

## **Management Summary**

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### **‘Vigorous knowledge management’**

Conceptual framework for knowledge management in (central) government

Dr. Mirko Noordegraaf  
Utrecht School of Governance  
University of Utrecht

Ministry of the Interior and Kingdom Relations, Public Sector Information Policy  
Directorate

## Management summary

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### ‘Vigorous knowledge management’

Providing an understanding of how knowledge management is viewed is no more than an initial but nonetheless crucial step in reducing the confusion that lies concealed under the label of knowledge management. This confusion cannot be dismissed as merely semantic or conceptual confusion that is capable of being resolved by means of ‘pure’ terminology. The confusion has a paradigmatic nature: knowledge management can be regarded in fundamentally different ways. This means that the building blocks of knowledge management projects, such as specific instruments, have differing content and significance, and that fundamentally different combinations of building blocks are created. Different types of knowledge management exist, namely *business management*, *policy management*, *strategic management* and *administrative management*, each of which serves different goals.

The report starts by examining the linguistic building blocks. This involves preparing an inventory of the *motives* for participating in knowledge management: why should government departments or organisational units initiate knowledge management projects? The next step is to list the main *definitions* of knowledge and knowledge management and related concepts. Thereafter the conceptual models based on them are described. They indicate what experts and managers ‘see’ before them when they are involved in knowledge management. Finally, the paradigmatic differences concealed behind the motives, definitions and models are summarised: four knowledge management languages are distinguished, namely *business language*, *policy language*, *strategic language* and *administrative language*.

#### Knowledge management languages

The confusion starts with the ‘why’ question: the motives or considerations that are cited for attaching importance to knowledge management and initiating specific projects differ widely. The answers which experts and managers give to the ‘why’ question can be reduced in a substantive sense to a limited number of *types* of consideration. The motives are connected first with an *optimisation* of existing knowledge or with an *adaptation* of existing knowledge. Second, they are connected with causes that come *from inside* or *from outside* organisations or policy processes. **All in all, four types of motives can be distinguished on these grounds:**

- *Business-related motives*. Making transparent and optimising the knowledge-intensive primary process, including the document flow.
- *Policy motives*. Professionalising daily policy formation to provide a better service to government ministers and/or citizens and avoid problems.
- *Strategic motives*. Responding better to confusing ambient developments by creating more intelligent, future-oriented policy processes.
- *Administrative motives*. Making forms of bureaucratic organisation less bureaucratic in answer to changed relationships with the outside world.

Each of these types has a problem-setting and problem-solving side. They provide an answer to two questions, namely: ‘What is happening?’ and ‘What should happen?’

### ***Business-related motives***

The common factor in the first type of motive is that experts and managers use knowledge management to create *better organisations*. In terms of problem-setting it is argued that public organisations are ‘knowledge-intensive’ organisations, staffed by highly trained professionals, and that the smooth conduct of knowledge-intensive organisational processes cannot be taken for granted. The need for knowledge management is argued in various government ministries in terms of the nature of the primary process: the process concerns knowledge and *hence* knowledge management is important. The business-related motives which can be found at various places can be summarised as follows.

- *Duplication*. Knowledge-intensive organisations have a tendency to keep on reinventing the wheel. Work, particularly brainwork, which is done or has been done elsewhere is left unused.
- *Knowledge seeps away*. In today's knowledge-intensive organisations highly trained policy staff have a tendency to leave (quickly). Valuable knowledge is lost as a result. ‘Knowledge seeps away’ is an oft-heard complaint. ‘Super specialists’ are particularly hard to retain.
- *Decentralised services*. When knowledge-intensive organisations are territorially decentralised, for example specialist administrative services or inspectorates with regional ‘branches’, it is hard to coordinate their activities.
- *Deficient facts and figures*. Relatively ‘hard’ policy information that could be of importance to the monitoring of trends but is not readily available owing to defective information systems could be collected in all kinds of policy fields.
- *The ‘From Policy Budgeting to Policy Accountability’ (VBTB) operation*. This operation, mounted by the Ministry of Finance, has technical consequences not only for the budgeting system but also for the transparency of the organisation: choices, means and performance must be linked together in a transparent manner. This makes demands on the information system.

These arguments cannot be seen in isolation. They should be viewed against the background of administrative developments, which have resulted in a situation where the *performance requirements* made of public organisations have increased in recent years, where the performance is becoming more transparent and where the pressure for accountability is becoming stronger.

In terms of problem-solving it is argued that knowledge management can provide an important boost for optimisation of organisational processes. The information management can be strengthened and information and knowledge flows can be improved by ensuring that knowledge is connected less with individuals and more with the organisation and by making knowledge more transparent and accessible by digital means, with the help of digital archives, databases, information systems and so forth. This is the ideal of the *digital organisation*.

### *Policy motives*

The common factor in the second type of motive is that experts and managers use knowledge management to make or implement *better policy*. This allows a better response to problems and incidents that regularly occur or that can suddenly occur if the policy capacity is insufficient. In terms of problem-setting it is argued that the organisation is or may be confronted with specific problems or questions that must be avoided for legal or political reasons. Policy must be formed or implemented in such a way that legal or political incidents do not occur. The following policy motives are found:

- *Problems in parliament*. Government ministers are increasingly held accountable not only for the speed, timeliness and reliability of the information they provide to the Lower House of Parliament, but also for the quality of the facts and figures they supply. In some cases continuing ‘bother’ about the quality of the figures has been the factor prompting a government ministry to introduce knowledge management.
- *Critical customers*. When an implementing organisation (i.e. an organisation that administers a scheme) is regularly confronted with critical citizens or ‘customers’ who resort to the courts if services are inadequate, it immediately perceives the need to regulate the information system.
- *Incidents*. As soon as the supply of information during incidents, disasters or crises proves inadequate, it dawns on those involved that ‘things must be done differently’. The disasters in Enschede and Volendam are recent examples.
- *Openness*. A few organisations have actual experience of the use made by determined journalists of the Freedom of Information Act (WOB) in order to obtain information.

These arguments too should be viewed in perspective. The organisations or parts of organisations that experience the situations referred to above cannot afford to allow a series of incidents to continue. This is considered to be out of the question for *political* reasons.

In terms of problem-solving, it is argued that knowledge management projects must be instituted in order to prevent political and legal ‘bother’. Questions in parliament should be answered flexibly, but with political feeling, citizens should be dealt with lawfully and equally, and the information system should withstand the tests applied under the Freedom of Information Act. For this purpose, it is necessary to have professional knowledge workers who have the requisite politico-administrative sensitivity or strong social awareness. Policy motives provide grounds for giving precedence to the ideal of the *professional organisation*.

### *Strategic motives*

The common factor in the third type of motive is that experts and managers use knowledge management to respond better to *ambient developments*. In terms of problem-setting it is argued that in present circumstances policy formation is encountering all kinds of obstacles, mainly because the ministry’s ‘grip’ on (knowledge-intensive) ambient developments is loosening. A strengthening of the strategic capacity need not be

regarded merely as a strengthening of the ministry's own capacity. In various places, this ambition has an external dimension, namely to strengthen the strategic capacity of the Netherlands as a 'knowledge-based society'.

The strategic motives, which can be found in all kinds of places, can be summarised as follows:

- *Islands*. Knowledge-intensive organisations display a tendency to develop as 'archipelagos', within which individual employees withdraw on to their own 'island'. This situation is to some extent encouraged by the classical way in which public servants are judged: they are seen as becoming 'knowledge monopolists'.
- *Fragmented information*. Many public organisations are finding that the information necessary for policy formation or policy implementation is used differently from 'in the past'. The information is collected by a multitude of knowledge institutes and then scrutinised by experts who give or volunteer a second opinion. The policy struggle is mainly connected with the problem of collecting hard facts and the conceptualisation of these facts.
- *Little grip*. To an increasing extent the information necessary for policy formation or implementation is collected by organisations other than the policy-formulating bodies themselves. As a result, the latter often have little grip on knowledge development.
- *New research*. The same research is often commissioned by different ministry units and tends to provide answers to comparable questions or should be combined in order to achieve better results. In many quarters there are calls for strategic research to be coordinated.
- *Signals*. Picking up 'signals' in the field is considered to be of the utmost importance in order to identify new policy options. This is a difficult task, because much happens at the same time and few if any stable patterns are found.
- *Knowledge-based society*. The Netherlands is increasingly evolving into a knowledge-based society, in which knowledge is the primary factor of production and the 'network' is the most appropriate organisational form.

These arguments should be viewed in perspective. The emphasis on better policy cannot be seen separately from the complexity and *information density* of the issues with which public organisations struggle. Information is necessary if issues are to be addressed, and this information is spread to an increasing extent among administrative bodies, knowledge institutes and groups in society. It is difficult to keep an overview and to decide what is 'good'.

In terms of problem-solving it is argued that knowledge management is necessary in order to arrange new knowledge relationships between the disseminated knowledge and the knowledge players, in which connection information and knowledge are embedded in policy processes in a different way. The aim is to achieve a clear distinction between 'objective' facts and 'subjective' conceptualisation, and the deployment of knowledge must be related more clearly to the strategic position of the organisation. Politico-administrative debates should be rationalised. The ideal of *intelligent organisation forms* should take precedence here.

### *Administrative motives*

The common factor in the fourth type of motive is that experts and managers use knowledge management to facilitate *better administration*. This type of motive is the least concrete and focused of all and makes the most use of relatively vague and ‘soft’ concepts such as ‘demand-oriented’ administration and ‘directing’. Administrative reasoning of this kind is often connected with ministry reorganisations in which ministry organisations are converted from ‘bureaucratic’ to ‘post-bureaucratic’ forms. Contemporary society, which can be described as ‘post-modern’ (or ‘post-anything else’ one cares to mention) requires new administrative arrangements. The relevant arguments can be summarised as follows.

- *The ‘post-modern’ society*. Society has changed radically. There is individualisation, autonomisation and dynamisation. This means not only that the complexity of issues is increasing, but also that new issues are emerging. It also means that the character of politico-administrative debates is changing and that the attitude of administrative players is also changing: they refuse or largely refuse to be influenced.
- *The flexible public sector*. Since the introduction of new public management, efforts have been made to establish flexible organisation forms and flexible management, but in many places, so the reasoning goes, organisation forms and management are still too ‘bureaucratic’ to be able to respond quickly to changes in the outside world. Organisations are not ‘flat’ enough and operate too ‘vertically’. They should instead work on a ‘project basis’.
- *The attractive public sector*. The attractiveness of the public sector as employer has decreased. Reports such as that of the Rijn Commission (2001) have helped to bring home that the labour market in the public sector is in a bad state and that the management skills of modern public servants are deficient.

In terms of problem-solving it is argued that knowledge management projects should be initiated (whether or not in close relationship with administrative reorganisations instituted before or after) in order to achieve new debureaucratized and project-based organisation forms and enter into new relationships with social settings. In this way precedence is given to the ideal of flexible *organisation forms*.

### *Definitions*

There are differences not only in the motives used to switch to knowledge management but also in the definitions of knowledge and knowledge management.

Something of the possible confusion which can arise when the term ‘knowledge management’ is used is evident from the above. Knowledge management projects are introduced for a very variety of reasons. The confusion is also connected with the very use of words such as ‘knowledge’ and ‘knowledge management’. Another term used in many places is ‘information’.

If we start with the definitions of information and knowledge, the confusion seems less than might be expected. The distinction between information and knowledge is made by *all* concerned and occurs in practically all documents. This is not to say that everyone considers it equally useful, but merely that those concerned cannot ignore it. The Dutch knowledge management guru Weggeman has provided the authoritative definition of both terms. He defines *knowledge* as the ‘personal capacity that enables a person to perform a task’ (1997a; b; c). This capacity consists of ‘explicit’ knowledge or *information* and ‘implicit’ *experiences, skills and attitudes*. Together, this gives the following, much-used formula:

$$\text{Knowledge} = \text{Information} * \text{Experience, Skills, Attitudes} (K=I*ESA).$$

If there is one thing upon which knowledge management experts are agreed, it is this formula. It crops up in many documents and talks, and is incorporated in all kinds of definitions of knowledge. Despite this consensus on the basic definition of knowledge, it has to be said that the term means something slightly different to the experts and managers concerned. This is due to the extent to which the *hard* side of knowledge – information – or the *soft* side – experiences, skills and attitudes – is emphasised and how this is done. To what extent can information or knowledge be regarded as an *explicit* or *implicit* phenomenon? To what extent can knowledge be regarded as an *individual* or *relational* thing? If we combine the answers to these two questions, we obtain four types of knowledge that can be central to knowledge management projects.

- *Informative knowledge: data, facts and figures that can be gathered, recorded and used, regardless of the purpose for which people do this. This may also relate to ‘knowledge maps’ listing interests and expertise or to experiences which can be made accessible to other people in the form of small reports.*
- *Interactive knowledge: knowledge which can be shared with one or more other people, for example during meetings or during lunchtime gatherings.*
- *Experience-based knowledge: individual knowledge coloured by experiences, skills and attitudes, which is hard to record. This has a bearing on the interpretation of facts.*
- *New knowledge: knowledge that comes into being when two or more individuals act together. ‘Something’ or ‘something new’ is created or something ‘happens’, but it is unclear how and why.*

If we analyse how the concept of knowledge management is used, we can draw a few main conclusions. First of all, it is evident from the talks, and especially from the documents, that knowledge management is explicitly defined in the majority of government departments. Most reports and documents on knowledge management start with a definition of the term. Second, we can conclude from the definitions used that the delimitation of the term knowledge management takes on *different* forms, but also that there are *comparable* elements. Experts and managers adopt different models and approaches in specific projects, but all have a common point of departure. Once again, the ideas of Weggeman (e.g. 1997a; b; c) are found to be authoritative. Something of Weggeman’s definition can be found in most of the other definitions.

*'Knowledge management is the configuration and control of operational knowledge processes in such a way as to promote the yield and pleasure of knowledge as a factor of production.'*

As 'yields' remains indefinite in the Weggeman definition, the common point of departure says little about where experts and managers will end up. Just as in the case of the definitions of knowledge, there are hard and soft variants of the definition of knowledge management. Which variant is chosen depends on the answers to two questions. Is knowledge management aimed at securing the better deployment of *means* or of *people*? Is knowledge management an *instrumental* or an *institutional* matter?

The combination of answers means that four types of knowledge management are possible.

- *Business management. Knowledge management is a regular management task, in which not only the 'f' and 'p' factors are optimally deployed in the operating process but also the 'k' factor is designed to achieve optimal effect.*
- *Policy management. Knowledge management is aimed at creating conditions in which professional knowledge workers can respond optimally to policy issues and policy questions.*
- *Strategic management. Knowledge management is aimed at approaching knowledge structures and external relations in such a way that they operate in a more considered and future-oriented manner.*
- *Administrative management. Knowledge management is aimed at modifying bureaucratic structures in such a way that organisations operate more flexibly in accordance with the requirements of the knowledge-based society and knowledge workers.*

### ***Models***

The motives for engaging in knowledge management and the definitions of knowledge and knowledge management have been dealt with above. On this basis it should already be clear that these three elements are closely interconnected. Organisational motives combine well, say, with a definition of knowledge as informative knowledge and with a definition of knowledge management as regular management. Administrative motives combine well with a definition of knowledge as new knowledge and a definition of knowledge management as innovative management. In both cases different instruments will be deployed and, if comparable instruments such as intranets are used, this will be done in different ways.

The interrelationship of elements can be taken one step further under the heading of knowledge management language. Experts in particular work on specific projects on the basis of fairly detailed conceptual *models*. These models are used both to legitimate projects and to give them form and content. Above all, the answers to two questions seem important to the nature of the models used. To what extent can private views, taken for example from business management literature on knowledge management, be used for knowledge management in government ministries? Or to what extent is it necessary

instead to use *public* models that take account of the individual nature of departmental processes? Second, to what extent are *sequential* or *parallel* models necessary?

The first question relates to the extent to which existing models, for example that of Weggeman, can be declared applicable to public administration. The second question relates to the extent to which a step-by-step approach should be taken to knowledge management. For example, in input-output models or Weggeman's knowledge value chain (see below), knowledge management is a phased analytical process. In other models of knowledge management, however, there is greater scope for parallel processes and unplanned influences.

In combination, the answers provide four types of model:

- *Business-related model. Weggeman's knowledge value chain or input-output models are used to gear the deployment of knowledge step-by-step to the need for knowledge.*
- *Policy model. The deployment of knowledge follows the policy cycle.*
- *Strategic model. The deployment of knowledge is dependent on the mission or strategy defined by the organisation.*
- *Administrative model. The deployment of knowledge should take account of the capricious nature of the politico-administrative process.*

#### ***Business-related model***

The best-known example of a business-related model of knowledge management is Weggeman's knowledge value chain (1997a). This is the ideal of a tight, sequential approach: the requisite knowledge is analysed and put into practice step by step. This closely resembles the input-output models sometimes found in detailed form in public administration. Such models are conspicuous by their clarity, but cause mixed feelings among experts and, above all, managers. It should in any event be noted that these models tend to be more wishful thinking than reality (the steps are not recognised as separate steps in daily practice) and for many people there is also little reason to treat them as a desirable ideal and elevate them to point-of-departure status.

#### ***Policy model***

The relativisation of knowledge value chains or input-output models does not imply that sequential models as such should be rejected. Some people use the idealised course of policy processes to develop an appropriate knowledge management model.

#### ***Strategic model***

Sequential models barely play a role in some areas of the public sector. In the case of strategic processes, a model-based approach is favoured which is kept together by the definition of mission and strategy. This closely resembles a private approach, since the emphasis on mission, core competences and strategy has blown across from the private sector since the 1980s (influenced by best-selling authors such as Peters & Waterman, Osborne & Gaebler and Hamel & Prahalad), but abandons the tight, sequential approach.

### *Administrative model*

Finally, there are fairly detailed models that place the management of knowledge to a large extent in a politico-administrative context, within which it is ultimately people - knowledge workers - who must deal with issues in a different way.

### **Conclusion**

The knowledge management languages, in other words the way in which we think and talk about knowledge management, were examined. First of all, the main *motives* for attaching importance to knowledge management were identified. Four types of motive were found to exist: business-related, policy, strategic and administrative motives. The definitions of knowledge and knowledge management were then examined. Despite the common source of inspiration for many of these definitions (in particular the work of Weggeman), both concepts were found to be defined in a variety of ways. In both cases there are both 'hard' and 'soft' definitions. On the basis of two important dimensions (explicit-implicit knowledge and individual-relational knowledge) *knowledge* is defined in four ways: informative knowledge, interactive knowledge, experience-based knowledge and new knowledge. On the basis of two dimensions (means-people as production factor, and instrumental-institutional orientation) *knowledge management* is defined in four ways: business management, policy management, strategic management and administrative management. Finally, the conceptual models which are based on the definitions and legitimate and elaborate knowledge management projects were examined. Four types of model were found to exist: business-related, policy, strategic and administrative models.

These elements or building blocks are not independent of one another but are interrelated. This interrelationship is not arbitrary: in practice recurrent combinations of building blocks occur which are also explicable on theoretical grounds. It is not probable, for example, that a definition of knowledge management as business management would be accompanied by a conceptual model that implies an institutional adaptation of existing organisations. Nor is it likely, for example, that an administrative motive for introducing knowledge management would be accompanied by emphasis on informative knowledge. In short, therefore, the building blocks are an entity, a configuration (see Mintzberg, 1983). If we summarise the 'pure' configurations, we obtain the following picture.

Four types can be identified in the case of each building block, namely four types of motives, definitions and models, in each case on the basis of two dimensions. In practice, it can be seen that the business-related types of motives, knowledge management definitions and models go together, and that a definition of knowledge as informative knowledge is out of keeping with them. Policy-related motives, knowledge management definitions and models go together, and a definition of knowledge as interactive knowledge is out of keeping with them. Strategic motives, knowledge management definitions and models go together, and a definition of knowledge as experience-based

knowledge is out of keeping with them. Administrative motives, knowledge management definitions and models go together, and a definition of knowledge as new knowledge is out of keeping with them. In a theoretical sense, it might, after all, be supposed that the different dimensions used to distinguish the types of building blocks (the explicit-implicit, instrumental-institutional and sequential-parallel dimensions on one hand and the individual-relational, means-people and private-public dimensions on the other) have much in common with one another and for the most part boil down to the same thing. More will be said about this later. Four types of languages can be distinguished on the basis of the combination of building blocks.

- *Business language. Knowledge management is aimed at optimising the knowledge infrastructure of the organisation with a view to achieving a more efficient and effective deployment of the means of production.*
- *Policy language. Knowledge management is aimed at responding more effectively in the short term to topical policy questions, in order to obviate political or legal problems.*
- *Strategic language. Knowledge management is aimed at dealing better with the knowledge present in the outside world, in order to reduce the information density and complexity of policy issues.*
- *Administrative language. Knowledge management is aimed at transforming bureaucratic organisations, making them flatter and more horizontal, in order to respond more flexibly and intelligently to social change.*

For the sake of clarity, it should be noted that the four languages are not used in their pure form. For example, varying types of motives are advanced in many places. Those responsible tend to hedge their bets in order to give extra legitimacy to possible projects. However, when the project or, rather, the project parts are examined more precisely to determine what they are really about and when the models are studied by separate experts, the language used can be better understood. As the attention comes to focus more on project parts, the parts acquire a clearer profile and the models are more detailed, this understanding becomes easier (experts and managers have a better idea of what they are aiming at) and 'purer' definitions are used.

The explicit-implicit, instrumental-institutional and sequential-parallel dimensions are all connected with the difference between goal-based and goal-seeking action. In the former case, the goals are known and the organisation can work on the basis of the goals. In the latter case, the goals are part of the management process that is instituted. The individual-relational, means-people and private-public dimensions can be indicated with the help of the distinction between technical and social. In the former case the emphasis is on the technical, neutral deployment of factors of production and in the latter case on the social, value-laden approach to management issues.

In short, the business-related language is goal-based and technical, policy language is also goal-based but social, strategic language is goal-seeking and technical, and administrative language is goal-seeking and social. These dimensions will be dealt with later.

## **Knowledge management tools**

The approaches to knowledge management are examined step by step. First of all, attention is paid to the *scope* of the projects, because there are found to be major differences in the way in which the projects are organisationally embedded. In particular, the importance and hierarchical status differ. Subsequently, the *approach* which is used is subject to further analysis and a distinction is made according to the types of approach. This is followed by a review of the main instruments employed in or as a result of the projects in order to make a success of the approach. It will be found in this connection that some instruments are fairly unique for specific ministry projects, that some instruments are deployed in many places, and also that comparable instruments are sometimes used very differently because they are deployed to achieve different goals.

### **Scope**

Specific knowledge management projects are found to be organisationally embedded in various ways. The most striking differences are connected, first of all, with the importance or weight of the projects: whether they are heavy or light in the sense of whether or not they have been set up with an abundance of people and resources. Second, the differences relate to the hierarchical status: whether they have been initiated and embedded at a high level, close to the top management of the ministry, or whether they are at a low level. The combination of the two questions result in four possible scopes.

- *Hidden projects*. Projects instituted within departments or directorates by a limited number of experts. The impact is generally limited and leads to the adjustment of knowledge-intensive processes in parts of the organisation.
- *High-profile projects*. Projects executed by a few high flyers close to the ministers and top civil servants. These projects have a limited impact, but may pave the way for larger projects.
- *Massive projects*. Projects executed step by step with much manpower, without direct support from the top management of the ministry. The impact can be substantial; various parts of the organisation may be involved.
- *Radical projects*. Projects executed by a large number of people with direct support from the top management of the ministry. The impact is great: there may be an adjustment of structure, control and procedure throughout the ministry.

#### ***Hidden projects***

Hidden projects are small-scale knowledge management projects that are executed within departments, directorates or directorates-general without any apparent support or interference from the top management of the ministry.

#### ***High-profile projects***

High-profile projects are small-scale projects carried out by a limited number of civil servants with direct and apparent support from the top management of the ministry.

Although they have only a limited effect in organisational or policy terms, the projects may have a greater impact in terms of their authority and possible long-term effects.

### ***Massive projects***

Massive knowledge management projects are projects which ‘go with their own way’. They are instituted by department heads or directors who are convinced of their worth and evolve over the years into ‘snowball projects’, in other words projects which gradually grow larger.

### **Approaches**

If we ignore the way in which projects are embedded in the organisation and focus instead on the way in which projects realised in different places are tackled, we discover a wide variety of approaches. We also discover a number of patterns. First of all, it appears that actual projects are more a question of ‘doing’ than ‘thinking’: as we have seen in the previous section, experts and managers use comparable definitions and sometimes exact models, but little is left of this shared and uniform point of departure when it comes to the approach to specific projects. Moreover, it is noteworthy that although the instruments used are to a large extent comparable (more will be said about this later), the way in which they are used is highly individual. In short, specific projects are addressed in their own individual way.

Second, it should be noted that specific projects resemble one another de facto. This is due above all to *what* they are addressing. Two questions are relevant to this. First, are they principally engaged in making optimal use of *existing knowledge* or is the project designed to create *new knowledge*? Second, does the project involve processing or translating information? The central feature of processing is gathering and/or combining knowledge in an optimal manner, whereas translation is concerned with the conversion of knowledge. Four types of approach can be distinguished on the basis of the answers to the two questions.

- ***Knowledge administration.*** Projects which attempt to optimise knowledge administration endeavour to unlock existing, available and potentially explicit knowledge as well as possible in digital form. They are designed to store and make accessible (informative) knowledge in digital form.
- ***Knowledge use.*** Projects which improve the use of knowledge are designed to apply available knowledge in such a way that topical knowledge issues can be addressed more effectively.
- ***Knowledge sharing.*** Projects which focus on optimising knowledge sharing endeavour to improve knowledge relationships between knowledge players and the exchange of knowledge in new ways in order to deal more effectively with changes in issues and settings.
- ***Knowledge creation.*** Projects which are intended to strengthen the creation of knowledge focus on the adaptation of knowledge-intensive organisations in order to introduce different ways of thinking and acting.

### **Knowledge administration**

When a ministry's knowledge administration is strengthened, this principally involves structuring the information system. This can serve internal administrative goals or external substantive goals. The former (internal administrative goals) are reflected above all in the digital storage of documents, such as memorandums, policy documents and legislation, and the creation of orderly databases to ensure that information inquiries can be complied with quickly and adequately. The digital archives and databases should be made accessible for this purpose by means of intranet or the Internet and simple or intelligent search systems. The latter (external substantive goals) are reflected in the structure of monitoring systems or forecasting models, by means of which developments in a particular policy field can be monitored and predicted. In both cases the characteristics of the measures to optimise the knowledge administration are predominantly technical.

### **Knowledge use**

When experts and managers focus on strengthening knowledge use, they try to influence the deployment of the available knowledge in such a way that topical knowledge questions (in other words policy questions) can be addressed more effectively. They endeavour to extract more value from the available knowledge by assigning knowledge workers to reflect on the significance of the available information and by encouraging them to apply the available knowledge more cleverly. This is relevant in particular when knowledge must be used directly or frequently in the politico-administrative process, and 'political feeling' is necessary in order to recognise important signals or produce policy texts that can withstand political criticism in government or parliament.

### **Knowledge sharing**

Projects are instituted at various places for the purpose of initiating intensive knowledge sharing processes between policy players. The idea behind them is that many players possess knowledge in many different ways which can be of importance in the formulation and implementation of policy. This knowledge, so the reasoning goes, should be combined in a systematic manner. Merely gathering and making accessible the available knowledge is deemed insufficient, since the strengthening of policy formation and implementation also implies strengthening policy goals. Knowledge sharing is seen as a strategic process, in which new research and new knowledge relationships are used to identify new policy options.

### **Knowledge creation**

When knowledge creation is promoted, the primary aim is not to respond as effectively as possible to social developments in accordance with existing *policy paradigms*, whether or not in conjunction with new policy goals. Instead, the aim is to identify robust policy options which can withstand successive social changes or to devise unthinkable options

in order to initiate new developments. The idea is that it is necessary to respond in truly new ways to a changing relationship between government and society.

### **Instruments**

*Knowledge management projects* are designed to change the course of knowledge-intensive processes. Instruments are deployed for this purpose: aids which make it possible to cast administrative systems in a different form, to regulate information storage in a different manner, to answer knowledge questions in different ways, to revise knowledge relationships or to induce knowledge workers to think and act in different ways.

The main conclusion is that experts and managers can choose from a large number of 'new' instruments, which are connected with recent developments in information and communication technology (ICT) and with (business management) thinking on knowledge management. In addition, all kinds of instruments are borrowed from adjoining fields, such as human resource management (HRM). A second important conclusion is that most projects employ comparable instruments. For example, intranets are being constructed everywhere and knowledge maps are being introduced in many places. Nonetheless, the significance of these instruments differs from place to place. This is due to the fact that some instruments, such as an intranet, are 'empty'. An intranet can obtain form and content in various ways. The difference in meaning is also connected with the fact that clear-cut instruments can be employed differently. Knowledge maps can, for example, be used to find out what happens where (who knows what) or to locate individuals whose interests are such that they are well-placed to initiate innovation. In brief, the significance of instruments is determined by the goals the project serves.

At the same time, it should be noted that different types of projects may employ comparable instruments to a different extent or that they may not introduce with equal precision the instruments they mention. In particular projects, emphasis is often placed on a limited number of specific instruments.

Different instruments are employed differently in the four types of project. The structuring of types of instrument can therefore take place in a manner comparable to the structuring of types of project. The answers to two questions are of importance. Are the instruments used to handle existing knowledge or to generate new knowledge? Are the instruments designed to process available knowledge or to translate such knowledge? Four types of instruments are the result.

- *Responsive instruments.* They are designed to unlock existing knowledge (databases) as effectively as possible in order to use information and knowledge to answer knowledge questions.
- *Reflexive instruments.* They are designed to enhance and make better use of available knowledge in order to strengthen politico-administrative decision-making.
- *Integrative instruments.* They are designed to combine knowledge and strengthen knowledge relationships in order to make policy processes more intelligent.

- *Innovative instruments.* They are designed to generate new ideas and evaluate new options in order to enhance the creative capacity of bureaucratic bodies.

### ***Responsive instruments***

Responsive instruments are used to structure ministry information systems. Such instruments are used to try to gain access to and/or obtain an oversight of a body of knowledge that often tends to expand rapidly and assume different forms. This may relate, for example, both to formal documents and to informal memorandums and individual experiences. It may also involve knowledge necessary for internal administrative purposes (*business processes*) and for external substantive purposes (*policy monitoring*). The instruments are responsive because they enable users to comply quickly and adequately with specific knowledge questions. It may be that parliamentary questions have to be answered or that information about previous experience is necessary in order to draft new policy papers.

The improvement of information systems may have consequences both for the normal operations and for the way in which policy is formulated and implemented. After all, policy documents may not only be filed but also circulated by virtual means during policy formulating processes. If documents have to be approved, two or more approvals can be obtained simultaneously.

### ***Reflexive instruments***

Reflexive instruments are used to strengthen the reflexive capacity of ministry organisations and civil servants. This has little to do with technology and everything to do with ‘culture’, ‘professionalism’ and ‘procedures’. In many places attempts are being made to make civil servants not only less specialised and more politically sensitive but also more knowledge conscious. In addition, efforts are being made to bring them into contact with one another by surmounting the barriers between departments and directorates in order to promote the exchange of knowledge. The goal is to serve the politico-administrative process more effectively and to avoid media and political ‘bother’. This must be done primarily by ‘soft’ means.

### ***Integrative instruments***

Integrative instruments are used to strengthen the strategic capacity of policy players. They are of a strongly substantive nature: new research should be devised more intelligently, and available and new knowledge should be combined more effectively. Knowledge and knowledge workers must be brought together as much as possible and made mutually compatible. With the help of knowledge of ‘greater substance’, long-term policy can be pursued and recorded in, for example, multi-year agreements. This is not only a question of unlocking available knowledge, but also of bringing together knowledge partners and promoting the possibilities for identifying and responding to *signals*.

### ***Innovative instruments***

Innovative instruments are used to increase the innovative capacity of bureaucratic organisations. To this end it is necessary to break down existing bureaucratic frameworks to some extent. This is why the deployment of innovative instruments is often accompanied by reorganisations designed to make the organisation ‘flatter’, to open it up to the outside world and to allow it to operate more ‘horizontally’. This tends to be difficult because there is great pressure to conform to the existing bureaucratic way of thinking.

### **Conclusion**

The different knowledge management tools were identified. First of all the *scope* of projects was ascertained. It was concluded in this connection that projects can be embedded in the organisation in four different ways: they may be hidden, high profile, massive or radical projects. The approach to the projects was then studied. On this basis it was possible to conclude that there are four types of project: i.e. projects designed to optimise knowledge administration, knowledge use, knowledge sharing or knowledge creation. Finally, the instruments employed were identified. It transpired in this connection that different instruments are employed differently in different projects. Once again, there were four types, which are closely related to the types of project: responsive, reflexive, integrative and innovative instruments.

In practice, there is a close relationship between scope, approach and instruments. Projects designed to strengthen *knowledge administration* employ responsive instruments, which combine well in terms of scope with hidden projects. Projects designed to strengthen *knowledge use* employ reflexive instruments, which combine well in terms of scope with high profile projects. Projects designed to strengthen *knowledge sharing* employ integrative instruments, which combine well in terms of scope with massive projects. Projects designed to strengthen *knowledge creation* employ innovative instruments, which combine well in terms of scope with radical projects. Four types of ‘tools’ are the result.

- ***Business tools.*** Instruments are deployed in projects to strengthen the information base of the primary process and structure the information system.
- ***Policy tools.*** Instruments are deployed to enable civil servants to respond more effectively to the political connotations of information and the capricious nature of politico-administrative decision-making.
- ***Strategic tools.*** Instruments are deployed to bring together more effectively all kinds of information and knowledge in order to formulate more intelligent policy that commands greater support.
- ***Administrative tools.*** Instruments are deployed in order to formulate in a non-bureaucratic way policy that is better designed to meet future requirements and is more socially relevant.

Finally, an observation should be made about the dimensions used in the case of each building block to distinguish the types of scope, approach and instruments. Just as in the case of the knowledge management languages, it can be concluded that the light-heavy and existing-new knowledge dimensions on the one hand and low-high and processing-translating dimensions on the other are closely interrelated. The first two dimensions can be regarded in terms of the distinction between *goal-based* and *goal-seeking* action and the last two dimensions in terms of the distinction between *technical* and *social* action. In the case of *goal-based* tools, the policy goals are not in dispute and answers to knowledge questions are sought within existing substantive and organisational frameworks. This is the case when working processes are streamlined (digitally) or when the capacity of policy staff to respond more effectively to political questions is increased. In the case of *goal-seeking* tools, the policy goals are in dispute. This is the case if new strategic themes or options are identified or control philosophies are reviewed. In the case of *technical* tools the means are central: efforts are made by instrumental means to respond better to knowledge questions. This is the case not only where ICT applications are deployed, but also where knowledge is deployed as a factor of production in strategic processes. In the case of *social* tools, people are central: the professionalism or creativity of people (the knowledge workers) is crucial, so the reasoning goes, in answering urgent or new knowledge questions. This applies both to responding more effectively to urgent political questions and to formulating an innovative response to diffuse ambient developments. These dimensions are used to indicate the four knowledge management configurations.

### **Knowledge management configurations**

The building blocks of language and tools can be fitted together. A technical and goal-based language is often accompanied by the deployment of technical and goal-based instruments, such as digital archives. A social and goal-seeking language is accompanied by the deployment of social and goal-seeking instruments, such as scenario teams. In this way four types of knowledge management or *knowledge management configurations* can be distinguished. They are designated by means of the labels that were used for the deployment of instruments.

- Responsive knowledge management, used in order to optimise knowledge administration with a view to the ideal of the digital organisation.
- Reflexive knowledge management, used in order to strengthen knowledge use with a view to the ideal of the professional organisation.
- Integrative knowledge management, used in order to promote knowledge sharing with a view to the ideal of intelligent organisation forms.
- Innovative knowledge management, used in order to increase knowledge creation with a view to the ideal of flexible organisation forms.

### ***Responsive knowledge management***

Responsive knowledge management is intended above all to make the ‘production process’ in public organisations as transparent and accessible as possible, thereby enabling every conceivable knowledge question to be answered quickly and smoothly. It is a product of the feeling that although much is thought, written and published, many

facts and figures are known, and individual civil servants have a wealth of experience, it is often difficult to obtain quick and effective access to and an overview of all this informative knowledge. The ideal is therefore a *digital organisation*, in which everything is stored and made accessible and in which the flow of documents is rationalised and made more efficient. Any question can then be quickly answered on the basis of up-to-date figures, relevant documents and the previous experience of other people.

### ***Reflexive knowledge management***

The purpose of reflexive knowledge management is not to try to make everything transparent and accessible, but to answer knowledge questions ‘better’, in order to obviate political or legal problems. The ideal is not a digital organisation but a *professional organisation* in which knowledge workers are not only aware of the facts but also have a certain degree of political or politico-administrative feeling or social awareness. In the heat of political battle it is, after all, not just a matter of supplying summaries, overviews and abstracts but of formulating worthwhile ideas that will stand the test of political or social debate and taking adequate action in relation to groups in society. Efforts are made to increase the professionalism of civil servants by social means (training courses and sessions and confrontations with outsiders). New management styles and awareness cultures are introduced.

### ***Integrative knowledge management***

Integrative knowledge management is designed to bring together available knowledge on the understanding that it is not sufficient simply to digitise information and knowledge flows, since it is recognised that existing ways of thinking and acting must be abandoned and since those concerned have experience-based knowledge which is difficult to explicate and record. The ideal is the creation of *intelligent organisation forms*, in which knowledge flows are bundled, in which new developments are quickly ‘seen’, and in which knowledge is used to identify and record intelligent, future-oriented options. It is mainly a technical exercise because the rationalisation and foundation of policy processes is central. It is ascertained that interpretation differences exist and that the political debate is ‘irrational’, and that this is viewed as undesirable. With the help of knowledge centres, knowledge platforms and knowledge circles the strategic orientation of the organisation towards existing and new themes is strengthened and the exchange of (individual) knowledge is encouraged.

### ***Innovative knowledge management***

Innovative knowledge management is designed to develop new ways of thinking and acting which enable administrative bodies to deal better with changed social and administrative relationships. Since administrative bodies have become turned in upon themselves and are too unwieldy to respond to contemporary social demands, it is logical that attempts are made to find open and *flexible organisation forms*. The ideal forms are flexible organisations that are receptive to signals and able to respond smoothly to them. This ideal is principally connected, so the reasoning goes, with creativity and the way in

which civil servants and others involved work together, for example during meetings. Attempts are made through new competences, perspectives and so forth, to work in a more horizontal and project-based way and to respond with the help of scenario methods in hitherto unknown ways to contemporary social developments.

For the sake of clarity, the above types of knowledge management or *knowledge management configurations* are ‘pure’ or ‘idealised’ forms which do not occur in practice in this way. This is also evident from the previous sections. The authors of the projects often hedge their bets by citing motives or employing instruments that ‘belong’ to different types of knowledge management. This is more likely if the projects or programmes are wide-ranging. Nonetheless, behind the majority of project elements and even of some more wide-ranging projects there is a fairly well-defined idea of where they are going and how they should be approached. Indeed, it may be cautiously stated that the closer concrete projects or parts come to the pure forms the better their authors know what they want, the more effective the projects are in terms of content, approach and embedding, and the greater is the chance of success.

### **Knowledge management settings**

The knowledge management configurations are not equally ‘effective’ or ‘profitable’, in other words *suitable*, at every moment and at every place. From observations in practice, it can be concluded that a given type of knowledge management is introduced in a given type of setting involving specific issues and specific policy developments, which require, as it were, a specific knowledge management configuration.

The crucial analytical question is therefore what type of settings should be distinguished in order to identify the match between configuration and setting. On the basis of the interviews it can be concluded that two basic dimensions are of great importance. Concrete knowledge projects are developed in settings that differ in terms of the degree to which the knowledge base on which the policy players move is unequivocal and in terms of the degree to which the issues they face are stable.

### **Unequivocal or unequivocal knowledge base?**

The type of knowledge management differs according to the differences in the nature of the *knowledge base* on which administrative and social players move. This knowledge base relates to the nature of the knowledge that is necessary to tackle issues. It may be *unequivocal*, in which case it is clear to all concerned what is at issue and what can and should happen, and even if it is not clear at the outset it is still relatively easy to find out. Alternatively, the knowledge base may be equivocal: what is at issue may be clear to the individuals concerned, but they may be in disagreement – or the majority may be unclear – about whether it can or should be happening.

In the majority of cases the knowledge base relates to expert knowledge, since experts are needed in most policy fields to provide insight into problems and issues. The question about the ‘hardness’ of the knowledge base then becomes a question about the extent to

which experts are in agreement. This is connected with the tangibility or factuality of the issues and the extent to which (theoretical) interpretations are necessary in order to know the issues.

Questions of the following kind can enable us to assess the hardness of the knowledge base:

- is the issue *measurable*: can facts be gathered?
- are the facts *controversial*: is it clear what facts are important?
- can the *significance* of facts be determined: are the facts self-explanatory?

### **Stable or unstable issues?**

In the second place, it is clear on the basis of discussions, documents and experiences that the nature of the knowledge management differs according to the stability of the issues confronting ministry organisations or organisational units. These issues may be relatively stable: the instruction given to the administrative bodies is relatively clear, there is little political turbulence, there is sufficient time, and there is no tampering with substantive or administrative structures. Alternatively, the issues may be relatively unstable: the instructions are unclear, there is little time for consideration and there is much political turbulence - there is 'bother' in parliament, relations in Cabinet between the coalition members are precarious, and groups in society (for example umbrella organisations) are restive. In short, this dimension is closely connected with political sensitivities. In operational terms this can be expressed in the following way. The question as to the degree of issue stability is a question concerning the degree to which existing policy structures are under discussion. This question can be subdivided into the following questions:

- Do these issues attract much political, parliamentary and/or media *attention*?
- Is there little *time* for administrative action?
- Are existing *policy structures* under discussion?

Four knowledge management settings can be distinguished on the basis of the two dimensions.

- *Quiet setting*. A setting in which it is relatively clear what the policy players have to do and in which there is sufficient time to work on the issues.
- *Unquiet setting*. A setting in which the knowledge field is clear, but in which the issues are or become unstable, thereby necessitating rapid action.
- *Expert setting*. A setting in which experts call the shots because the issues are complex and expert views differ.
- *Open setting*. A setting in which much is unclear at any given time: experts are in disagreement and existing policy structures are under discussion (possibly at a fundamental level).

For an overview of the different knowledge management types or knowledge management configurations in the various settings we would refer to the last pages of this management summary.

## Knowledge policy

From the point of view of knowledge policy, on the basis of which it is decided to introduce a given type of knowledge management in a specific setting, the following questions are relevant.

What type of setting applies to our ministry organisation or organisational unit? And, hence, what type of knowledge management and what type of language and tools do we need? Is a transition to a different setting conceivable or desirable? What implications does this have for our knowledge management?

Knowledge management experts play an important role in answering these questions. Knowledge workers will ultimately have to manage information and knowledge themselves, but the conditions in which they do this and the incentives offered to them deserve separate attention. Experts will have to arrange for suitable conditions and suitable incentives, but they cannot do this alone. More explicit support from the top management of the ministry or even political support may be necessary for the introduction and expansion of projects, particularly if the scope of the project should be widened in order to achieve the intended goals. At the same time, it should be noted that the support is more likely to be forthcoming in settings in which it is absolutely necessary: in a setting in which there is political instability and the dismantling of existing policy structures, something *must* happen. There is then a marked sense of urgency. Yet even then experts and managers are necessary to recognise this and determine what type of activities are necessary. Indeed, the managers must appreciate the importance of appointing knowledge management experts. To facilitate this process of recognition and determination, an initial proposal for a diagnostic and intervention instrument is made below.

### *Step 1*

Assess the nature of the setting applicable to the government ministry or, rather, ministry units by first assessing the nature of the knowledge base: how unequivocal is this knowledge base? Are issues *measurable*: can facts be gathered? Are the facts *controversial*: is it clear what facts are important? Can the significance of the facts be determined: are the facts self-explanatory?

### *Step 2*

Assess subsequently the nature of the setting by evaluating the stability of issues: is the existing setting under discussion? Do the issues attract much political, parliamentary and/or media attention? Is there little time for administrative action? Are the existing policy structures under discussion?

### *Check 1*

In taking both these steps consider the question of whether the setting in which the ministry or the unit finds itself is a 'split' setting. It may be that specific issues or knowledge field belong to different settings. The wider the knowledge

management horizon is and the more ministry units covered, the more likely this is.

#### *Check 2*

In taking both the above steps consider whether the knowledge base and/or issue stability will be subject to change in the short or medium term.

#### *Step 3*

Combine steps 1 and 2 and identify the type setting(s) in accordance with table 11.

#### *Step 4*

Choose the type(s) of knowledge management applicable to the setting(s) in accordance with table 12. Choose the correct motive, definitions, models, scope, project type and instruments (see table 10 above). In the case of a split setting, introduce different, appropriate knowledge management projects.

#### *Step 5*

Create a project structure or team(s) or determine the duties of existing directorates or departments in accordance with the type of scope, so that the project is given organisational legitimacy.

#### *Steps 6*

Work on the implementation of the project or projects from the correct organisational embedding. The more open the setting the more 'force' will be necessary (in other words, more documents, more meetings and so forth). In quieter settings this can be done much more unobtrusively.

#### *Check 3*

Monitor whether the nature of the setting changes and, if so, go back to step 1.

### **Conclusion**

Although knowledge management is a means of managing knowledge-intensive issues, it is *itself* also an issue that must be managed in all kinds of respects. The previous conferences which experts organised were a first step in this direction. This report is a logical follow-up, and the provision of digital support for these sharing processes could be the next step. Ultimately it will come down to an exchange of ideas based more specifically on experience, for example through knowledge circles or knowledge centres. This can help to strengthen the foundation for vigorous knowledge management.

## Knowledge management languages

### 1. Types of motives

<b>Optimisation</b>	<b>From the inside</b> <i>Business-related motives</i> Strengthening of the knowledge system, streamlining of the document flow	<b>From the outside</b> <i>Policy motives</i> Strengthening of policy professionalism, avoidance of problems
<b>Adaptation</b>	<i>Strategic motives</i> Rationalisation of policy formation, strengthening of knowledge relationships	<i>Administrative motives</i> Flexibilisation and debureaucratisation of inflexible organisations forms

See table 2. Types of motives

### 2. Types of knowledge

<b>Explicit</b>	<b>Individual</b> <i>Informative knowledge</i> Facts and figures, recorded experiences	<b>Relational</b> <i>Interactive knowledge</i> Exchangeable ideas and experiences
<b>Implicit</b>	<i>Experience-based knowledge</i> Individual ideas, views and experiences	<i>New knowledge</i> Knowledge created during interactions

See table 6. Four types of knowledge

### 3. Types of knowledge management

<b>Instrumental</b>	<b>Means</b> <i>Business management</i> Optimal deployment of regular factors of production	<b>People</b> <i>Policy management</i> Effective handling of policy issues and policy questions
<b>Institutional</b>	<i>Strategic management</i> Adjustment of institutional structures and external customer management	<i>Administrative management</i> Search for new ways of achieving flexible organisation

See table 8. Four types of knowledge management

### 4. Knowledge management models

<b>Sequential</b>	<b>Private</b> <i>Business-related model</i> Optimisation of the knowledge value chain	<b>Public</b> <i>Policy model</i> Optimisation of the policy chain
<b>Parallel</b>	<i>Strategic model</i> Development of appropriate strategies	<i>Administrative model</i> Dealing with politico-administrative context

See table 10. Four knowledge management models

5.	+		
	<i>Knowledge management languages</i>		
	<b>Business language</b> <i>Motive:</i> business-related <i>Definition of knowledge:</i> informative knowledge <i>Definition of knowledge management:</i> business-related <i>Model:</i> business-related	<b>Policy language</b> <i>Motive:</i> policy-related <i>Definition of knowledge:</i> interactive knowledge <i>Definition of knowledge management:</i> policy <i>Model:</i> policy	
	<b>Strategic language</b> <i>Motive:</i> strategic <i>Definition of knowledge:</i> experience-based knowledge <i>Definition of knowledge management:</i> strategic <i>Model:</i> strategic	<b>Administrative language</b> <i>Motive:</i> administrative <i>Definition of knowledge:</i> new knowledge <i>Definition of knowledge management:</i> administrative <i>Model:</i> administrative	
	See table 15. Knowledge management languages: four configurations		
6.	+		
	<i>The different scope</i>		
	<b>Light</b>	<b>Low</b> <i>Hidden projects</i> Limited number of people working behind the scenes on projects	<b>High</b> <i>High profile projects</i> Limited number of high flyers working at high level on pet projects
	<b>Heavy</b>	<i>Massive projects</i> Large number of people working in relative calm on major projects	<i>Radical projects</i> Large number of people working at high level on projects that have major consequences
	See table 16. Four types of scope		
7.	+		
	<i>Types of project</i>		
	<b>Existing knowledge</b>	<b>Processing</b> <i>Knowledge administration</i> Optimal recording and making accessible of information and knowledge	<b>Translation</b> <i>Knowledge use</i> Reinterpretation or better utilisation of available information and knowledge
	<b>New knowledge</b>	<i>Knowledge sharing</i> Better collection and coordination of knowledge to create new ideas and understanding	<i>Knowledge creation</i> Production of new knowledge by learning from previous experience or increasing creativity
	See table 17. Four types of project		
8.	+		
	<i>Types of instrument</i>		
	<b>Existing knowledge</b>	<b>Processing</b> <i>Responsive instruments</i> Unlocking of knowledge	<b>Translation</b> <i>Reflexive instruments</i> Enhancement of knowledge
	<b>New knowledge</b>	<i>Integrative instruments</i> Combining of knowledge	<i>Innovative instruments</i> Generation of ideas
	See table 26. Four types of instrument		

9.

*Four types of knowledge management tools*

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<b>Business tools</b> <i>Scope:</i> hidden <i>Approach:</i> knowledge administration <i>Instruments:</i> responsive	<b>Policy tools</b> <i>Scope:</i> high profile <i>Approach:</i> knowledge use <i>Instruments:</i> reflexive
<b>Strategic tools</b> <i>Scope:</i> massive <i>Approach:</i> knowledge sharing <i>Instruments:</i> integrative	<b>Administrative tools</b> <i>Scope:</i> radical <i>Approach:</i> knowledge creation <i>Instruments:</i> innovative

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See table 31. Knowledge management tools: four configurations

The languages and tools combined produce the following ...

10. *Types of knowledge management*

<p><b>Responsive knowledge management</b>  <i>Motive:</i> business-related motives  <i>Definition of knowledge:</i> informative knowledge  <i>Definition of management:</i> business management  <i>Model:</i> business-related model  <i>Scope:</i> hidden projects  <i>Approach:</i> strengthening of knowledge administration  <i>Instruments:</i> responsive instruments</p>	<p><b>Reflexive knowledge management</b>  <i>Motive:</i> policy motives  <i>Definition of knowledge:</i> interactive knowledge  <i>Definition of management:</i> policy management  <i>Model:</i> policy model  <i>Scope:</i> high profile projects  <i>Approach:</i> strengthening of knowledge use  <i>Instruments:</i> reflexive instruments</p>
<p><b>Integrative knowledge management</b>  <i>Motive:</i> strategic motives  <i>Definition of knowledge:</i> experience-based  <i>Definition of management:</i> strategic management  <i>Model:</i> strategic model  <i>Scope:</i> massive projects  <i>Approach:</i> strengthening of knowledge sharing  <i>Instruments:</i> integrative instruments</p>	<p><b>Innovative knowledge management</b>  <i>Motive:</i> administrative motives  <i>Definition of knowledge:</i> new knowledge  <i>Definition of management:</i> administrative management  <i>Model:</i> administrative model  <i>Scope:</i> radical projects  <i>Approach:</i> strengthening of knowledge creation  <i>Instruments:</i> innovative instruments</p>

See table 34. Four knowledge management configurations

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11. *Different management settings*

<b>Unequivocal knowledge base</b>	<p><b>Stable issues</b>  <i>Quiet setting</i>                  Clear situation and relatively quiet, so that there is time to act</p>	<p><b>Unstable issues</b>  <i>Unquiet setting</i>                  Knowledge is known and available, but politicians and press are restive</p>
	<p><b>Equivocal knowledge base</b>  <i>Expert setting</i>                  Dominance of experts owing to complexity of issues</p>	<p><i>Open setting</i>                  Much is under discussion at the same time</p>

See table 36. Knowledge management settings

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12. *Knowledge management per setting*

<p><b>Quiet setting</b>  <i>Responsive knowledge management</i></p>	<p><b>Unquiet setting</b>  <i>Reflexive knowledge management</i></p>
<p><b>Expert setting</b>  <i>Integrative knowledge management</i></p>	<p><b>Open setting</b>  <i>Innovative knowledge management</i></p>

See table 37. Knowledge management per setting

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***For further information:***

Ms D. de Groot  
Tel. +31 (0)70 426 7047  
E-mail: Daphne.Groot@minbzk.nl

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