal-oriented work rotation enables learning new, receiving peer experiences, and sharing knowledge at various stages of the career path. Moreover, it may have positive effects on work well-being.

From the organization's perspective, work rotation helps the personnel to get to know the operations of various work units, to familiarize themselves with various working customs and methods, and to receive a big picture of the service processes. This ensures that the different stages of the service process possess the relevant knowledge, which shows to the customer as quality and effective services. In addition, with work rotation, you may assess the functionality of the developed processes. Goal-oriented work rotation may also be used for developing various processes, creating networks, knowledge transfer, and promoting work well-being. Work rotation may have various goals depending on individual needs and the organization's operations.

Work rotation based on the worker's needs:

- Developing one's own work and work community
- Increasing work well-being and motivation
- Increasing and advancing one's own knowledge
- Sharing expertise
- Networking and creating collaborative practices with various players
- Sharing peer experiences
- Conceiving the whole of the customer's service sequence
- Knowing one's own and role and that of various units within the service process
- Maintaining capacity for work
- Opportunity to increase one's area of responsibilities or modify one's role/job description -> career advancement

Work rotation based on the organization's operations

- Learning-based knowledge development
- Decreasing knowledge risks
- Securing knowledge
- Knowing the contents of the other's work
- Networking
- Understanding the whole of the service process / assessing the interfaces
- Familiarizing with new operations
- Developing special knowledge
- Flexible use of personnel

- Improving the services for customers
- Assessing the existing introduction material and programme
- Developing processes with the help of experience-based information gathering
- Increasing flexible use of personnel. The various units need competent substitutes.
- Learning smart practices from other units; also sharing smart practices.
- Promoting work well-being

How to plan Knowledge Developing Work Rotation

Knowledge developing work rotation may be implemented in various ways:

- Internal work rotation = inside the unit or organization
- One-sided work rotation = The rotating worker is not replaced by another: substitute working
- Reciprocal work rotation = two worker exchange jobs with each other

When planning work rotation, the goals and the principles related to the implementation are determined organization-specifically, in addition to the manner of implementation. These principles include wages, work contract, the role of the manager, the duration of the rotation, the participants, and the manner of assessing the rotation experiences.

The principles guiding the implementation of knowledge developing work rotation

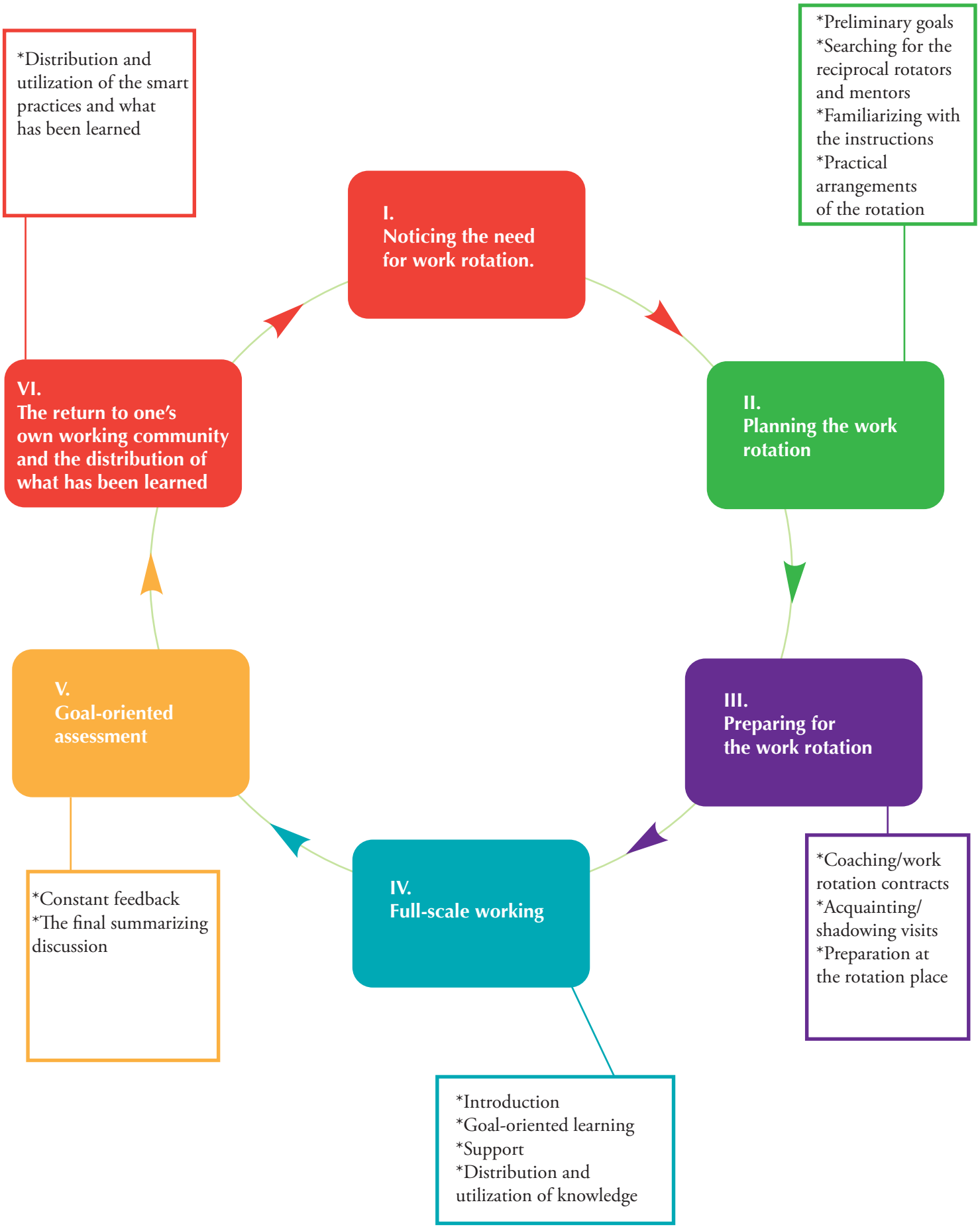
- Work rotation is implemented as internal, one-sided, or reciprocal, goal-oriented rotation. In work rotation, goal-orientation is emphasized with constant personal and communal learning. Work rotation may also be implemented as one-sided, with no replacing worker for the rotating one. This means substituting for another worker. Another way is to do it reciprocally.
- The managers decide on the persons to participate in work rotation.
- Wages are determined according to one's own work unit.
- The rotating worker gets an introductor/mentor, who takes into account the set goal and supports and introduces the rotating worker for the duration of the rotation.
- The work community also participates in the introduction and dialogue, enabling communal learning.
- In the work rotation contract, the worker, the mentor, and the managers together agree on the goals of the rotation, as well as the matters related to the introduction and learning while working. The contract may also preliminarily guide the manner of sharing with one's own work community what has been learned during the rotation. At the end of the work rotation, the various quarters assess the achieving of the learning goals and the successfulness of the rotation, and ensure the utilization and distribution of what was learned within one's own work unit/organization.

The practical agreements:

- The contract of goal-oriented work rotation and the goals
- The duration of the work rotation is 6-12 weeks + the acquaintance/shadowing visits before the rotation
- The application form for ordering and changing identifications and other relevant contracts related to working: passes/clearances, keys, work clothing, etc.

Figure 4. The stages of knowledge developing work rotation process In eOsmo project

There are six stages in knowledge developing work rotation



I. Noticing the need

- The need may come up in knowledge mapping, knowledge or development discussions, customer feedback, remodelling of strategy or sudden needs to secure or increase knowledge.
- Agreeing on the rotation unit, the possible reciprocating pair, the mentor, the date of the rotation, the introduction period, and the start-up meeting.
- The worker familiarizes him/herself with the instructions and materials of the rotation as well as with the rotation unit's knowledge chart.

II. Planning the work rotation

- The managers, the rotating workers, and the mentors set the goals for and plan the implementation of the work rotation. The summary of the discussion is recorded in the work rotation contract or in a separate goal form.

The themes of the start-up meeting of work rotation

Participants: The rotating worker, the manager, the recipient manager, a nd the mentor

Contents:

- Work rotation as a method of knowledge development
- Work rotation and its benefits
- Work rotation process – how the rotation proceeds?
- Modelling the goals
- Duration and date of the rotation
- The work rotation contract
- Feedback and the following meetings
- Date of the introductory days/shadowing
- Role of the mentor, goals and guidance
- Role and tasks of the rotating worker
- How to develop the working communities with the work rotation?
- The manner of sharing the existing knowledge
- Identifying the things to be unlearned

Possibly discuss together also the following:

- What kind of learner am I, what kind of guidance do I hope to receive?
- Reflecting on the strengths and weaknesses of one's own knowledge
- The wishes related to the rotation
- How to encounter the challenges and potential problems together?
- Keeping a work rotation diary
- The summary meeting at the end of the rotation and the plan for sharing the experiences
- Other practical matters related to the rotation

Knowledge developing work rotation contract

Organization/unit:

Recipient/rotation organization/unit:

Worker and title:

Mentor:

Date of work rotation:

Goals for work rotation (worker, mentor, and the participant units):

Other matters to be agreed (introduction, mentoring, common rules, statutory requirements, documentation of experiences, sharing of knowledge, manner and date of assessment, etc.):

Place and date:

Signatures: Worker, manager, rotation manager, mentor:

Separate goal form

Original working community

Working community's wishes and goals for the rotation:

The rotating worker's wishes and goals:

The utilizable/distributable knowledge in the rotation:

Recipient working community

Working community's wishes/goals:

Mentor's wishes and goals of mentoring/ introduction:

Recipient working community's media for achieving the goals:

Summary and achievements, distribution of knowledge after the rotation. How were the set goals achieved? How are the obtained knowledge and smart practices distributed?

III. Preparing for the work rotation

- The manager informs the working community about the work rotation.
- The rotating workers go for a 1–2 days' visit to their rotation destination. Shadowing and other such methods may be utilized in the introduction. The introductors guide the rotating worker during the introduction days. The emphasis is on observing, clarification of goals, starting of introduction, and getting acquainted with the working community.
- The rotating worker supplements his/her goals onto the goal form and presents them to the mentor/introductor at the beginning of the rotation.

IV. Full-scale working

- The work rotation begins. The personal goals of the rotating worker are made known to the working community.
- The introduction is implemented according to the unit's introductory materials and the set goals in the work rotation contract. If possible, the first three days can be spent in collaborative pair work by the worker and the introductor.
- The worker writes down (e.g. in a diary) what he/she has learned and the smart practices he/she has observed. These insights are discussed in a natural manner with the working community and the mentor/instructor during the period.
- The manager, the mentor, and the rotating worker have a middle discussion, in which they assess the achieving of the learning goals.

V. Goal-oriented assessment

- At the end of the work rotation the managers, the mentor, and the rotating worker have a summary discussion, in which they assess the realization of the rotation and the achievement of goals as well as agree on the distribution of the smart practices and what has been learned.

The experiences of knowledge developing work rotation are assessed by different players. The assessment can be implemented through discussion, written documentation, or even an electronic enquiry. However, the questions below are essential in assessing goal-oriented work rotation.

The rotating worker answers:

- How have you achieved the knowledge development goals set for the work rotation?
- Were the goals correctly set in accordance with the time spent?
- What have you learned and how have your experience benefited you professionally?
- How is the knowledge of our organization improved by your experience?
- Have you had a chance to express development ideas? What kind of ideas? How have they been received?
- How has the rotation affected your coping at work and motivation?
- How does the return to your own job feel? How does the rotation show in your work?
- Would you participate again in work rotation?
- If you did, what would you do differently?
- What kind of feedback did/would you give to the rotation place?

- What do you want to learn next?
- What things and practices would you like to take with you from the rotation place to your own working place

The rotation manager/mentor/ introductor answers:

- How do you as the manager / mentor / instructor feel the rotation succeeded?
- What have you learned while following and guiding the rotation?
- What do you think the working community has learned? Will work rotation be adopted as an active method of knowledge management?

The original manager answers:

- How do you feel the rotation succeeded?
- How did the final feedback meet your expectations?
- Is development discussion or other dialogue needed for the organizing of the worker's tasks? Are changes needed in the job description, and how can they be implemented?

VI. The return to one's own working community and the distribution of what has been learned

- The work rotation ends, and the worker returns to his/her own working community. He/she distributes the new knowledge and the smart practices as planned.
- The mentor/introductor shares his/her own experiences, the things he/she has learned, and the observed smart practices with his/her own working community.

Shadowing

Shadowing - A Peer Development Method

Mikko Häkkinen

What is Work Shadowing?

Shadowing is a method of work development based on Peer Development (see the theoretical background at the bottom). Two people of the same field working in two different places shadow or follow and observe each other in turns for a few days. The idea is that both persons act as the visiting (the Shadower) and receiving (the Shadowed) side. The target of the observation is the ordinary, every-day working.

The theoretical background of Work Shadowing

Shadowing is a method based on peer development. The theoretical background of peer development is in the socio-constructivist conception of learning. Learning is understood to be a social, interactive, and communal event. Knowledge is constructed together by people, not something already existing. New knowledge and understanding is built through discussing together and by utilizing previous knowledge and experience. Central to this perspective is that a person cannot directly transfer knowledge to another, but learning is always the result of the actions of the learner.

In peer development, learning happens through discussing, asking questions, sharing various viewpoints, and pondering together. Dialogue is a key method of peer development. In dialogue, the discussers are equal and are not positioned above each other despite the versatile backgrounds. Important in dialogue is to set aside one's own presumptions and prejudices and to open up for the perspectives the others present. When successful, dialogue changes the people involved in it. Such new understanding and knowledge is born that the participant did not possess before.

The popularity and increased usage of various peer-based development methods in the working life are related to a wider change in ways of thinking. Knowledge and know-how are no longer seen to be only in the possession of certain experts and leaders. Each worker has increasingly begun to be perceived as an expert on his/her own field. In the methods of peer development, each worker brings his/her expertise into the common development work.

Knowledge does not come from someplace above, but it is constructed together among equal workers. At its best, peer development empowers workers even more as the experts of their own fields and the developers of their operations. Expertise is no longer only a quality of individual workers; there is starting to be talk of together-built communal expertise

What benefits does Shadowing bring?

Shadowing enables the distribution of smart practices used in different working communities as well as the increase in collaboration between working communities. Particularly for those working individually, shadowing provides an opportunity to receive peer support from people working on similar tasks.

The Visitor (the Shadower) has an opportunity to observe the work of his/her own professional field in a new environment. The observations of the different ways of working open up new perspectives to the Visitor and help him/her to see his/her work in a new way. The detachment from one's own working routine enables its critical observation the recognizing of alternative ways of operating.

The Recipient (the Shadowed) has an opportunity to observe his/her own work together with the Visitor. The questions asked by the Visitor give new perspectives and opportunities in relation to one's work. While explaining his/her own working, the Recipient simultaneously structures and analyzes his/her own work.

Preparing for Shadowing

This activity must always be agreed on by both parties and their managers. The support by the manager is essential for the successful conducting of the Shadowing activity. The manager informs the working community about the Visitor.

Before the Shadowing period, both sides must think about their own goals for the period. Both participants write down their goals, which are discussed together before beginning the Shadowing period. At this point, it is also advisable to agree on

a feedback session for after the period: what kind of feedback and in what form does each participant wish to receive. Before the period, it is also advisable to discuss confidentiality and secrecy. Both parties are under the vow of silence both during the period and after it.

The exact time and practical arrangements must be agreed well before the start of the Shadowing period. A suitable duration for the period is 3–5 days. In finding the dates, as ordinary days as possible should be found, so that the Visitor may have a realistic view of the work. A case-specific memo ought to be made of the work clothing, clearances/passes, and other practical matters.

The process of Shadowing may utilize an outside instructor, met by the participants before and after the Shadowing periods. The outside instructor may support the participants in matters like setting the goals or utilizing the gained experience.

During the period

The Shadowing person follows and observes the working of the Shadowed person. During the work, the Shadower does not comment on the situations. The Shadower does not participate in the working, either, but concentrates on the observation.
The Shadower may collect his/her thoughts in a notebook for future discussion. Each day ends with a discussion between the Shadower and the Shadowed. The idea of the discussions is not to assess the working of the Shadowed, but to analyze the various situations from the more general perspective of professional development. The discussion may include pondering on alternative methods and ways to operate, and it is important to remember that there are several different ways to achieve good results.
In each case, the potential customers or patients must be asked for permission to have an outsider observer present. The same goes with department and team meetings.

Things to be written down before the Shadowing period:

PERIOD A	**PERIOD B**
Recipient: **Visitor:** **Date:**	**Recipient:** **Visitor:** **Date:**
Working Place: **Address:** **Phone/Email:** **Manager:**	**Working Place:** **Address:** **Phone/Email:** **Manager:**
Recipient's Goals for the Period	**Recipient's Goals for the Period**
Visitor's Goals for the Period	**Visitor's Goals for the Period**

The learning discussion after the period

When both periods are through, the participants meet and discuss what they have learned and how they have experienced the Shadowing. This discussion is based on the goals set before the period. At this point, the participants have the opportunity to ask about the potentially unclear matters and to share experiences about the functionality of the distributed practices in one's own working community. It would be desirable to compile a summary of the observed ideas and smart practices. This summary assists in sharing the experiences within one's working community.

From the Shadowing of the other to the aware observation and awareness of one's own actions.
The Shadowing of another professional's actions awakens ideas to develop one's own working. In addition, a Shadowing participant may begin to practice the observation of one's own actions according to similar principles. One may observe one's own actions as though through someone else's eyes and aspire to understand and ponder on the alternatives of one's actions as a professional. When working with people, there seldom is a single correct way to operate. Good, alternative actions may be found through trying and observing the effects.

What did I learn during the Shadowing period, and how will I utilize what I have learned?

Experiences on Shadowing:

"The significance of trust is very high."

"Everyone operates correctly although differently, there are many correct ways."

"The Shadower must remember to respect in every situation."

"It is important not to be a substitute but a Shadower."

"We are doing an equally important job despite of where we work."

"It was an exciting situation to go to the other's working place."

"You may feel paralyzed in a new place; I got to know how it feels."

"The feeling of helplessness was a healthy experience for me."

"The personnel responded well because they had been told in advance."

"We encountered a situation that was new for both of us."

"You start to value the other's job; the reality opens up."

"It was empowering."

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