



# OECD Knowledge Management project

Report - Danish pilot-survey

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## OECD Survey of Knowledge Management

### 1. Introduction

The OECD (Organization for Economic Co-operation and Development) has taken the initiative to conduct an international survey on what kinds of Knowledge Management practices are used in the private sector, and how effective these are perceived to be. This interim report<sup>1</sup> results from a pilot study conducted towards this end. The purpose of the pilot study is to develop and test out the questionnaire to be used in the eventual analysis. Statistics Canada has been the leading force behind the pilot study, which is also being carried out in Germany, the USA and possibly Australia.

The aim of this pilot study – undertaken by the Centre of Management – is to develop further, and to test out, a questionnaire on the use of Knowledge Management in the private sector in Denmark.

The pilot study has resulted in this interim report, which contains the Centre of Management's proposals for improving the questionnaire.

The final questionnaire will later be used to investigate what kinds of practices are employed to promote the sharing, transfer, assimilation and maintenance of knowledge in the private sector in the OECD countries, and to what extent organizations find them effective.

This section briefly introduces the background to the project.

#### 1.1 Why a survey of Knowledge Management is needed

The utilization of knowledge has been seen as a significant factor in giving an enterprise competitive advantage. Organizations which have looked seriously at their use of knowledge have discovered that they possess more knowledge than they realise. As the Danish company Systematic puts it in its recent intellectual capital report<sup>2</sup>: *'If only Systematic knew what Systematic knows'* - pointing to the great benefits that arise from being able to identify, gather and utilize knowledge in such a way as to derive maximum value from it. This sets new challenges for management. For intellectual capital has to be managed – and Knowledge Management is now on the agenda. At any rate, that is what we are told by modern management theorists<sup>3</sup>.

So far, however, there have been few studies of Knowledge Management, and those that exist focus primarily on large enterprises. They provide no basis for cross-border analysis, nor for linking data with other national or international studies. Moreover, although the concept of Knowledge Management is today more and more widely used, there is no common terminology to deal with the concept.

#### 1.2 Background and aims of the project – what will the main study be used for?

The OECD will set the spotlight on Knowledge Management by carrying out a survey of the kinds of practices that are used to acquire and share knowledge in the private sector, and how effective these are considered to be.

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<sup>1</sup> The final report will be sent out 14 days after the fourth OECD meeting, due to be held in March 2002.

<sup>2</sup> This report can be downloaded on [www.systematic.dk](http://www.systematic.dk)

<sup>3</sup> See for example Drucker (1993), who directly refers to the age we live in as the 'knowledge society' in *Post-capitalist society*, New York: HarperBusiness, 1993; Peter Holdt Christensen (ed.) "Viden om – ledelse, viden og virksomheden", ("Knowledge about – management, knowledge and business"), Samfundslitteratur, 2000; George Von Krogh, Kazuo Ichijo, Ikujiro Nonaka *Enabling Knowledge Creation – How to Unlock the Mystery of Tacit Knowledge and Release the Power of Innovation*, Oxford University Press, 2000

OECD governments will be able to use the results of the study in deciding what forms of intervention could help promote business competitiveness through Knowledge Management.

Private companies will be able to use the results as an inspiration and a starting point for comparative studies.

Trade associations and researchers will be able to use the results to evaluate the impact and effects of various practices, among other things by linking the data with other national databases.

It is intended that the survey of Knowledge Management be carried out on a regular basis within the OECD with a view to establishing a benchmarking database which would facilitate international comparison among OECD countries. It is hoped that this database will be linked with other data through using existing official surveys in the respective countries. At the same time the aim is to standardise the terminology used throughout the OECD.

The aim of the main survey is to investigate what kinds of practices are used to promote the sharing, transfer, assimilation and maintenance of knowledge in the private sector in the OECD countries, and to what extent organizations find these practices effective.

### **1.3 The partners**

The investigation will be carried out in the form of a survey. The following countries are participating in discussions on the formulation of the questionnaire: Canada, Germany, France, the UK, Australia, Italy, Denmark, Holland, the USA and Sweden.

Three countries - Canada, Germany and Denmark – were commissioned to test out the questionnaire by conducting pilot surveys<sup>4</sup>. Statistics Canada is the chief editor of this pilot study, and in addition to the survey has carried out - in spring 2001 - a comprehensive series of interviews. Denmark also carried out a series of interviews prior to the pilot survey. The results of these interviews are included in this report.

### **1.4 What will the pilot study be used for?**

The Centre of Management has used the information gathered by the pilot study to evaluate how well the questionnaire works.

The aim of the pilot study is to improve, and to test out, a questionnaire which will later be used to investigate the use of Knowledge Management in the private sector in the OECD countries.

In addition, the Centre has done separate analyses which give some indication as to how Danish companies are working with Knowledge Management, but it must be stressed that a representative survey has not been carried out.

The results of the Danish study will be compared with the results from the other pilot studies. i.e. those from Canada and Germany. This will happen at a meeting of the OECD in March 2002.

The pilot study has resulted in this interim report, which contains the Centre of Management's proposals for improving the questionnaire and gives a first indication of how KM is used in Denmark.

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<sup>4</sup> Pilot surveys may also be carried out in the USA and Australia

### **1.5 Who is included in the survey?**

The object of the study is the entire private sector. The questionnaire is aimed at the top manager of a given organization, i.e. the administrative director (chief executive officer), since it is the top manager who may be expected to have overall strategic insight. In the Danish questionnaire, however, no instructions were given as to who was to fill it out. The reason for this was that we hoped to reveal relevant target groups by asking at the end of the questionnaire who in fact had completed it. It has not yet been determined whom the final OECD questionnaire should be aimed at.

## **2. Methodology of the Pilot Study**

### **2.1 Procedures and methods**

This study came into being as a result of a series of OECD meetings. Two of these meetings were held before the pilot study was undertaken, and are not therefore referred to in this report<sup>5</sup>.

The pilot study consisted of

- Two meetings held by the Danish survey group, which consisted of leading authorities in the fields of both Knowledge Management and survey techniques.
- A series of interviews conducted in 6 Danish organizations.
- A pilot survey carried out among 200 Danish organizations.

These procedures are illustrated in the sequence Chart in Appendix 4.

### ***Survey group***

The group consisted of the following individuals:

Benedicte Stakemann, Erhvervsfremme Styrelsen (Committee to Promote Industry), Copenhagen

Peter Stendahl Mortensen, Analyseinstitut for forskning (Institute of Analysis and Research), Aarhus

Marianne Stang Våland, Learning Lab Denmark, Copenhagen

Henning Madsen, Handelshøjskolen i Aarhus, (Aarhus Business School), Aarhus

Heine Larsen, Ementor Denmark A/S, Copenhagen and Handelshøjskolen i København, (Copenhagen Business School), Copenhagen

Peter Holdt Christensen, Institut for Ledelse, Politik og Filosofi, Handelshøjskolen i København, (Institute of Management, Politics and Philosophy, Copenhagen Business School), Copenhagen

Bettina Høst Poulsen, the former "Erhvervsministeriet", (The Danish Ministry of Business Affairs), Copenhagen

The group held two meetings – the first focussing on the original OECD-questionnaire, the second on the results of the preliminary interviews. Both meetings gave rise to valuable comments as to how to conduct the next stages of the study.

### ***The interviews***

Interviews were carried out in six different organizations: one large and one small manufacturing company, one large commercial enterprise, one large and one small service enterprise, and a research center<sup>6</sup>. The interviews were conducted in the following manner: The material was handed to the respondent, as if he/she had received it by regular mail. The

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<sup>5</sup> The Centre of Management took part in the third OECD meeting in July 2001.

<sup>6</sup> The latter is not in the target group (private firms). However, at this point in the survey it was thought relevant to test out the questionnaire in an organization whose existence is based on the ability to gather and process knowledge, since an organization of this kind could be expected to have given thought to the management questions under consideration.

respondent was then asked to verbally explain his/her thoughts while filling out the questionnaire. In this way the interviewers were able to get quite a good picture of the questions and formulations that caused difficulty, and in the process a number of modifications were made to the phrasing of individual questions.

### ***The translation process***

In the first instance the OECD questionnaire was translated directly from American-English into Danish, and the first interviews were carried out on the basis of this questionnaire. The experience of these interviews and the survey group meetings led – after considerable discussion – to a substantial reformulation of most of the questions, so that their meaning and significance were expressed more precisely in terms that made sense to the respondents.

*Translation is a critical factor in ensuring that a cross-border comparison of the results of the final survey can be made.*

*Those countries that wish to participate in the eventual survey must be prepared to devote significant resources to the translation process, so that appropriate adjustments are made for differences of both language and management procedure.*

### ***The pilot survey***

The pilot survey was carried out in 400 enterprises in Canada, 200 in Germany and 200 in Denmark.

In this pilot study Denmark chose not to link up with other databases, since the purpose of the pilot study was to test out and improve the questionnaire, rather than to conduct a representative study of Knowledge Management practices. Instead, the Danish questionnaire for the pilot survey was supplemented with a number of background variables.

During October 2001 the Danish questionnaires were sent out with the aim of making a pilot survey which could be compared with the other pilot surveys in Canada and Germany.

The respondents interviewed expressed the view that the questionnaire was too comprehensive, and several of them would have chosen not to fill it out. It was therefore felt necessary to devote further resources to obtaining as high a percentage of respondents as possible. A very large proportion of the respondents were therefore contacted by telephone before the questionnaire was sent out; similarly, respondents were reminded to return the questionnaire after the deadline had passed. As a result, 61 questionnaires were filled out and returned – representing a 30% response rate. There are strong indications that this response rate could not be obtained with an ordinary survey involving no telephone contact. *Obtaining a reasonable rate of response is therefore another critical element in the success of the final survey, and methods of gathering data should therefore be discussed.*

For the pilot survey a random group of private firms and organizations was selected from a total database<sup>7</sup> containing all Danish enterprises with more than 50 employees and all corporations and private limited companies with fewer than 50 employees.

The number of respondents is too low to make a representative study, nor indeed was this the intention. However, efforts were made to ensure that the distribution of different types of enterprise in the survey – in terms of both size and trade – corresponded approximately to that in the database as a whole. The distribution of the different types of enterprise within the survey is shown in the figures below.

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<sup>7</sup> Købmandsstandens CD-direct (The Business World's CD-Directory)

Table 2.1: Distribution in the pilot survey by number of employees

Employees:	Distribution in the total database:	Distribution in the chosen population of 200 enterprises	Distribution among the questionnaires returned (61 respondents)
1-19	36%	33%	34%
20-49	27%	26%	27%
50-99	20%	16%	17%
100-249	10%	12%	14%
250-499	4%	3%	3%
500-1.999	3%	1%	2%
2000+	0%	9%	3%

As can be seen, there is a relatively large percentage of enterprises with fewer than 20 employees, a fact that should be borne in mind when the results of the pilot study are analysed. Even though this gives a true picture of the private sector in Denmark, the relevance of including such small enterprises in the final study should be discussed.

Table2.2: Distribution in the pilot survey by sector

Trade:	Distribution in total database:	Distribution in test group of 200 respondents	Distribution among questionnaires returned (61 respondents)
Not answered	-	-	5%
Agriculture, fishing, primary product development	2 %	1 %	2%
Manufacturing	24 %	24 %	20%
Energy and water supply	0 %	1 %	2 %
Building and construction	13 %	10 %	7%
Hotel and restaurant industry	25 %	26 %	21%
Transport, post and telecommunications	9 %	8 %	5%
Advisory and finance services	12 %	18 %	11%
Public and private service industries	15 %	12 %	3%
Other	0 %	0 %	24%

### 3. The questionnaire in general

#### 3.1 How the questionnaire was drawn up

The questionnaire was discussed at a series of OECD meetings. The first of these was held in Denmark in February 2001, when a first draft of the questionnaire was drawn up. This draft was further developed by experts from a large number of OECD countries, and tested out in Canada. The Centre of Management was brought into the process in June, when the design of the questionnaire was discussed, first at a meeting of the Danish survey group, and subsequently at a meeting of the OECD. The final design was settled in July.

#### 3.2 The definition of Knowledge Management

There is an overwhelming number of definitions of Knowledge Management (See appendix 3), and several of these were tested out in Canada in the course of the interviews that were carried out there in spring 2001. With this research as a starting point, the various definitions of Knowledge Management were discussed at the OECD meeting in July.

The final definition was '*KM involves any systematic activity related to the capture and sharing of knowledge by the organization*'. This definition does not contain any explicit reference to the transfer, the creation, the maintenance or the utilization of knowledge.

The Danish pilot study has shown that it is unfortunate that the 'utilization' of knowledge has been left out. *Further finessing of the definition, or discussion of alternatives to it, is crucial to the success of the final survey*

Knowledge Management involves any systematic activity related to the capture and sharing of knowledge by the organization

### **3.3 The structure of the questionnaire**

The starting point for the questionnaire is a list of practices which can be used in Knowledge Management. These are grouped under the headings:

- policies and strategies
- leadership
- incentives
- knowledge capture and acquisition
- training and mentoring
- communications

Respondents who indicate that they use one or more of these practices are asked to continue with the questionnaire, while those who indicate that they use none are asked to proceed to question 10, which relates to incentives that might encourage the respondents to implement such practices (this is referred to hereafter as the skip-pattern).

Questions 2 – 9 deal with the reasons for, and the results of, implementing Knowledge Management practices. Respondents are also asked in this section to state who has prime responsibility for implementing these practices, who initiated them, whether resources are dedicated to these activities and whether their impact is measured. Finally, they are asked whether there has been any resistance within their organization to these initiatives.

Questions 11-14 relate to background data and administrative questions.

### **3.4 Accompanying letter**

The Danish questionnaire was accompanied by a letter, the main purpose of which was to get the respondents to fill in the questionnaire. Considerable weight was therefore put on the ways in which respondents would benefit from filling it out. The accompanying letter contained a description of who was behind the study, how long it would take to fill in the questionnaire, the reasons for participating, the benefits to participants, the background to the study and how to get in contact with the researchers involved.

### **3.5 General observations relating to the questionnaire**

The experience of conducting this pilot survey has revealed a number of areas in which further work is required if benefit is to be drawn from the study. In Appendix 1 we go through each question in the questionnaire, giving concrete proposals for further consideration.

#### ***The concept of Knowledge Management should be demystified***

The definition of Knowledge Management gave rise to discussion both during the interviews with respondents and among the survey group. The problem is that Knowledge Management is not a known concept, or is understood differently by different people. Moreover, the majority of Knowledge Management activities have other purposes besides acquiring and sharing knowledge, so that it is difficult to find a completely clear definition.

Even more therefore needs to be done to demystify the concept, and to stress that, to a greater or lesser extent, Knowledge Management is already going on in many organizations – as a natural part of management in general.



This is underscored by the fact that Question 1 – whether in the interviews or in the pilot survey – sorts the respondents into those who do, and those who do not use Knowledge Management. There were in fact no respondents among those interviewed who chose to answer 'no' to Question 1 and go straight to Question 10 – not even among those who indicated at the outset of the interview that they did not use Knowledge Management. The same tendency can be seen in the pilot survey. Altogether seven of the 61 respondents chose to use the skip possibility. Of these only three followed the skip-pattern envisaged. The others either answered 'yes' to Question 1 or skipped other parts of the questionnaire. This suggests either that they had misunderstood the possibility of skipping, or that they did not understand what they should do with the questionnaire.<sup>8</sup>

This may be due to the fact that Knowledge Management has been defined too broadly, and hence as something that everyone works with – albeit perhaps unconsciously. If it is intended that the concept be treated in this way, the questionnaire should be modelled accordingly, partly by not giving respondents the chance to 'skip' questions, and partly by formulating the questions to make clear that Knowledge Management is a part of management *per se*.

In this case the definition is not particularly useful, and it will make no great difference to the respondent which particular definition is selected. One suggestion would therefore be to leave out the definition altogether and instead give a series of examples of the kinds of practices that are being asked about, or examples of what Knowledge Management is *not*.

Alternatively, one could choose to see Knowledge Management as a series of particular initiatives, over and above 'ordinary' management, whose purpose is to make use of, and hence derive benefit from, an organization's existing resources of knowledge. If this is the intention – that is, to ask about Knowledge Management as a set of systematic practices that are consciously set in motion to promote the capturing and sharing of knowledge, and as something over and above 'ordinary' management – the concept should be defined with sufficient specificity to allow certain respondents to recognize their own organization as one that did *not* use Knowledge Management.

*It is essential to the success of the survey that the above should be clarified in relation to the project as a whole, and that the questionnaire should then be designed accordingly.* On the basis of discussions with the survey group, and with participants from Canada and the OECD, the Danish pilot survey has chosen to treat Knowledge Management as a part of management in general, and the questionnaire has been designed accordingly. Apart from in the initial definition and the headings, the term 'Knowledge Management' has not been used.

### ***Simple as opposed to complex practices for capturing and sharing knowledge***

Question 1, which outlines a long series of practices designed to capture and share knowledge, acts as a barrier because it begins by mentioning certain very abstract activities, namely 'Policies and strategies'. The interviews revealed that organizations which had not previously worked with the concept of Knowledge Management first recognized the practices described in Question 1.4, concerning 'Knowledge capture and acquisition', and 1.5, concerning 'Training and mentoring'. The order has therefore been reversed in the Danish pilot survey, so that these more simple activities are mentioned before the more complex ones. The results of the pilot survey also show that it is precisely these more simple practices that are used by most respondents. 'Policies and strategies' and 'Incentives' are used by fewest.

In general the formulation of these questions should be made more accessible, possibly by including brief examples under the practices mentioned.

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<sup>8</sup> These seven organizations were tested to see whether they differed in any particular characteristic from the other respondents, but this was not found to be so.

The answers should also be simplified to just 'yes' or 'no'. In Denmark it is hard to find any justification for distinguishing between practices introduced before or after 1999.

The weakness in the formulation of Question 1 also emerged in the responses to Question 2, where the respondents were asked to state whether they used practices other than those mentioned in Question 1. In the interviews everyone answered 'yes, plenty', thereby expressing their feeling that the field had not been sufficiently covered - without however being able to list other Knowledge Management activities. In the pilot survey a quarter of respondents cited other areas of Knowledge Management – see Appendix 1 – many of which were supposed to have been designated by the formulations in Question 1. This merely serves to emphasise that the content and formulation of Question 1 are critical. It was evident from the interviews that, after filling in their answers to Questions 1 and 2, the respondents were still vague about the meaning of Knowledge Management.

### ***Reasons and results must be more nuanced***

In Question 3 respondents are asked to give their reasons for engaging in practices designed to acquire and share knowledge. In the interviews there was a marked tendency, in response to these questions, to indicate that these activities were of 'crucial importance'. The positive bias in these responses is no doubt due to the fact that all the reasons listed were formulated in positive terms, so that it was difficult *not* to accord significance to the practices mentioned. If we are to get meaningful answers to these questions, this problem must be remedied, either by finding a more neutral formulation, or by asking respondents instead to list different activities in order of priority.

In Question 4 respondents are asked to report on the results they obtained by using practices designed to capture and share knowledge. In the interviews, virtually all respondents wished to answer 'Not applicable'. Their argument was that a respondent might well believe that the practice in question was effective in a certain area - for example in increasing the number of markets - but that this area was not relevant to his/her particular enterprise. It should also be emphasised that these answers depend on the respondent's own perception, and that it does not matter therefore if the results in question cannot be documented.

### ***The same questionnaire for all respondents?***

The interviews were conducted in two service enterprises (one small, one large), two manufacturing firms (one small, one large) and a large commercial enterprise. The attitude in the latter organization was clearly 'we don't know anything about this sort of thing' and the individual questions were perceived as having little relevance to the daily work of a commercial enterprise.

There are presumably differences in the kinds of knowledge that are important for different types of organization, and therefore differences too in the kinds of practices required for sharing knowledge. Further consideration should therefore be given to the survey's target groups.

### ***Rate of response***

In the interviews respondents said that they would be unlikely to fill in the questionnaire if it were simply sent by post. One argument for doing so, however, would be that the questionnaire had 'research value', since they would prefer to answer this type of questionnaire than one of the numerous ones sent by consultancies. It was considered important that the questionnaire came from the former "Danish Ministry of Business Affairs", and some respondents stressed the fact that it was international.

Another reason for filling in the questionnaire was that it appeared to be well worked out and easily accessible, and demystified the concept of Knowledge Management. This indicates the

importance of the accompanying letter and the phrasing of the Danish version of the questionnaire.

Respondents were contacted in advance by telephone before the questionnaires were sent out. For the most part it was the smaller enterprises that declined to participate. In the vast majority of cases the reasons given were lack of time and resources to answer the many questionnaires they receive each week. A small group declared that they had no interest in participating, while a very few said that the questionnaire was simply too difficult and inaccessible for them to answer.

The response rate in the Danish pilot survey was 30%, which is reasonable for a postal survey. However, this percentage was obtained only with exceptional effort. The possibility of finding other ways of collecting data, for example via telephone interviews rather than written questionnaires, should be considered.

### ***Formulation and phrasing – translation bias***

In the course of the interviews most of the questions were reformulated, and in certain places the final phrasing was very different from the original translation. This points to a significant problem with international surveys: namely, that translation bias may make it difficult to conduct cross-border comparisons.

The main purpose of doing an international survey, however, is to promote the use of Knowledge Management in each of the participating countries, and this aim can be achieved even if the surveys are not directly comparable.

Nevertheless, the many reformulations required in the Danish case indicate that those OECD countries that have not yet undertaken pilot surveys will have to reckon on doing so in order appropriately to adapt their questionnaire to local conditions.

At the same time the difficulties experienced point to the fact that there is obviously a need to standardise the terminology involved – which is one of the purposes of this survey.

### **3.6 Adjustments in the Danish survey in relation to the OECD questionnaire<sup>9</sup>**

Attempts have been made in the Danish version to meet the difficulties described in paragraph 3.4, to the extent that this is possible without destroying the possibility of comparison with pilot surveys in other countries. These adjustments, and their effects, are described below.

#### ***The abstract nature of the concept***

To counter the problem that the concept is too abstract, the order of the sub-sections in Question 1 has been switched around, so that the more commonly occurring Knowledge Management activities come first. Thus the first sub-sections concern 'Knowledge capture and acquisition', 'Training and mentoring' and 'Communications', while 'Policies and Strategies', 'Leadership' and 'Incentives' come last. The interviews had revealed that those respondents who reported not having previously worked with Knowledge Management were liable to be 'frightened off' by over-abstract questions, and the aim was to avoid this.

If we look at Chart<sup>10</sup> 25 together with Charts 1-6, it is clear that the most commonly used practices are 'Knowledge capture and acquisition' and 'Training and Mentoring', followed by 'Communications', 'Leadership', and 'Policies and Strategies', and that the least used category is 'Incentives'. There are therefore good arguments for keeping this order of categories if the aim is to signal that Knowledge Management is a part of ordinary management.

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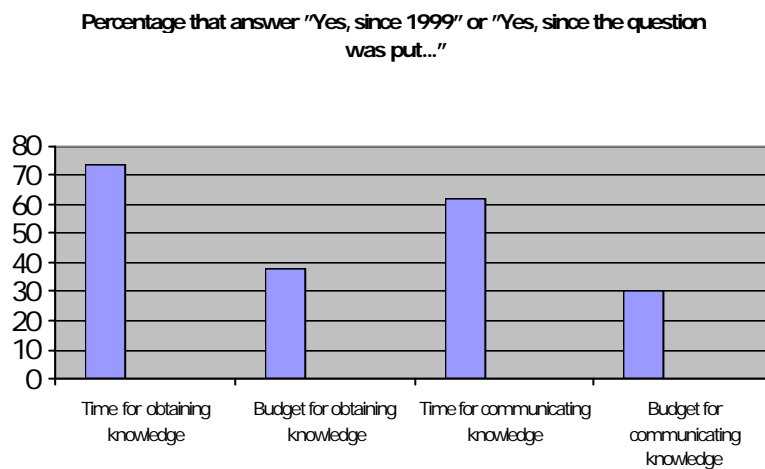
<sup>9</sup> See the Correspondence table in Appendix 2

<sup>10</sup> All the Charts can be found in the attached " Results of the Danish Pilot survey"

**The dedication of resources to knowledge capture and acquisition**

Question 1.4 C in the original questionnaire: ‘Your firm or organization regularly... dedicates resources to detecting and obtaining external knowledge and communicating it within your firm or organization’ is divided up in the Danish questionnaire. This was done because the original formulation contains too many elements for a simple question. The four new questions are: ‘Is time regularly dedicated in your organization to obtaining knowledge’; ‘... are there specific budgets dedicated to obtaining knowledge’; ‘... is time dedicated to communicating the knowledge obtained’; ‘... are there specific budgets dedicated to communicating the knowledge obtained?’ The results of the pilot survey also appear to suggest that organizations are more likely to devote time than financial resources to obtaining and communicating knowledge.

Figure 3.1: Division of questions concerning dedication of resources



Since there is a considerable difference between organizations’ willingness to devote time on the one hand, and money on the other, to obtaining and communicating knowledge, it seems relevant to maintain this division. The difference however is not surprising, since it can be difficult to budget resources specifically for obtaining and communicating knowledge, as these activities tend to take place in the context of others: for example courses, meetings and other activities.

**Communications activities**

Two aspects have been added under this heading in the Danish questionnaire, namely ‘the physical arrangement of the workplace’ and ‘use of IT’. As shown in Charts 3a and b, it is these two aspects of communications that are most widely used, so there are good arguments for keeping these two extra questions.

**Non-applicable ‘ Knowledge Management’ practices**

In Question 1 of the OECD’s questionnaire, ‘Knowledge Management Practices’, one possible answer is ‘Don’t know/Not Applicable’. In Denmark it was decided to divide this question into two, namely ‘not applicable’ and ‘don’t know’. The reason for this is that a cross on the answer ‘don’t know’ cannot reasonably be construed as meaning that the particular practice is not applicable.

If Charts 1a-6a are compared with the corresponding Charts 1b – 6b, it emerges clearly that this added dimension gives additional information. For example 4a shows that 52.5% answered ‘don’t know/not applicable’ to the question concerning the use of certain policies or

strategies for capturing and sharing knowledge. If we study 4b it emerges that only 6.6% gave 'don't know/not answered', hence fully 45% responded actively by saying that the question was not applicable.

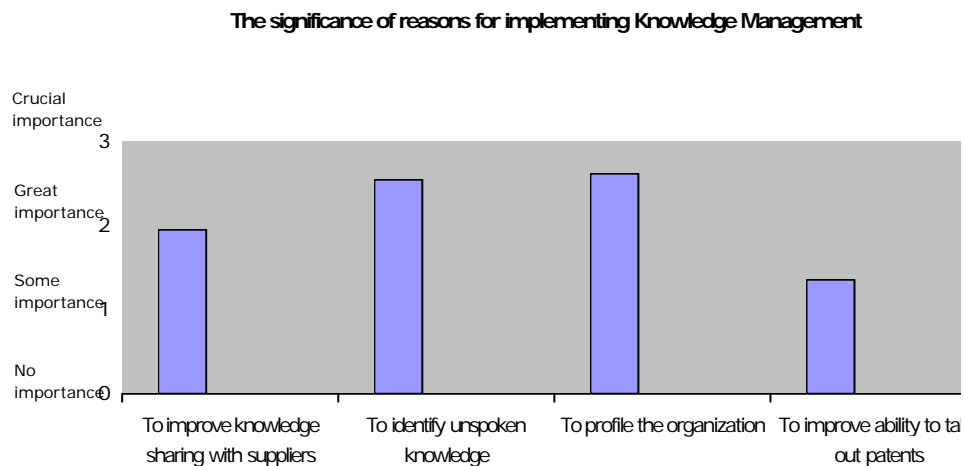
**Reasons for implementing ' Knowledge Management' practices**

In the Danish questionnaire, four possible answers have been added to the responses to Question 3, which aims to reveal the reasons for implementing the practices indicated:

- To promote the transfer or sharing of knowledge with suppliers (3M)
- To identify unspoken (tacit) knowledge among employees (3N)
- To profile the organization as an up-to-date organization (3O)
- To improve the ability to take out patents and the possibility of doing so. (3P)

The decision to include these possible answers was taken at a meeting of the survey group. These four additions mean that there are a total of 16 options. As Chart 8 shows, 'profiling the organization' and 'revealing tacit knowledge' are among the reasons accorded highest significance, while 'sharing knowledge with suppliers' and 'the possibility of taking out patents' are considered of low importance, being listed respectively as nos. 14 and 16 when the options are ranked in order of significance.<sup>11</sup>

Figure 3.2: Average significance of each of the four additional reasons



As previously mentioned, there is a tendency to answer all the questions very positively. In an attempt to overcome this problem, the Danish questionnaire turned the scale around so that the weakest answers come first. It cannot be shown conclusively what impact this has had, but some indication of its effect will be given when the results of the Danish pilot survey are compared with those from other countries. There is however still a tendency to see all the possible answers as significant. Thus, as Chart 8 shows, one of the answers in the OECD questionnaire that was accorded least significance – 'to ease collaborative work among teams that are physically separated' - was nevertheless accorded great or crucial significance by 29%.

<sup>11</sup> Thus 74% indicate that the implementation of practices relating to knowledge acquisition and sharing is of no importance for their 'ability to take out patents', and 32% answer that these practices are of no importance for their 'ability to share knowledge with suppliers'.

**Results of using Knowledge Management practices**

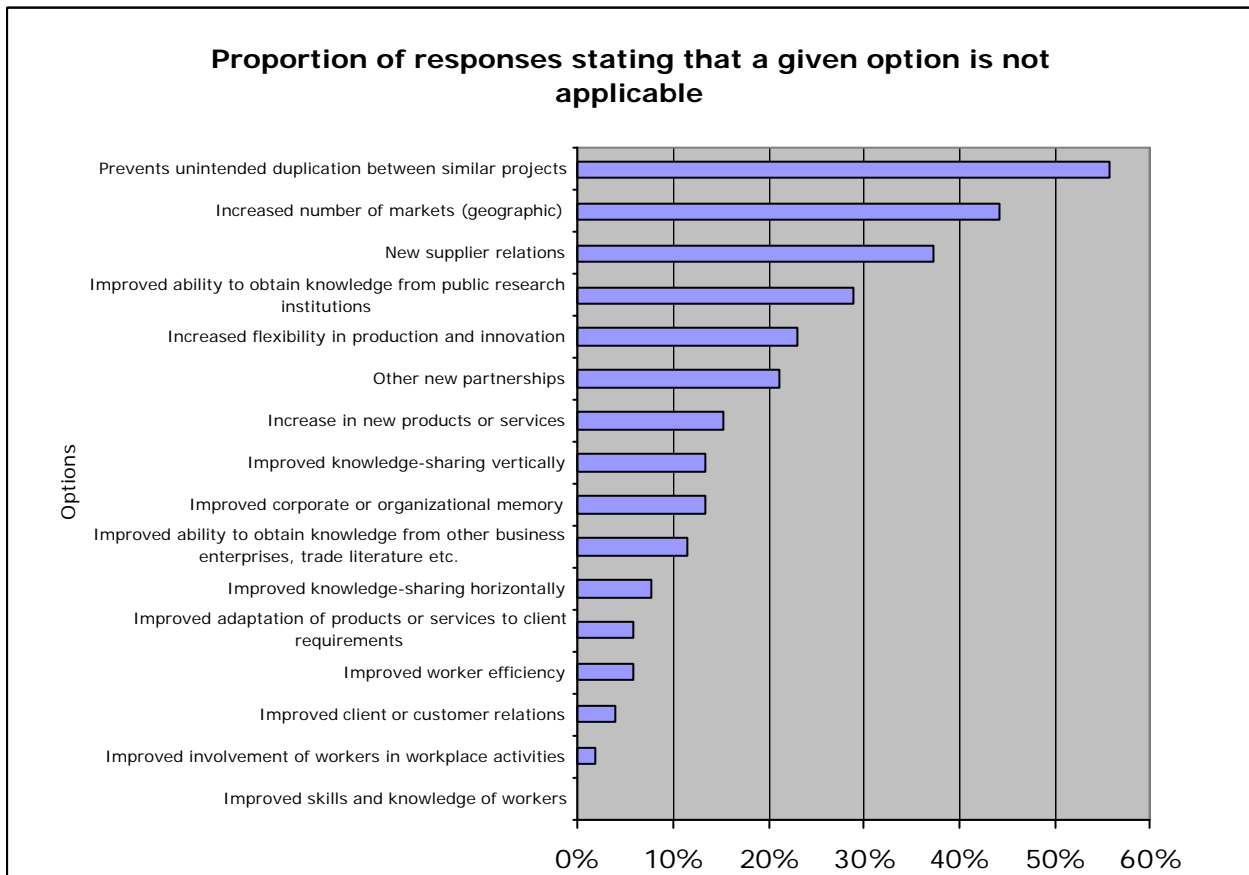
Two new possible answers have been added in the Danish questionnaire to Question 4, which aims to reveal the results of using the practices mentioned:

- new relations with suppliers (4O)
- new partnerships/cooperators (4P)

A good quarter of the respondents indicated that using these practices had been effective or very effective in bringing about new relations with suppliers, and that it had been effective or very effective in creating new partnerships. However, a large percentage – see below – indicated that the answer ‘new supplier relations’ was not applicable. When these additional answers are listed alongside the OECD answers in order of effectiveness, ‘new supplier relations’ is placed no. 10, and ‘new partnerships/cooperators’ no. 11, out of 16 possible answers (see 9).

In contrast to the OECD questionnaire, we decided in the Danish questionnaire to give the respondent the possibility of answering ‘not applicable’. Not surprisingly, the proportions of such responses correlate very well with the average rankings given to the various possible answers in terms of effectiveness, as shown in Chart 9. The four options that are most commonly regarded as not applicable are: ‘prevents unintended duplication between similar projects’<sup>12</sup> (56%), ‘Increased number of markets – geographically’ (44%), ‘new supplier relations’ (37%) and ‘increased ability to obtain knowledge from public research institutions’ (29%).

Figure 3.3: Possibility of stating ‘non-applicable’ results



<sup>12</sup> This may also be a result of the inaccessible way in which the question is formulated.

### ***Sources of Knowledge Management practices***

Following discussions in the survey group, three internal sources were added under this heading in the Danish questionnaire, namely:

- The Board
- Owners and shareholders
- Advisory Board

Chart 12 shows that none of the respondents claimed to have got inspiration from advisory boards, whereas 23% of respondents indicated that owners and shareholders had been their source of inspiration, and 19% got their inspiration from the Board.

One external source was also added, namely unions, but none of the respondents claimed to have been inspired to practise Knowledge Management from this source: see Chart 13.

### ***The motive for implementing or increasing activities***

Four new possible answers were added under this heading to the Danish questionnaire, namely:

- Desire to improve the organization's image
- Desire to ease globalisation
- Desire to improve competitiveness
- Desire to attract workers

Apart from the answer 'to ease globalisation' , which was chosen by only 13%, these additional answers were those most frequently selected by respondents: see Chart 18.

### ***Background variables***

As mentioned earlier, we chose in Denmark not to link the results with other databases. A number of background variables have therefore been added in the Danish questionnaire, which are intended for use only in the pilot survey. These are:

- The organization's turnover
- Trade
- Geographical location
- Geographic location of owners

Because of the small number of respondents, the conclusions we can draw on the basis of these background variables are very limited. A few of the tendencies indicated are however described in Section 4.

### ***Who works with 'Knowledge Management' within an organization***

The question of who within an organization should fill in the questionnaire was not really clarified, either at the OECD meetings or during the interviews. In the Danish pilot survey it was therefore decided to send the questionnaire directly to the administrative director (chief executive officer), without however implying that it was he/she who should fill in the questionnaire. Information as to who in fact filled it in is requested in the very last question.

It emerged from this that it was most often the administrative director himself who had filled in the questionnaire, but titles of others who undertook to do so included Director's Secretary/PA, Sales Manager, Financial Manager, Head of Production, Head of Planning and Communications, Change Manager, HR (Human Resources) Manager, Regional Head, Principal, Deputy Inspector and Project Manager.

#### **4. Tendencies in the data**

Since the purpose of the pilot study was to test out the questionnaire, no attempt was made to make a representative study of the field. The questionnaire is very comprehensive, and could therefore be used to test out a great many hypotheses. But because of the small number of respondents, there is a limit to how many analyses it would be possible and reasonable to carry out.

Nevertheless, certain tendencies are indicated by the available data. The following section therefore deals with:

1. General tendencies: A description of the practices most commonly employed; the reasons for implementing them; the results generally obtained; the persons responsible for implementing the practices, and so on (Questions 1 through 10).
2. Characteristics of those respondents who do not practise Knowledge Management.
3. Answers seen in relation to background variables.
4. Correlation between the results obtained and the level of Knowledge Management activities. (Question 1 compared with Question 4).

##### **4.1 General tendencies**

In Appendix 1 we look in detail at the results of the pilot survey and make a number of recommendations for improvements. In this section we therefore confine ourselves to noting general tendencies.

Charts 25, together with Charts 1 – 6, show what kinds of practices are implemented to capture and share knowledge. It is evident from these that 'knowledge capture and acquisition' and 'training and mentoring' are the practices most widely used. Knowledge capture and acquisition occurs particularly through acquiring knowledge from other private enterprises and dedicating time to obtaining and communicating knowledge. Training and mentoring occurs mainly through encouraging experienced workers to share their knowledge with those who are less experienced and encouraging workers to take further training.

Communications activities are also mentioned frequently. The use of IT, the physical arrangement of the workplace, and the use of written documentation are the practices employed most frequently in this regard.

Policies and strategies are implemented by approximately half the respondents, but are one of the categories of activity least commonly indicated. As can be seen from paragraph 4.4, the data suggest that it is precisely this type of activity that yields the most effective results.

The most important reason for implementing practices designed to capture and share knowledge is a desire to improve competitiveness.

The respondents find that Knowledge Management practices are effective in improving workers' skills and knowledge, in adapting products and services to client requirements, in improving interdisciplinary knowledge sharing throughout the enterprise and in helping to add new products and services. As indicated in paragraph 4.4, however, there is not much evidence that these results - with the one exception of improved communication throughout the workplace - have been achieved through the use of Knowledge Management.

The majority of respondents place the responsibility for implementing these practices with the top management, and only a few have measured the impact of these activities. The management is also most frequently cited as the internal source responsible for initiating



activities designed to acquire and share knowledge, while the most commonly reported external sources are competitors, customers and clients.

Approximately half reported dedicating economic resources to these activities, and half of these expect to dedicate more resources in the next 24 months. Only a quarter of those who do not currently set aside resources for Knowledge Management activities plan to do so within the next 24 months.

Only 9% of respondents had encountered resistance to implementing these activities.

Increased competitiveness is the key motivation for implementing Knowledge Management activities or increasing such activities, but the desire to attract workers, to avoid losing key workers and to improve corporate image are also important motivating factors.

#### **4.2 Characteristics of respondents who do not practise Knowledge Management**

It is impossible from the data to conclude that there are any particular characteristics that distinguish the few organizations that do not practise Knowledge Management from those that do, and the skip-pattern in the questionnaire does not really work. This points to weaknesses in the questionnaire which should be dealt with in the final version.

#### **4.3 Answers seen in relation to background variables**

Only the answers to Question 1 – choice of practices relating to knowledge capture and acquisition – have been analysed in relation to background variables.

##### *Geographical location ( chart 25)*

-There are only small deviations among the respective data from from Zealand, Fyn and Jutland.

##### *Size as measured by number of employees (chart 26)*

– There is a tendency for activities involving communications, as well as policies and strategies, to be used more frequently among large enterprises than among small ones. 'Small enterprises' are defined as those having between one and 19 employees, so perhaps what is most surprising is that in other respects they resemble the medium-sized and large enterprises so closely.

##### *Trade ( chart 27)*

– There is a tendency for service enterprises to implement practices aimed at obtaining and sharing knowledge to a higher degree than do manufacturing and trading enterprises.

##### *Geographic location of owners (chart 28)*

– Overall it makes no great difference whether the owners of the enterprise are located in Denmark or abroad.

#### **4.4 Correlation between results obtained and level of activity**

In what follows, 'level of activity' refers to the length of time that a given Knowledge Management activity has been practised. Thus the statement 'Yes, we have done this since before 1999' is considered indicative of a higher level of activity than the statement 'Yes, we have done this since 1999.'

Chart 9 shows how respondents evaluated the effect of these activities on various areas. It can be seen from this that Knowledge Management activities are seen as having been most effective in the area of improving workers' skills and knowledge.

If we compare the answers to Question 4 (results of practices implemented) with the answers to Question 1 (activities) there is no very clear correlation. Surprisingly (in view of the above)

there is nothing to suggest that a higher level of activity improves workers' knowledge and skills. This is an interesting contradiction which merits further investigation.

Table 4.1 below shows the extent to which individual results have an important explanatory effect on the level of activity. The tendency indicated here is that 'policies and strategies', 'training and mentoring' and leadership have the greatest impact on results.

Table 4.1: The explanatory effect of results on level of activity<sup>13</sup>

Average level of activity	Knowledge capture and acquisition activities	Training and mentoring activities	Communications activities	Policies and strategies	Leadership	Incentives
Improved skills and knowledge of workers	0,662	0,802	0,924	0,115	0,933	0,114
Increased our adaptation of products or services to client requirements	0,819	0,174	0,560	0,401	0,957	0,604
Increased our knowledge-sharing horizontally (across departments/functions)	<b>0,026</b>	<b>0,017</b>	0,647	<b>0,006</b>	0,103	0,141
Helped us to add new products or services	0,997	0,435	0,381	0,078	0,787	0,077
Improved client or customer relations	0,576	<b>0,047</b>	0,171	0,062	0,202	0,071
Improved worker efficiency and/or productivity	0,894	<b>0,034</b>	0,355	0,339	<b>0,018</b>	0,091
Increased our knowledge-sharing vertically (up through the organizational hierarchy)	<b>0,004</b>	0,232	0,477	<b>0,001</b>	0,108	0,108
Improved our corporate memory	0,127	<b>0,000</b>	0,126	<b>0,003</b>	<b>0,009</b>	0,595
Improved involvement of workers in workplace activities	0,457	0,146	0,232	<b>0,017</b>	0,717	0,084
Led to new supplier relations (only in Danish survey)	0,430	<b>0,011</b>	<b>0,028</b>	<b>0,040</b>	0,069	0,112
Led to new partnerships (only in Danish survey)	0,837	0,652	0,436	0,078	<b>0,047</b>	0,685
Increased flexibility in production and innovation.	0,128	<b>0,004</b>	0,143	<b>0,003</b>	<b>0,038</b>	<b>0,025</b>
Improved our ability to capture knowledge from other business enterprises, unions, trade literature etc	0,102	0,260	0,358	0,068	0,799	0,748
Increased our ability to capture knowledge from public research institutions, including universities and other state research institutions	0,144	0,141	0,372	<b>0,009</b>	<b>0,012</b>	0,554
Increased our number of markets (more geographic locations)	0,340	0,778	<b>0,054</b>	0,094	0,527	0,737
Prevented unintended duplication of similar research and development projects	0,107	<b>0,033</b>	0,118	<b>0,016</b>	0,319	0,707

<sup>13</sup> The table shows the significance (bold text) by comparing the average level of activity per cluster of sub-questions in Question 1 (dependent variable), with the result variables in Question 4 divided into 2 levels: high effect (very effective and effective) and low effect (somewhat effective and not effective) (independent variable).

## 5. Denmark's suggestions for improving the questionnaire

As can be seen from the above section, there are a number of areas that need to be adapted if Denmark is to get any benefit from the survey. These are the areas which Denmark would like to see discussed at the OECD meeting in March 2002.

The concept of Knowledge Management should be demystified, possibly by leaving out the definition and using more examples of the activities in question. The question containing a list of activities should be formulated more clearly, with examples of what is meant. It is worth considering whether the sub-questions concerning 'incentives' and 'leadership' should be phrased differently. We should also consider mentioning the more simple activities before the more complex ones, in order to offer an easier introduction to the questionnaire. In the section concerning the reasons for implementing Knowledge Management practices, the questions should be formulated more neutrally with a view to avoiding bias. Where respondents are asked about the results of their activities, they should have the option of stating that this is non-applicable.

Initiatives to increase the response rate should be discussed and alternative methods considered, for example internet analyses, telephone interviews or face-to-face interviews.

Thorough work has been done on the translation of the questionnaire to ensure that the language makes sense to Danish respondents, and this task should not be underestimated when other countries are brought into the survey.

It was considered advisable to change the order of the sub-questions in Question 1 and to divide up Question 1.4 C into a series of sub-questions. It is suggested that the focus in the final questionnaire should be partly on knowledge acquisition, partly on communicating knowledge, while the dedication of time and resources is less relevant.

It appears that a large number of Danish respondents implement traditional practices – i.e. use of IT and 'physical arrangement of the workplace'. Although most would argue that this is scarcely a form of knowledge sharing, it is important that the whole scope of the concept should be covered. Especially over time this will yield interesting information. Analyses that compare levels of activity with results suggest that the most significant activities are 'Policies and Strategies' and 'Training and Mentoring', so it is important to retain these areas.

It is also important to find out which practices the respondents consider non-applicable.

In the question concerning the reasons for implementing Knowledge Management activities, at least two possible answers should be added, namely:

- to profile the enterprise as an up-to-date organization
- to identify unspoken (tacit) knowledge among employees and possibly also
- to promote sharing and transfer of knowledge with suppliers

A more nuanced formulation of Question 3 would probably give a more extensive picture of the reasons for implementing practices relating to knowledge acquisition and sharing.

As far as the results of using Knowledge Management practices are concerned, there are good arguments for adding a further possible answer: that the implementation of these practices

- has led to new partnerships.

On the other hand consideration should be given to dropping the following options from the questionnaire:

- has prevented unintended duplication of similar projects
- has increased our number of markets
- has led to new supplier relations
- has improved our ability to obtain knowledge from public research institutions

The following should be added as possible sources of Knowledge Management practices:

- the Board
- owners and shareholders

As motives for implementing or introducing further activities we should add:

- desire to improve corporate image
- desire to improve competitiveness
- desire to attract workers

## **6. Conclusion – recommendation to Danish decision makers**

The pilot study points to a number of hypotheses which it would be interesting to investigate further:

- Hypothesis: The acquisition and sharing of knowledge takes place primarily between experienced and inexperienced workers as a part of their training.
- Hypothesis: Most organizations do not see any reason to systematise the acquisition and sharing of knowledge
- Hypothesis: Meetings are not often used as a means of transferring knowledge.
- Hypothesis: Activities designed to acquire and share knowledge are undertaken primarily with a view to increasing competitiveness.
- Hypothesis: Organizations do not dedicate specific budgets to the acquisition and sharing of knowledge.
- Hypothesis: Workers immediately accept, as part of their job, activities designed to acquire and share knowledge.
- Hypothesis: In small enterprises (fewer than 50 employees) the acquisition and sharing of knowledge is perceived as something which the management and employees practise daily.
- Hypothesis: Large enterprises systematise practices designed to acquire and share knowledge
- Hypothesis: The acquisition and sharing of knowledge have a great impact on employees' level of skills and knowledge
- Hypothesis: Knowledge sharing is promoted most effectively in so far as it is incorporated in an organization's strategic activities.
- Hypothesis: Intellectual capital reports are not perceived as a relevant tool for knowledge sharing.
- Hypothesis: Fewer than 50% of enterprises make use of public sources of knowledge.

An investigation of these hypotheses is likely to lead to a variety of initiatives being undertaken on the part of government to influence business enterprises in the desired direction.

There is no doubt that the OECD's goal – to put the spotlight on Knowledge Management - is relevant for Denmark. Although no direct correlation can be proved between Knowledge Management activities and business results, those who practise these activities have a clear sense that the acquisition and sharing of knowledge, and especially the utilization of it, have a considerable impact on a firm's competitiveness. It is therefore important to raise awareness of these activities. A large international survey is an effective means of doing this.

The greatest problem in this connection is the lack of clarity in terminology relating to the field, but one of the aims of the survey is precisely to address this.

Cross-border comparison gives rise to technical problems, but also, more particularly, to conceptual challenges which must be dealt with. The value of the study, however, does not

rest solely on such comparisons, and great inspiration will in any case be derived from putting Knowledge Management into international focus.

In section 5 we looked at those areas which should be adapted in order to ensure the study's relevance for Denmark – most of them relating to a simplification of the terminology and clarification of the concepts involved. Provided that these problem areas are addressed at the OECD meeting in March , our recommendation is that Denmark should participate in the further development of an international study on the practice of Knowledge Management activities and the extent to which these are perceived to be effective.

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## **Appendix 1. The questionnaire in detail<sup>14</sup>**

In this appendix we go through the questionnaire in detail, discussing each question in relation to the answers obtained. The comments below have been gathered partly from the interviews, partly from meetings in the survey group and finally from the pilot survey. This section looks at all the comments together, whether they concern major or minor issues. In Section 5, concerning Denmark's recommendations for improving the questionnaire, we looked at those areas where change was in our view required before the actual survey was undertaken by the OECD.

Here we go through the questionnaire systematically, and at the end of the Appendix make further suggestions for improving the survey. The charts referred to can be found in the attached 'Results of the Danish Pilot Survey'.

### **Front page**

The questionnaire looks rather inaccessible and requires explanation. This can be given in the accompanying letter, but efforts should be made to make it as self-explanatory as possible.

### **Aim**

The sentence: 'A highly mobile and aging workforce has increased the need for a better set of knowledge retention, acquisition, sharing and transfer practices' has not been included in the Danish questionnaire.

### **Confidentiality**

This clause has been changed in the translation, as the Canadian version is not relevant to the Danish study.

The interviews confirmed that this clause was important for the Danish respondents.

### **Which Knowledge Management practices do you use within your firm or organization? (Q. 1.)**

The aim of this question is to find out which practices the respondent's organization uses. If the respondent puts a cross in one of the first two columns, he/she is invited to proceed with the questionnaire; if not, he/she is asked to skip to Question 10.

A further purpose of this question is to give the respondent some guidance as to what kinds of practices Knowledge Management involves. It would therefore be useful if this question were amplified/put in context, for example by referring to other investigations or by giving a more theoretical account of the kinds of activities involved.

### **Scaling**

The different response-options seem inappropriate when a simple 'Yes' or 'No' answer is called for by the questions. All the respondents interviewed requested clearer Yes/No options.

In the Danish questionnaire this problem has been overcome by clarifying the questions in translation. Thus:

- 'In Use Before 1999' is translated as 'Yes, we have done this since before 1999'
- 'Used Since 1999' as 'Yes, we have done this since 1999'
- 'Plan to Use in the Next 24 Months' as 'No, but we will do so within the next 24 months'
- 'Don't Know/Not Applicable' as 'No, this is not applicable' and 'Don't know'. Thus the latter is treated as two separate answers which should not be mixed together.

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<sup>14</sup> In this section we refer consistently to the numbers in the OECD version, since our purpose is to make recommendations for improving this basic questionnaire.

These headings moreover were adapted to each sub-group of questions in order to get a clear correspondence between question and answer.

It is hard to find any real justification in Denmark for dividing up the 'Yes' category into 'In use Before 1999' and 'Used since 1999'. The respondents interviewed had difficulty in remembering when a given practice had been implemented. Some respondents did not distinguish between practices implemented before and after 1999. Others instead used the scale to suggest different degrees of implementation, treating the column furthest to the left as the one for activities practised to a high degree, while the second column was for activities practised to a lesser degree.

On the 'No' side, too, the various answers offered are not exhaustive. For though a given Knowledge Management activity may well be thought relevant, there may nevertheless be no plans to introduce it - for financial reasons, for example. Respondents who have not implemented that practice, and who do not plan to do so within the next 24 months, are forced to answer 'don't know' or 'not applicable'. Several of the respondents interviewed could point out activities which they considered relevant, but which nonetheless – for quite other reasons – would not be implemented within the next 24 months.

### **Simple as opposed to abstract activities**

Question 1 is important, for it is here that the respondent makes up his mind whether he is going to continue filling in the questionnaire. The interviews showed that respondents found it difficult to get going on the questionnaire. The activities emphasised are too abstract, and everyone interviewed was left with the feeling that there must be many more relevant Knowledge Management activities than these. It is important that respondents do reply to questions concerning activities which they use regularly and systematically.

The interviews showed that it was inadvisable to begin with questions concerning policies and strategies, which respondents may find it difficult to relate to. For this reason the order has been changed in the Danish questionnaire, so that 1.4 and 1.6 come before 1.1 and 1.3.

#### *Recommendations*

- *The scale should be divided up, so that 'not applicable' is separated from 'don't know'.*
- *'Yes since 1999' and 'Yes since before 1999' should possibly be put together.*
- *The introduction to the questionnaire should be made easier, e.g. by changing the order of the questions in Part 1, so that the more simple activities (1.4– 1.6) come before the more 'abstract' ones*

### **Policies and Strategies**

#### *Results of the pilot survey*

As can be seen from Chart 1, more than half of the respondents have a values system or culture intended to promote knowledge-sharing; approximately half have policies or programs intended to improve worker retention, and more than half use partnerships or strategic alliances to acquire knowledge. Many of the respondents have implemented these practices for a long time – since before 1999.

A quarter of respondents will formulate written policies or strategies for acquiring and sharing knowledge within the next 24 months.

A very large proportion of the respondents state that the activities mentioned are not applicable – thus 72.1% consider that working with knowledge by preparing intellectual capital reports is not applicable for their organization. Almost half – 45.9% - consider that it is irrelevant to have written policies or strategies for acquiring and sharing knowledge.



### *Results of the interviews*

Most of the respondents interviewed found it difficult to answer the question whether or not their organization had a written knowledge management policy or strategy. (1.1 A) Some argued that Knowledge Management is written into several different strategies, and can therefore be found in several places. Others argued that not all policies are written. Nevertheless, only 6.6% in the pilot survey answered 'don't know', so it would be interesting to investigate in more detail whether the 45.9% who answered 'not applicable' really did feel that this was the case.

Several of the respondents interviewed had difficulty in understanding what was meant by 'values system or culture' in Question 1.1.B. However, there was not a significantly larger proportion indicating 'not applicable' or 'don't know' in response to this question compared with others, so for respondents in the pilot survey this apparently did not cause problems – or no more problems than occurred with the other questions.

The question whether partnerships or strategic alliances were used to acquire knowledge (1.1.D) was generally regarded as difficult. The respondents interviewed requested examples or a clearer formulation of the question. But with regard to this question, too, there is no indication in the pilot survey that respondents found it harder than others.

### *Recommendations:*

- *The formulation of Question 1.4 A 'Your organization has a written knowledge management policy or strategy for acquiring and sharing knowledge' should be clarified – for instance by using examples or by asking about policies and strategies.*
- *In the Danish questionnaire a question was added about the preparation of intellectual capital reports. This additional question remains relevant for Denmark.*
- *Question 1.4.B 'Your organization has a values system or culture intended to promote knowledge sharing' could usefully be supplemented with examples.*
- *Question 1.4.C 'Your organization uses partnerships or strategic alliances to acquire knowledge' could usefully be supplemented with examples.*

## **Leadership**

### *Results of the pilot survey*

The majority of respondents indicate that the activities in question are the responsibility of the managers and executives (72.1%), but non-management workers are also emphasised by many (57.4%).

Most surprising, perhaps, is that almost one fifth give the response 'not applicable' to the question whether activities relating to knowledge management practices are the responsibility of managers and executives, and still more (29%) give this response with regard to non-management workers.

14.8% state that their organization has a knowledge officer, while 62.3% state 'not applicable' on this point.

Only a few have plans to implement internal management practices relating to knowledge acquisition within the next 24 months.

A quarter used knowledge management practices as explicit criteria for assessing worker performance. More than half answered 'no' to this – of whom the majority (49.2%) considered it not applicable.

### *Results of the interviews*

A large proportion of respondents requested a clear 'no' option in response to this. This is because their organizations had for example decided that these practices were not the responsibility of non-management workers, but they nevertheless recognised that they could be relevant. For these respondents it seemed unnatural to answer 'no, not applicable' to this, even though they did not have plans to introduce such activities.

There was some misunderstanding over the title 'Knowledge Management officer or Knowledge Management unit'.

The question whether knowledge management practices were used as a specific criterion for assessing worker performance (1.2.D) proved difficult for the majority of the respondents interviewed. Some replied that the answer depended on which group of employees you had in mind. Many expressed the view that Knowledge Management was a natural criterion for assessing managers (since it was part of their 'ordinary' management responsibilities).

#### *Recommendations:*

- *This sub-question should be reconsidered in its entirety.*
- *Question 1.5 D concerning the assessment of worker performance should be made more searching, for example by asking about specific groups of workers or the management.*
- *Question 1.5 D could also be reformulated by using the phrase: 'one element in the assessment of worker performance'*

## **Incentives**

### *Results of the pilot survey*

23% reward the positive effects of knowledge sharing with monetary incentives, while 28% reward it with non-monetary incentives.

Approximately 60% of respondents consider these two forms of reward to be not applicable, and only a few are considering introducing them.

### *Results of the interviews*

All the respondents interviewed found it difficult to answer the question concerning incentives. In an attempt to solve this problem the Danish questionnaire made it clear that it was the positive effect of knowledge sharing that was being rewarded.

#### *Recommendations:*

- *This sub-question should be reconsidered in its entirety*
- *With regard to the question concerning non-monetary incentives (1.6 B) it might be interesting to find out in more detail what this incentive structure looked like.*
- *It would also be interesting to investigate the effect of rewarding the positive results of knowledge sharing.*

## **Knowledge capture and acquisition**

### *Results of the pilot survey*

The most widely-practised form of knowledge capture and acquisition involves capturing and using knowledge obtained from other private companies (82%), dedication of time to obtaining and communicating knowledge (respectively 73.8 and 62.3%), and encouraging workers to participate in project teams with external experts (54.1%). The majority have implemented these practices since before 1999.

Half the respondents use knowledge obtained from public research institutions, which is on the face of it surprising, but we do not know what kind of knowledge is being referred to. 41% consider this option 'not applicable'.

Again it is surprising how many state that they do not consider the activities in question applicable. In addition to the use of knowledge from public research institutions, 45.9% consider it inapplicable to dedicate budgets to obtaining knowledge, and 57.4% consider it inapplicable to dedicate budgets to communicating such knowledge. By contrast only a fifth consider it inapplicable to dedicate time respectively to obtaining (16.4) and to communicating (24.6%) knowledge.

#### *Results of interviews*

Certain respondents requested the option to state that they used internal sources for capturing and acquiring knowledge. These internal sources have been included in the group of questions concerning 'training and mentoring', but in a form where the respondent is asked what is *encouraged*, not what is actually *done*.

These questions (especially 1.4 C, concerning the dedication of resources to obtaining and communicating knowledge) contains too many elements, which meant that respondents found it difficult to answer. In the Danish questionnaire it was therefore divided up – to good effect.

#### *Recommendations:*

- *Question 1.4 C should be divided up, since it contains too many elements. This was done in the Danish questionnaire and has yielded interesting differences.*
- *It would be relevant to investigate what kinds of knowledge were obtained from public research institutions – for example, one could imagine that this applied more to product-related knowledge.*
- *The list of sources from which knowledge is obtained should be reconsidered.*

### **Training and Mentoring**

#### *Results of the pilot survey*

In general there is more support for informal than for formal training where Knowledge Management is concerned.

The most widely-used practices are: encouraging experienced workers to transfer their knowledge to new or less experienced workers (83.6%); encouraging workers to continue their education (73.8%), and giving informal training related to knowledge management (59%).

Formal mentoring and formal training in knowledge management is regarded as not applicable by respectively 57.4% and 42.6%. 15% of respondents however have plans to introduce formal training within the next 24 months.

#### *Results of interviews*

Many of the respondents interviewed found it difficult to see any real difference between Question E, which refers to encouraging workers to continue their education by reimbursing their tuition fees, and Question F which refers to off-site training, since the basic difference lies in who is paying for the training. The pilot survey also shows almost identical responses to these two questions, which suggests that respondents in the survey also considered them to mean roughly the same.

#### *Recommendatons*

- *Question 1.5E concerning reimbursement of expenses to take job-related courses and Question 15F concerning the offer of off-site training should be put together in one question.*

## **Communications**

### *Results of the pilot survey*

The most widespread practice in the area of communications is the use of IT, e.g. in the form of an intranet, followed by the physical arrangement of the workplace to promote communications, the promotion of corporate memory, and the updating of databases recording good work practices etc.

Many respondents indicated the practices listed under this heading in general to be not applicable. Thus 57.4% indicated that using virtual teams to facilitate collaborative work by physically separated teams was not applicable, and 30% gave this response to the practice of updating databases of good work practices. A quarter considered the use of written documentation to record lessons learned (i.e. the promotion of corporate memory), and the physical arrangement of the workplace, to be not applicable, while a fifth indicated that the use of IT was not applicable.

### *Results of the interviews*

Some respondents had difficulty in understanding the question about corporate memory, and the difference between this practice and that of updating databases. There was also some doubt about the difference between updating databases and preparing written documentation.

In the present formulation of Question 1.6C: 'In your firm or organization workers share knowledge or information by facilitating collaborative work by projects teams that are physically separated ('virtual teams')', the key phrase is 'facilitating collaborative work'. This is not consistent with the form of the other questions, which all concern means rather than aims. The question is therefore turned around in the Danish version, so that the phrase 'virtual groups' (the means) comes first. The purpose of this should be clarified.

### *Recommendations:*

- *The inclusion of a question concerning the use of IT – e.g. in the form of an intranet – should be considered. This was tested out in the Danish questionnaire.*
- *The inclusion of a question concerning the physical arrangement of the workplace should also be considered. This was tested out in the Danish questionnaire.*
- *It would be useful to clarify the difference between the question concerning databases (1.5 A) and the question concerning written documentation. (1.5 B)*

## **Are there any Knowledge Management practices that your firm or organization uses that we have not included in this survey? (Question 2)**

### *Results of the pilot survey*

62% of respondents answered 'no' to this question, thereby indicating that the content of Question 1 is sufficiently exhaustive. A quarter practise other activities and mentioned the following:

- Participation in national and international knowledge sharing groups
- Advisory Boards, internal meetings to exchange knowledge, knowledge database (intranet-based)
- Procedure for acquiring interdisciplinary knowledge in order to get a holistic overview of a given task, as well as insight into when a task should be passed onto, or involve, experts from other fields.
- From parent company
- Trade journals
- Extensive extranet
- Internal workshops in connection with staff meetings
- Internet, purchased information
- Experience sharing group, trade council, local management forum, other types of companies, auditors

- Systematic 'neighbour training', systematic introductory programs, inter-disciplinary 'training group'
- All employees are responsible for the acquisition and sharing of knowledge. In order to ensure that this is optimised we have an inter-disciplinary control group for knowledge sharing, which is responsible for the continuing development and maintenance of the physical settings for knowledge sharing.
- Interdisciplinary project groups
- Guide for working procedures and ethics

#### *Results of the interviews*

All the respondents interviewed expressed the feeling that they used Knowledge Management practices that were not included in the questionnaire, though none could bring particular ones to mind. This response is to be expected in view of the breadth of the field.

### **Why do you use those Knowledge Management activities you indicated in Question 1? (Question 3)**

#### *Results of the pilot survey*

In this question respondents are asked to give their reasons for implementing knowledge management practices.

In general respondents accorded significance to all the reasons mentioned, and the majority said they were important or critical. The reason that was given greatest weight was 'to improve the competitive advantage', which 83.3% marked as being important or critical. This was followed by 'helping to integrate knowledge' (71.7%) and 'training workers to meet the strategic objectives of the organization' (60.4%)

The reasons which most respondents characterised as 'somewhat important' or 'not at all important' were 'improving the ability to take out patents' (90%); 'improving knowledge-sharing with partners in strategic alliances' (77.4%); 'easing collaborative work despite physical separation' (71.7%); 'improving knowledge-sharing with suppliers' (69.8%); and 'systematic identification and/or protection of strategic knowledge' (58.5%).

See Chart 8.

#### *Results of the interviews*

The interviews revealed a tendency for the respondents to be rather uncritical in marking the answer 'critical'. In an attempt to overcome this, the scale was reversed in the Danish questionnaire, so that the answer 'not at all important' was put furthest to the left. It is difficult to assess what effect this had, but at any rate there is a reasonable spread of answers in the pilot survey.

The tendency for respondents to cross off those columns that contain positive answers may also be due to the fact that the questions are formulated positively, which makes it difficult to say that a given reason is of little or no significance. In other words, the respondents perceive all the reasons given as significant. Possible ways to remedy this are either to formulate the questions more neutrally or to provide for a form of prioritising among the reasons indicated.

#### *Recommendations*

- *Question 3B about helping to integrate knowledge should be formulated more directly.*
  - *Consideration should be given to formulating the questions more neutrally to get a more realistic spread in the answers.*
  - *In the Danish questionnaire the scale was changed round, so that the answer 'critical' came furthest to the right. The aim was to counterbalance the tendency to cross the most positive responses most frequently.*
  - *Four additional questions were tested out in the Danish questionnaire:*
    - *'To improve knowledge sharing with suppliers'*
    - *'To identify the unspoken knowledge of employees'*
    - *'To profile the organization as an up-to-date organization'*
    - *'To improve the ability to take out patents and possibility of doing so'*
- The questions concerning profiling and unspoken knowledge have proved relevant in the Danish survey.*
- *Question 3A about competitive advantage and 3G about strategic objectives logically belong together, and should therefore follow on from one another.*
  - *Question 3F about protecting from loss of knowledge due to departure of staff, and Question 3I about worker retention logically belong together, and should therefore follow on from one another.*

#### **Please indicate the achieved results of the knowledge management practices in use in your organisation? (Question 4)**

##### *Results of the pilot survey*

In this question respondents were asked how effective their activities had been in terms of a series of results.

The result which these activities had been most effective in achieving was to improve the skills and knowledge of workers. Here, 69.8% of respondents answered 'effective' or 'very effective'. Next comes 'increased adaptation of products or services to client requirements' (62.3); 'increased knowledge-sharing horizontally' (60.3), and 'helped us add new products and services' (54.7).

The practices indicated were considered not at all effective in preventing duplication of research and development or increasing the number of markets (geographically).

##### *Results of the interviews*

During the interviews several respondents requested 'not applicable' as a possible option. One might suppose that respondents who did not consider the question applicable would choose not to answer it, but this was not the case with these interviewees. A 'not applicable' column has therefore been added to the Danish questionnaire.

Many respondents had difficulty in understanding the relation between the question and the possible answers. For this reason, the tense in these questions was changed in the Danish questionnaire from the past to the pluperfect. In the later interviews this appeared to have clarified the question. There were also a number of respondents who thought only in terms of measurable results. This was helped by phrasing the question as follows: 'what results do you feel you have achieved?'

Certain respondents emphasised other consequences (negative results) of working with Knowledge Management practices, namely that these had led to an overload of information.

*Recommendations:*

*It should be made clear that it is not necessarily measurable results that are being asked about. This can be done by asking 'what results do you feel you have achieved by using these practices?'*

- *All the respondents interviewed missed having the option 'not applicable'. This has been added in the Danish questionnaire.*
- *Option 4N concerning the improved involvement of workers and 4D concerning improved skills and knowledge of workers belong naturally together and should therefore be set alongside each other.*
- *A new option, 4O, has been added: 'Has led to new relations with suppliers'. This belongs naturally with 4F, concerning customer relations, so these two questions should be placed together.*
- *A new option, 4P, has been added: 'Has led to new partnerships (cooperators)'. This belongs naturally with Question 4F concerning customer relations, and should be placed alongside it.*

**Who is in charge of the Knowledge Management practices in your firm or organization? (Question 5)**

*Results of the pilot survey*

Most of the respondents indicate that the prime responsibility for these practices lies with the Executive Management team. Only 2-4% indicate any of the other options.

There are strong indications that the available answers are not sufficiently comprehensive, since rather few choose to put a cross by the HR Department, the IT Department, the Knowledge Management Unit and so on. The open answers suggest that responsibility is spread very broadly.

*Results from the interviews*

Most of the respondents interviewed found it difficult to answer this question merely by putting a cross. One argued that the various functions are taken care of by different departments. We sought to meet this objection by emphasising that we were asking who had the PRIME responsibility. However, only 2 of the 61 respondents put a cross in more than one place.

Even after our attempts to make the question more concrete, several respondents thought more about who implemented these practices, rather than who had responsibility for them.

*Recommendations*

- *The possible answers should be reconsidered, since the placing of responsibility apparently differs widely, and the options available at present are not sufficiently comprehensive .*
- *One possibility would be to make some more open categories, such as: top management, middle management, project managers, employees, personnel department etc.*
- *In addition one could start from the assumption that responsibility is shared and, rather than asking who has the main responsibility, ask the respondent to number the different categories in order of importance e.g. 1 for the most important, 2 for the next most, etc.*
- *Another possibility is simply to allow respondents to put more than one cross.*
- *If, on the other hand, it is only the prime responsibility that is being asked about, this should be made clearer, for example by stressing this in the question, as we did in the Danish version.*

## **Do you measure the effectiveness of the knowledge management practices? (Question 6)**

### *Results of the pilot survey*

The great majority of respondents do not measure the effectiveness of these activities. Only 22% answer the question in the affirmative and, in the open question, mention the following very different methods:

- Through guides and instructions
- Some activities are included in the company's Balanced Scorecard and satisfaction barometer
- Employees satisfaction surveys, customer satisfaction surveys
- Weekly follow-up meetings
- Through budgets
- Through specific sales results and marketing activities
- Target fulfilment – qualitative/quantitative (reported in our Intellectual Capital Report)
- Through various measures, such as employee satisfaction, customer satisfaction, supplier satisfaction, no. of inter-disciplinary improvement groups per year, the development of competencies among employees, no. of days spent on education/supplementary training.
- It needs to be launched
- The more knowledge we have about new raw products for new ideas – recipes – the better the information the customer gets and the more we sell. So we have learned from experience who supplies the best knowledge for the various areas.
- Through continuous control
- Through systematic use of the EFQM concept.

### *Results of the interviews*

Many of the respondents interviewed felt that it was difficult to answer this question since certain activities are measured ad hoc and others on a recurrent basis.

### *Recommendations*

- *The question could be made more precise, partly by asking both about ad hoc and systematic measuring, partly by giving examples of the kinds of measures that could be applied.*
- *It would be interesting in this connection to ask what indicators are used to measure knowledge. This would be of particular interest in Denmark since we are pioneers in reporting intellectual capital.*

## **Which source(s) triggered your firm or organization to put into effect the knowledge management practices currently used? (Question 7)**

### *Results of pilot survey*

In this question respondents are asked to indicate all the sources that have served to inspire their organization to implement practices related to knowledge acquisition and sharing.

There are some indications that respondents have been inspired more by internal than by external sources to implement knowledge-related practices.

The most commonly mentioned internal sources are management (83%), non-management workers (47.2%), owners and shareholders (22.6%) and the Board (18.9%). The last two options are included only in the Danish questionnaire.

The most commonly mentioned external sources are competitors (41.5%) and customers or clients (39.6%), but the results indicate a multitude of sources, since suppliers, alliance partners, trade associations, universities, consultants and regulatory agencies are also cited as relevant.



In the Danish questionnaire the options 'advisory board' and 'unions' were also tested out, but none of the respondents crossed these answers.

*Results of interviews*

No contribution on this point.

*Recommendations*

- Consideration should be given to including 'the Board' and 'owners and shareholders' under internal sources
- The survey group suggested the following additional question: 'Which role-models have you used in Knowledge Management?' This was not included in the pilot survey on the grounds that it was already so extensive, but it could be considered for the final survey.

**Do you have dedicated budgets or spendings for the activities? (Question 8)**

*Result of the pilot survey*

58% of respondents dedicate financial resources to these activities, and half of these expect to devote increased resources to them in the future. None of them anticipates that the budget for these activities will be reduced within the next 24 months.

42% dedicate non-monetary resources to these activities, and only a quarter of these anticipate that they will devote monetary resources to them within the next 24 months. 20% do not know whether they will dedicate such resources.

*Results of the interviews*

The wording 'Does your firm or organization have dedicated budgets or spendings' worried several of the respondents. They argued that the resources used on activities related to knowledge acquisition and sharing are integrated in many different places in the budget and cannot therefore be considered specific.

*Recommendations*

- The answer 'Stay the same' should be moved so that it is placed between 'Increase' and 'Decrease'. ( In the OECD questionnaire the order is 'Increase' , 'Decrease', 'Stay the same'.)

**Did your firm or organization experience significant resistance to implementing any of the knowledge management practices? (Question 9)**

*Results of the pilot survey*

Only 9% of respondents had experienced resistance to implementing these activities, and in all cases this resistance came from non-management workers.

*Results of the interviews*

None of the respondents interviewed had experienced resistance to implementation. Surprise was expressed, however, at the fact that distribution, purchasing and communications staff had been placed in the same category, and that administration/accounting and HR had been put together in the same category.

A more nuanced picture might be given if, instead of asking whether there had been any resistance or not, respondents were asked about the degree of resistance.

*Recommendations*

- The answers should be changed to a scale ranging from 'full backing' to 'opposition'.
- If it is important to ask about significant resistance, this should be emphasised as it was in the Danish pilot survey.

## **What would motivate your firm or organization to implement or to increase Knowledge Management practices? (Question 10)**

### *Results of the pilot survey*

The most frequently mentioned motivating factors are 'improved competitiveness' (88.5%), 'attracting workers' (54.1%) and 'improving (corporate) image' (45.9%). All these factors were absent from the OECD questionnaire and added in the Danish version. The most important factors among the OECD variables are 'avoiding loss of key personnel', 'capturing workers' undocumented knowledge' and 'loss of market share'.

Only a few respondents checked 'other', which suggests that the list of factors is comprehensive.

### *Results of the interviews*

It is evidently unclear to the respondents that they are being asked in this question what would actually motivate them in their present situation to implement more Knowledge Management practices. Several of the respondents indicated instead what 'could' be interesting arguments for introducing more Knowledge Management, and their answers therefore concern the management problems which they believe Knowledge Management could solve. There is thus a strong correlation between the answers here and those to Question 4, about the results achieved by these activities.

### *Recommendations*

- *The questions should include more proactive factors such as 'improving corporate image', 'improving competitiveness', 'strengthening the ability to attract and retain workers'.*

## **Background variables**

### ***How many are employed in your firm or organization?***

61% of the respondents are from firms with fewer than 50 employees, 31% are from medium-sized firms with up to 250 employees, while 8% are from firms with more than 250 employees.

25% of respondents have colleagues outside Denmark.

### ***What is the turnover of your firm or organization?***

The survey is marked by the number of small firms. A large proportion (25%) did not answer this question.

### ***What is the trade of your firm or organization?***

24% have chosen to answer 'other', rather than to choose one of the trades mentioned. A more detailed investigation showed that the majority are service organizations.

The majority of the other firms are in manufacturing (20%) or commerce (21%).

### ***Where is your firm or organization based?***

The majority of respondents come from firms in Zealand (54%). 33% are from Jutland, while the rest (13%) come from Fyn.

### ***Where are the owners of your firm or organization based?***

Only 20% of respondents come from firms whose owners are located abroad, but there is a tendency for these firms to have a higher level of activity than the others.

### **How long did it take you to fill in this questionnaire?**

In the OECD questionnaire respondents are asked in Question 12 how long it took them to fill in the questionnaire. In the Danish version this question has been replaced by a series of background variables, see above.

#### *Results of the interviews*

In the interviews the interviewers timed how long it took the respondents to fill in the questionnaire. The respondents took between 20 and 28 minutes.

### **Comments**

Not many respondents used the opportunity to comment on the questionnaire, but the comments made confirm many of the above-mentioned conclusions and suggestions for changes.

The comments are:

- 'No' is missing when one would like to answer 'no but still relevant'
- Our knowledge sharing takes place through environmental certification
- It is difficult to answer your questions clearly
- It has been difficult to fill in this questionnaire since knowledge-sharing activities in our firm are very diverse and not separately systematised – in fact very attitude-based.
- The following question could also have been useful: In which functions is KM used? What tools are employed?
- The answers to Questions 1.1-1.2 are not sufficiently nuanced. There can be other reasons for saying 'no' than that the question is not applicable, e.g. lack of financial resources.

### **Who filled in this questionnaire?**

It was difficult to decide whom the questionnaire should be sent to, and several of the respondents interviewed said that they would prefer to pass the questionnaire on to someone else in the firm. With a view to finding out who had in fact filled in the questionnaire, a final box was added at the end: 'Filled in by – name and position'. The questionnaire was sent to the administrative director, but no indications were given as to who should fill it in.

The majority of the questionnaires were filled in by the administrative director. In others, the following titles were mentioned, but there is no particular pattern.

- Director's secretary/assistant
- Sales Manager
- Finance Manager
- Head of Production
- Head of Planning and Communications
- Change Manager
- HR Manager
- Regional Manager
- Principal
- Deputy Inspector
- Project Manager

## Miscellaneous

### *Recommendations for increasing the response rate:*

- It was suggested that we get in direct personal contact with the firms by phone before the questionnaires were sent out, and in that way involve the respondents in advance.
- It has also been suggested that we give respondents several benefits in order to raise their motivation to use time and mental effort on filling in the questionnaire. Such benefits could be the offer of networking cooperation or access to relevant links (e.g. from the OECD's or the former "Ministry of Business Affairs" home page.)

### *Recommendations for dealing with the abstract nature of the concept:*

- Consideration could be given to omitting the concept 'Knowledge Management' and hence the definition, and instead formulating the questions more clearly and concretely.
- One could for example make the questions more concrete by using examples.
- Or one could start with a concrete question such as. 'If an employee wishes to leave, what do you do in your organization?', 'What knowledge is it important to share in your organization?' and 'How do you do this?' or 'if a worker is sitting on some invaluable knowledge, how do you make sure it gets transferred?'
- An alternative would be to write an accompanying letter with a case study that sets out the problem. The drawback with an accompanying letter is that it is likely not to be read, so the introductory comments should be as brief as possible.
- If the intention is to treat Knowledge Management as a part of ordinary management, consideration should be given to omitting the skip option and asking all respondents to fill in the whole questionnaire.
- Further discussion of the target group could make the questionnaire more concrete. For example, the kind of knowledge that is important differs from firm to firm.
- It might be interesting to send the questionnaire out to different levels within each firm. This would require several types of questionnaire.
- If a definition is used in the questionnaire, one might consider using it on every page as a running headline.

### *Proposal for an additional question:*

- Several members of the survey group wanted to include an additional question: 'Might your firm be interested in participating in research or in experience groups in this field?'

## Appendix 2: Correspondence table between the OECD questionnaire and the Danish questionnaire

The differences between the Danish questionnaire and the OECD questionnaire are set out below.

Numbering of questions in OECD version	Corresponding numbers in Danish version
1.1 Policies and strategies	1.4 Policies and strategies
NOT INCLUDED IN OECD VERSION	1.4 E Preparation of intellectual capital reports
1.2 Leadership	1.5 Leadership
1.3 Incentives	1.6 Incentives
1.4 Knowledge capture and acquisition	1.1 Knowledge capture and acquisition
1.4 C Dedication of resources to obtaining and communicating knowledge	1.1 C Dedication of time to obtaining knowledge
	1.1 D Dedication of time to communicating knowledge obtained
	1.1 E Dedication of budget to obtaining knowledge
	1.1 F Dedicating of budget to communicating knowledge
1.4 D Encouraging participation in project teams with external experts	1.1 G Encouraging participation in project teams with external experts
1.5 Training and mentoring	1.2 Training and mentoring
1.6 Communications	1.3 Communications
NOT INCLUDED IN OECD VERSION	1.3 D Physical arrangement of the workplace
NOT INCLUDED IN OECD VERSION	1.3 E Use of IT
NOT INCLUDED IN OECD VERSION	3 M Promoting knowledge sharing with suppliers
NOT INCLUDED IN OECD VERSION	3 N Identifying tacit/unspoken knowledge of workers
NOT INCLUDED IN OECD VERSION	3 O Profiling the organization as an up-to-date organization
NOT INCLUDED IN OECD VERSION	3 P Improving ability and opportunity to take out patents
NOT INCLUDED IN OECD VERSION	4 O Has led to new supplier relations
NOT INCLUDED IN OECD VERSION	4 P Has led to new partnerships
NOT INCLUDED IN OECD VERSION	7 D The Board
NOT INCLUDED IN OECD VERSION	7 E Owners and shareholders
NOT INCLUDED IN OECD VERSION	7 F Advisory Board
NOT INCLUDED IN OECD VERSION	7 G Trade Associations
NOT INCLUDED IN OECD VERSION	7 H Strategic alliance partners
7 D Strategic alliance partners	7 I Competitors
7 E Competitors	7 J Suppliers
7 F Suppliers	7 K Trade associations etc.
7 G Trade associations etc.	7 L University and further education
7H University and further education	7 M Consultants
7 I Consultants	7 N Regulatory agencies
7 J Regulatory agencies	7 O Customers or clients
7 K Customers or clients	7 P Others
7 L Others	10 A Desire to improve image
NOT INCLUDED IN OECD VERSION	10 B Desire to facilitate globalization
NOT INCLUDED IN OECD VERSION	10 C Desire to improve competitiveness
NOT INCLUDED IN OECD VERSION	10 D Desire to attract workers
11 Number of employees	11.a Number of employees
NOT INCLUDED IN OECD VERSION	11.b Turnover
12 Time it took to fill in questionnaire	NOT INCLUDED IN DANISH VERSION
NOT INCLUDED IN OECD VERSION	12.a Trade
NOT INCLUDED IN OECD VERSION	12.b Where firm is based
NOT INCLUDED IN OECD VERSION	12.c Where owners are based
NOT INCLUDED IN OECD VERSION	15 Name, title and year hired of person who filled in the questionnaire

### **Appendix 3: Definitions of Knowledge Management**

***The following definitions were tested out in Canada in spring 2001:***

Knowledge Management covers any intentional and systematic process or practice of creating, acquiring, capturing, sharing and using productive knowledge, wherever it resides to enhance learning and performance in organizations. (H. Scarborough, J. Swan and J. Preston).

In a simple form, Knowledge Management means the process of collecting, organizing, classifying and dissemination of information throughout an organization. In a wider sense it can be understood as the philosophy and technique of recognizing, increasing and exploiting the organization's intangible assets. (H. Scheutze).

Knowledge Management is the purposeful sharing, using and reusing of knowledge in an organization to enable further knowledge creation and the introduction of new or significantly improved products or processes. (F. Gault).

Knowledge Management addresses the broad process of locating, organizing, transferring, and more efficiently using the information and expertise within an organization. (Dataware technologies).

Knowledge Management is the acquisition and use of resources to create an environment in which information is accessible to individuals and in which individuals acquire, share and use that information to develop their own knowledge and are encouraged and enabled to apply their own knowledge for the benefit of the organization(s). (S. Brelade and C. Harman).

Knowledge Management is the active creation, transfer, application and re-use of (tacit) individual knowledge and of codified (explicit) collective knowledge, supported by new work approaches, relationships and technologies, to increase the speed of innovation, decision-making and responsiveness to top business priorities. (Treasury Board Secretariat).

Knowledge Management is the practice of adding actionable value to information by capturing, filtering, synthesizing, summarizing, retrieving and disseminating tangible and intangible knowledge. (Management Review).

***At the OECD meeting in Paris in July 2001 the following definitions were discussed:***

*'KM covers any organizational process or practice of creating, acquiring, capturing, sharing and using knowledge'*

The comment was made that 'acquire' and 'capture' are synonymous and that 'transmission' should be added. This led to the definition: *'KM involves any organizational activity related to the creation, transmission, capturing, sharing and the use of knowledge'*

Others suggested: *'KM covers any organizational process or practice which aims at linking together the creation, capture and use of knowledge'*

### Appendix 4: Sequence Chart of the pilot study

