An Evaluation of a KM Diagnostic Instrument

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Abstract. Knowledge management is today an established approach to improve and renew organizations. The right use of information systems are often essential element in a successful KM strategy, however creating the right mix of KM activities and system is difficult and failures are frequent. Getting a good grip of the current situation and the special condition of the organization is therefore essential. In this paper we study an initiating questionnaire, taken from the KM literature, with a background in US management consulting industry. The aim of the paper is to evaluate the questionnaire, from a Swedish perspective. This is done with the aim to search for more general advice for anyone wanting to adapt and use such a questionnaire in their own situation. For this purpose, a number of applications of the questionnaire is presented and investigated. The outcome of the study is an initial assessment of the usefulness of the questionnaire and some recommendations for further use and research into the questionnaire. The usefulness seems to depend on the situation of persons that the questionnaire is given to. The analysis shows that the questionnaire seems to fit rather well to companies that were included in the study, especially on a management level. However, some possible problem areas were also discovered, the background, motivation and work situation of some personnel group could interfere with the effectiveness of the questionnaire.

Keywords: Knowledge Management, Evaluation, Questionnaire

1 Introduction

Knowledge management (KM), as an organizational activity, has many shapes and forms. The area ranges from the use of computer software to culture building activities and acquisition of patents. There seems to be a growing consensus, both in academia and business about the necessity of good KM practices. However, studies indicate that the level of user satisfaction with KM as management tool is very low [1, 2]. In 2001, KM came in as the least satisfactory among the 25 most used management tools, and in 2005 it is still close to the bottom of this set regarding user satisfaction. This would indicate a need for instruments to evaluate, assess and diagnose KM activities in organizations, as complement to studies of creation, distribution and use aspects of KM that have been emphasized in previous research. There are some signs of such a development taking place in the emergence of KM performance measurement frameworks, often using quantitative measures [3].

In this paper we evaluate a diagnostic instrument for assessing KM related activities in organizations; a survey that is presented as practical tool that accompanies a "Knowledge management field book" [4]. The survey builds upon a rather common KM cycle model as used in consultancy practice, consisting of 140 questions that include anything from when and how IT is used to cultural issues related to organizational knowledge and learning.

Our research set out to assess the usefulness of this instrument outside of its original cultural and organizational context which is that of large US firms. As source of empirical material for the study we use a selection of Swedish companies, intended to cover a spectrum of businesses and company sizes ranging from departments in large, manufacturing Swedish industries to small SME's.

Considering the globalization of businesses and the need to assess and develop KM capabilities, it would be highly desirable if instruments like this prove to be useful across cultural barriers and yield meaningful and comparable results. The work is done with the intention that this Swedish experience should provide lessons for the conversion of the questionnaire also into other cultural settings.

2 Background Theory

2.1 KM Strategy Framework

Knowledge management is a broad area and many kinds of topics and aspects could be taken. In this paper we assume the context of a strategic planning process, implying an overall objective to produce of a set of KM-projects (initiatives, systems, etc) in which the organization should invest time, money and competences. To be successful, it is assumed that the individual KM projects need to be aligned not only with the business strategy but also with 'soft' aspects of the organization, such as leadership style, attitudes and expectations concerning sharing of knowledge and expertise, incentive systems and so forth [5]. The survey investigated in this paper is examined in its role as a diagnostic tool for assessing organizational factors in this broad sense. Embedded in the survey in its original context are a number of assumptions of what is important and 'good' regarding the measured factors. This is reflected in the way the survey results are added up to produce a score on the total KM performance, and also in the way the questions are asked – a higher degree of agreement on each of the questions are supposed to indicate better KM performance. However, we intentionally leave that aspect out of the picture in this paper, merely asking if the survey can be used as an instrument in Swedish organizations to give a useful view on organizational conditions relevant to choosing a KM strategy.

2.2 KM in Sweden

Previous research suggests that the Swedish approach to knowledge management has its own particular flavor. Alarik and Diedrich [6] made an interview study of a CEO's

of a number of Swedish companies working on a global market. The interviews where made with leading officers in areas like personnel, competence development and IT. The outcome provides us a profile of how KM is understood, pointing out a number of factors as significant. 1) An open social climate, where people feel secure and being an important part of the company. 2) Management should be emphatic, show trust towards employees and be good listeners. 3) Incentives and reward systems are needed for stimulating good behavior. 4) Creating and stimulating networks and networking among personnel. 5) Finding and placing the right person on the right position. The use of IT and the now "traditional" technical KM solutions is not emphasized in the investigated companies. Rather, it tends to be given a supporting role - the premises for successful KM results are characterized mainly by the 'soft' points indicated above. Another interesting finding was that specialized KM roles and a special knowledge management organization did typically not exist in these companies.

2.3 Knowing in practice and social learning

An important aspect when studying KM practices, where knowledge is created and shared, is to recognize the social dimensions of these practices. Here we draw upon the work of Orlikowski [7] and Wenger [8] to further our understanding of how people perform in order to better explain the outcome of our questionnaire.

The work of Orlikowski [7] focuses upon the processes of organizational knowing rather than knowledge as such. She sees organizational knowing as emerging from the ongoing and situated actions of organizational members as they engage the world, thus highlighting the role of human actions in knowing how to get the work done.

The work of Wenger [8] concerns communities of practice and social learning systems. He sees the knowing in practice as intimately coupled with the process of forming identities that may give information gained within the practice a coherent form of participation, thus forming a social learning system. The belonging to a social learning system can take various forms at various levels of interaction with it, such as engagement, imagination, and alignment. Engagement entails doing things together, talking and producing artifacts. Our experience of who we are, is shaped through the engagement in the practice, a sense of identity is established as well as what is doable or not. Imagination involves constructing an image of oneself, of one's communities and of the world in order to orient one self, to reflect on one's situation and explore possibilities. Alignment entails mutual processes of coordinating perspectives, interpretations and actions to realize higher goals. It is in combining the modes of belonging that learning-communities may come to exhibit specific characteristics of their practices. The combination of both engagement and imagination brings about a reflective practice. The combination of imagination and alignment provide us with the ability to act with respect to a broad and rich picture of the world. Through the combination of the modes of engagement and alignment we become able to better bring together different perspectives of the world and create shared/mutual meaning.

2.4 KM and National Cultures

Organizational culture is a central aspect of KM success. There are general studies that could us help us to understand our special conditions. Swedish culture has been characterized in studies by Hofstede [9, p. 54). Hofstede suggests four aspects of culture, which can be used to describe the culture of a nation. The four aspects include: power distance, individualism, genus, and uncertainty avoidance. We provide a closer explanation of these together with the analysis in section 5.2. All the measures of Hofstede are relative indexes, comparing countries to each other. There have of course been critiques against Hofstede's cultural indexes. However for this initiating test of the instrument we hope that these cultural indexes will be sufficient.

2.5 The KM Survey

Bukowitz and Williams [4] present a diagnostic tool, a survey, for the assessment of the current KM situation of a company. It is comprised of 140 questions that measure the respondent's degree of agreement with statements about how the company deals with issues of knowledge sharing and learning.

The questions are designed to indicate organizational performance in areas that relates to common ways of conceptualizing KM processes. These areas are modeled by the following seven constructs, each of which is addressed by 20 questions.

1. *Get* – IT has provided access to much more information than before. The challenge for organizations is to provide individuals and teams with tools enabling the right information to be found when needed. Examples of survey statements addressing this construct are: "People only request information when they really need it", and "when people are given the task of searching for information they are able to fulfill the request".
2. *Use* – new sources of knowledge and insights require organizations to establish an environment that stimulates creative use of information. Examples of survey statements for this constructs: "office space is not used as a symbol of status or seniority in our organization", and "anyone who has a good idea can get support to follow it up".
3. *Learn* – dealing with how open the company is for learning, how it deals with lessons learned and failures. Examples of statements: "In our organization failure is considered an opportunity to learn"; "people admit when they fail".
4. *Contribute* – covering questions how people contribute with personal knowledge and their attitudes towards collaboration and sharing of ideas. Statements relating to this constructs are, for instance, "people are members of multiple communities, making it easier to transfer knowledge across the entire organization"; "face-to-face interaction is used to strengthen electronic communications".
5. *Assess* – How the organizational contribution of the knowledge assets is assessed and measured. Examples of questions: "people know what metrics are used to monitor the knowledge management process and its results"; "we recognize that knowledge is part of our asset base".
6. *Build/Sustain* – How the knowledge assets are developed and managed for future competitive power. Statement examples from the survey: "our formal and

informal values are aligned"; "our organization treats people like assets rather than costs".

7. *Divest* – This relates to the fact that knowledge assets are not free to keep and maintain for the organization. From the organizational point of view the question is to determine how and when to dispossess knowledge assets that will be unnecessary for sustaining competitive advantage. Examples of statements: "we apprentice our people to other organizations to determine if we need to acquire new skills or expertise"; "we may refuse to work for a customer if doing the work does not build knowledge that we can use in other ways".

Together, the questions cover a very broad area of the KM spectrum. Considering previous research indicating specific Swedish ways of dealing with these issues, our evaluation focuses on two aspects of the survey; 1) are the questions relevant for Swedish organizations (possible to understand and give answers to), and 2) internal reliability, i.e., are the questions addressing the intended constructs in our intended context of use, here Swedish organizations.

3 Research Strategy and Empirical Method

To achieve the research objectives for this paper, the work was divided into three major phases. First, a start up phase, here the survey was reworked (translated) into Swedish and an initial analysis of the relevance of the questions were made. This phase included preparations for evaluating validity and reliability of the survey. We chose to work with two classes of reliability estimation, parallel forms and internal consistency reliability. In the second phase the survey was applied on a number of companies, providing the project with empirical material. The third phase concerned an analysis of the empirical material.

Phase 1: startup

The translation of the questions was done in collaboration between the authors in a series of group sessions. A lot of debating was generated around many of the survey questions; it was not very difficult to translate but we had a sense that things were lost in translation, referring to rather academic phenomena that we feared was not among the things that people in Swedish organizations recognize. This prompted considerations about how to best prepare for assessments of validity and reliability, and suitable approaches were discussed with researchers external to this process. Two main reliability estimates were chosen. First, the parallel forms estimate, in which the questions relating to each of our seven constructs are randomly divided in half, thus, producing two surveys that are assumed to be equivalent. The outcome of this process was some remaining doubts about the usefulness of the survey, including the large number of questions concerning the formulation/language used. This resulted in a slight change of plan, from doing a larger survey directed towards some hundreds of companies to a smaller pre-study. This smaller pre-study is reported in this paper.

Phase 2: data collection

The empirical method, in short, includes two case studies where the survey has been used. The first one was aimed at chief officers, with responsibilities for personnel. The CEOs came from a number of smaller companies. The second one was

aimed at ordinary staff members of two different departments of a larger company. The practical distribution and collection of empirical material was performed by students groups under the supervision of the authors.

Phase 3: analysis

Two approaches for evaluation were taken, internal (consistency of the questions) and contextual (relevance of the questions).

For the internal evaluation of the survey a split-half technique was used. This is a rather basic technique used to discover systematic problems among the questions. Here we work with a parallel forms test and only perform a pre-test. By using split-half reliability we create an instrument that is intended to be used as a single measurement instrument. The 140 questions were divided into two groups, with 70 questions in each. If the two halves correlate, no major deviations between them should show. The contextual evaluation consisted of two analyses of the two target groups' respective organizational situations, with regard to how they perceived and received the questionnaire.

4 Empirical Case Studies

The empirical material consists of two sets of survey studies, where each set was split into two halves. The first set was directed towards a group of CEOs distributed amongst small and medium sized companies within the Kronoberg region of southern Sweden, and the second set was directed towards a group of the staff at one of the major manufacturing company within the same region.

The results from the comparisons of each of the respective set's halves are presented in their respective tables, see table 1 and 2 below. The figures in column 2 and 3 of each table shows how the two different split-halves score per section of the questionnaire in relation to the highest score possible to achieve i.e. when they fully agree with the statements presented. The figures may be interpreted as percentages.

4.1 CEO Survey

The CEO survey was conducted at a number of small and medium sized consultancy or manufacturing companies with head offices and markets in the Kronoberg region in southern Sweden. The study targets managers having a distinct responsibility of personnel. The purpose of the survey was to investigate the perception of the management towards ideas, attitudes and practices concerning knowledge and competence. The survey was conducted by students over a two-year period, 2005-2006. In total 12 number of companies were investigated and 23 questionnaires were distributed. The questionnaires were somewhat unevenly distributed between the managers in the different companies. 15 managers were given the split-half 1 questionnaire and 8 were given the split-half 2 questionnaire. All of the questionnaires distributed were gathered. In table 1, we compare the outcome of the two split-halves and to what extent they differed in any way.

Table 1 – Comparing split-halves of the CEO survey

KM Perspective	Split-half 1 15 surveys	Split-half 2 8 surveys	Differences
1. Get	0,772	0,7425	0,0295
2. Use	0,668	0,7175	-0,0495
3. Learn	0,816	0,7325	0,0835
4. Contribute	0,687	0,7225	-0,0355
5. Assess	0,729	0,7925	-0,0635
6. Build/Sustain	0,691	0,7175	-0,0265
7. Divest	0,657	0,715	-0,058

As seen in table 1, the scores from the different section were relatively high, between 66% - 82% and the differences between the two halves relatively low, between 3% - 8%. In 5.1.1 we look closer on the possible reasons for this outcome.

4.2 Staff Survey

The staff survey was conducted at a larger manufacturing company in Sweden in the region of Kronoberg. The survey was performed at two departments in co-operation with the heads of the departments. The work was conducted as a bachelor thesis [10]. Here we try build on that material for further analysis and conclusions on certain aspects of that survey, i.e. finding out how well the instrument performed.

The distribution of the questionnaire was sanctioned by the head of the departments, and was viewed as part of the departmental work. The survey was presented at department meetings and the questionnaires were handed out to the participants. A rather high turn was expected, and 75 % was collected. This is of course acceptable in general, but maybe it could have been even higher. The two departments differed a bit, one consisted more of blue-collar (manual) workers and the other hade more white-collar (office) workers. In total 32 questionnaires were distributed and 24 were collected. In table 2, we compare the outcome of the two split-halves and to what extent they differed in any way.

Table 2 – Comparing split-halves of the staff survey

KM Perspective	Split-half 1 11 surveys	Split-half 2 13 surveys	Differences
1. Get	0,609	0,517	0,092

2.	Use	0,633	0,454	0,179
3.	Learn	0,531	0,482	0,049
4.	Contribute	0,529	0,44	0,089
5.	Assess	0,456	0,418	0,038
6.	Build/Sustain	0,696	0,486	0,21
7.	Divest	0,524	0,415	0,109

There are some differences to be noted between the departments, but no clear pattern other than what could be seen in the combined analysis, showing that the first split-half scores are relatively higher in some sections. As seen in table 2 the scores from the different section were relatively lower than those compared to table 1, between 42% - 70% and the differences between the two halves relatively high, between 4% - 21%, with a more distinct variance between the sections. In 5.1.2 we look closer on the possible reasons for this outcome.

5 Results

The evaluation is divided into an internal and a contextual perspective.

5.1 Internal Evaluation

Here we look at our two studies, first separately and then in context of each other. We compare the results of the two halves of both the surveys in order to uncover any weaknesses in the instrument and its applicability.

5.1.1 The Split-half Test – CEO's

The outcome of the comparison between the two sets of surveys (distributed to the CEO's) shows that there is a rather good consistency between these sets. Having a look at table 1 we see, as has been noted in section 4.1, that the two halves correlate very well judging from the differences of scores. Even though the halves were unevenly distributed, the number distributed of each of halves was deemed to be sufficiently high as not to affect the overall results. Had there been any one major deviation, which there was not, it would have affected the end result very little.

As is shown in the table 1 the scores were not only high but evenly distributed amongst all of the section of the questionnaire. The scores ranged from between 66% - 88%, and lie well within the limits considered appropriate by Bukowitz and Williams [4] related to their original questionnaire. When they performed similar investigations, as ours, they received results between 30% - 70% with a mean of 55%.

There was in general not noted that any section was deemed more important than any other. This could reveal to us that managers are aware of the complexity of KM activities and have a good understanding of what they involve, as well as their importance, individually and in relation to each other.

From the surveys of the CEOs there were not explicitly gathered any reactions from the respondents pointing upon how they experienced the questionnaire, if they found the questions difficult understand or how the perceived their rationale. This is probably due to the fact that the purpose of the survey was not to evaluate the questionnaire as such, but to use it as an instrument for assessing the attitudes of the companies involved towards, and their level of awareness of, KM initiatives. However, judging from the high percentage of responses received from this group and the high scores given within each section of the questionnaire see table 1, there appears to be no trouble in understanding and being motivated in filling out the questionnaire. This could of course be explained by the fact that the group of respondents were highly aware of the importance of paying attention to the issues dealt with within the questionnaire and also showing a high degree of formal schooling, thus more accustomed to the format of the questionnaire.

5.1.2 The Split-half Test – Workers

Josefsson and Tideman [10] draw the conclusion that the instrument has some problem when used on this group of people. The comparison between the different halves showed some interesting results. One of the halves (the second split-half) has a lower mean and also has more completely blank questionnaires. For example, the second split-half has 20% of blanks, while the first split-half has just a few blanks. The main reasons, given by Josfesson and Tideman [10], include perspectives like: who is asked and their background, the issues discussed and the language used.

A detailed study of the material shows a difference in the population that answered the second split-half. These people where older and had longer time of employment.

There are three areas that have lower turnout, i.e. more blanks and lower means. These are “divest, build and assess”, which have a more explicit management perspective to them. It is within these questions that more blanks and lower means than among other groups of questions.

The sheer number of questions, 70 per split-half, might also contribute to a lower mean. For example, the KM aspect “Get” had a high number of questions among the last 10 question of the questionnaire, and did get a lower mean. The long questionnaire may have contributed to this very outcome.

Comments on the questionnaire were gathered explicitly through a commentary page at the end of the questionnaire. Even though Josefsson and Tideman [10] point out that the number of such commentary pages gathered was not high, it was still possible to draw some conclusions. They point out that most of the commentaries are related to the language and the manner in which the questions were formulated. The language used seems to have bothered the respondents. Concerning the language, there was a higher degree of difficult questions noted in one of the halves, the second split-half. This was pointed in the commentary section of the questionnaire; where free-text questions gave the respondents room to give their thoughts on the questionnaire. The commentary section included comments like: “difficult language, to long sentences, hard to understand the meaning”, and so on. The questionnaire was

perceived to have sentences that were too long, with difficult words, thus making the questions hard to interpret. Some respondents within the group had wanted the questions formulated in a more straightforward manner or perhaps that they should have been better adjusted to the different departments. There where also an additional comment in an informal interview with one person with an up-to-date education in business administration, who thought the questions were good and generally interesting.

Josefsson and Tideman [10] partly agree with the critique above as they also found the language too academic and sometimes difficult to interpret. They found that the questionnaire was perhaps not well adjusted to the two departments of the company. However, they state that the generality of the questions is such that they should be applicable to most Swedish organizations

Examples of problematic question can unfortunately not be given as they were all formulated in Swedish, and translating them back to English would loose some of the meaning and flavor that could indicate why they were perceived as problematic. Some indications to the problems perceived of the questions may be seen in table 2. The relative high discrepancies between the two halves, as compared to table 1, and the lower scores received within the respective sections of the questionnaire may point in this direction.

One thing to take note of is that the group of workers examined was not a homogenous group, there were differences noted between the different departments although no clear pattern to this was discernable. However, the two halves of the questionnaire was distributed evenly between the subgroups of workers at the different departments, thus no subgroup was overly represented within one half. The subgroup of office workers had a higher proportion of senior males, with longer service time at the company, and the subgroup of manual workers had a higher proportion of younger females. However nothing conclusive could be drawn from this distinction, not even level of education.

5.1.3 Comparing the two Studies

There is a limited value of comparing these two rather different studies. The CEO study is made in a number of companies, while the staff survey is made in one larger company. However, the fact that there is a clear difference between the two groups is a potentially important issue for future research. The CEO's seems to have a more favorable view of the KM situation in their company then the ordinary staff. This might be rather unsurprising given the topic of the management of knowledge and that it is designed to be a task for managers.

That the reactions from the group of workers towards the questionnaire seem to differ from how the group of CEOs perceived it may be explained by such cultural factors as discussed in section 5.2.2. They could also be explained by such factors as level of education, most workers had no formal higher schooling, and the level of awareness concerning the importance of paying attention to such issues as were revealed within the questionnaire. The latter could perhaps be due to that these issues were regarded as being within the provenance of management. The group of workers as a whole had in general a lower level of formal education as compared to the group of CEOs. The questionnaires gathered from the staff survey had a higher proportion of blanks, i.e. not answered questions, in comparison to the CEO survey. This could

perhaps hint at differences in attitude towards the questionnaire in general, as discussed in section 5.2.2, when compared to the group of CEOs.

5.2 Contextual Evaluation

In this section we look at the effectiveness of the questionnaire in relation to the situation that it was used in.

5.2.1 Knowing in Practice and Social Learning

The questionnaire used as an instrument for assessing the attitudes towards knowledge management seems better suited to the CEO group. The original instrument constructed by Bukowitz and Williams [4] was targeted for managers and well tested. The scores of table 1 reveal to us the high acceptance it received within the CEO group. There could of course have remained questions concerning whether it suited Swedish companies and function in Swedish cultural context. It is not obvious that one can take an instrument such as the questionnaire, constructed under other cultural contextual conditions and transfer it to another. But, again the scores of table 1 reveal to us the opposite. The instrument works well in a Swedish cultural context, at least at an organizational managerial level.

In the case of the staff group the situation is quite different. One can expect them not to be as acquainted to the format of the questionnaire and familiar with the issues as it is not directly constructed to target workers and office clerks. But, even though we have some evidence hinting that it might be questionable to use this instrument on groups of people such as members of the staff, it is still necessary to understand why it would not function well in order to adjust for that in future studies. It could be the case that aspects are missing from the questionnaire, that had they been considered might have provided us with an instrument more relevant and relatable to the members of the staff group, thus yielding higher scores.

To shed some light on this we turn to the work of Orlikowski [7] on knowing in practice and the work of Wenger [8] on communities of practice and social learning systems. From the work of Orlikowski [7] we come to understand that from the workers point of view issues of competence, skillfulness, sharing and learning is a matter of situated social learning. According to Wenger [8], the belonging to a social learning system can take various forms at various levels of interaction with it. He distinguishes between the following modes of belonging: engagement, imagination, alignment, and especially their combinations. These combinations of modes must to some extent be addressed throughout the questionnaire in order to cover issues that are both relevant for and relatable to the members of the group of workers. So the question is if the statements of the questionnaire do cover issues related to these combinations of modes. Going through the statements of the questionnaire of each activity section we find that roughly half of the statement may be considered as more social or practice oriented, expect for the section Asses. It contained mostly statements that could be viewed as highly formal or organization oriented. This section also got one the lowest score of all the other sections. Most of the statements of the other sections that could be considered social or practice oriented seem to relate more to the mode of engagement or its combination with imagination, a reflective

practice. It seems that the questionnaire may have been biased towards managerial organizational concerns of working together and learning from experiences.

An example of a statement that could be viewed as related to a reflective practice is: "Reflecting on lessons learned from work experiences is an established practice in our organization". However, it belonged to the section Learn and this section did not get an especially high score as compared to the other sections, see table 2. Maybe it is the way the statements are framed that is the greatest hindrance in this case or that there are too many formal or organization oriented statements. The possibility of problems concerning how statements are framed has been discussed in section 5.1.2. Another example of a question that could be seen to target a reflective practice is: "People apply the ideas they developed in past work situations to new ones". Such a statement as this does indeed target a reflective practice, but it also reveals to us a view of knowledge as a commodity that may be articulated and transferred. This does not rhyme well with the perspective of "knowing in practice" of Orlikowski [7] as well as Wenger's [8] social learning systems.

There are indeed examples of statements aiming to target other combinations of modes. An example of a statement that could be considered target to the combination of imagination and alignment is: "People know what metrics are used to monitor the knowledge management process and its results". This one belongs to the section Assess, which got one of the lowest scores, see table 2. Even though we clearly see that the statements target the understanding of things going on, the "why", it is not clear if the group of workers perceive such a statement as being directly related to the concerns of their own practice. If indeed knowledge management activities should be and may be part of the everyday practice, then why did the activity section it belong to receive such a low score?

It seems that maybe too many statements of the questionnaire are formal or organization oriented, taking a commodity perspective of knowledge. Those that do seem to be more social or practice oriented seems to be framed in a manner that may not easily be relatable to the group of workers. All of this may indeed make it difficult for members of the staff to perceive the questionnaire both relevant and relatable to their own concerns. This is something that must be considered in future research.

5.2.2 KM and National Culture

In "Culture of organizations" Hofstede [9] put forward some traits of Swedish culture. Here we work with three aspects of culture, power distance, individualism, and uncertainty avoidance. The genus perspective we do not use, because the ground material do not offer this aspect.

Low level of power distance, Sweden scores the low number of 31, ranking 47 among investigated countries. Three questions are used for assessing this value, 1) employee is afraid of manager, manager is autocratic, employer preference about work place, i.e. if they prefer an autocratic manager or not [9, p. 25]. The simple analysis here might be that an impersonal questionnaire might be seen as a way of creating a power distance. This might be a reason for the skepticism towards the questionnaire among the staff, while the managers seemed to think the instrument was ok.

Further on, Hofstede looked at an *individualism / collectivism dimension* of culture. Here, Sweden came out as a clearly individualistic country. Three questions were

used to investigate each aspect. Individualists thought it important with personal time, freedom to control work situation, challenges in work. The collective approach valued: job training, physical work condition and use of skills. The three questions indicate that a Swedish worker expect a high degree of freedom and control over their work processes. Following on the same note as in the previous analysis, the questionnaire increases the ability of manager to control the worker. This should again concur with the outcome of the survey, which is a rather high level of not answering or disagreeing.

The third aspect that Hofstede proposes is *uncertainty avoidance*. Again three questions are used to measure the aspect: job stress, rule obedience and expected time on job. Swedes score low in this index (to avoid uncertainty is not important to them), meaning that they do not feel stressed at work, think that rule obedience is not so important and are looking forward to changing jobs. In the relative index Sweden comes in at position 49/50 out of 53 countries. Generally these people are not interested in rules and are ready to move on, and could be expected to be less interested in this type of development project. The questionnaire increases the ability to create rules for KM activities. The questionnaire also indicates the beginning of longer projects. Both these aspects seem to be at odds with the cultural profile. The findings and analysis by Hofstede is corroborated in the study of Alarik and Diedrich [6].

6 Concluding Discussion

A number of questions have been answered in this paper. However, what might be more important, a number of further question have risen due to these reported investigations.

6.1 Summary of Results

In this paper we have tackled the problem of a diverse and complex theory/practice situation of KM, by looking at a questionnaire that is hoped be helpful for the evaluation of KM in organizations. Two main issues were at hand, if the questionnaire would fit into a Swedish context and if the questionnaire was internally consistent. The second issues were also important regarding the high number of question and if it could be possible to work with subsets of the 140 questions without losing the precision of the analysis.

Generally the questionnaire was directed to managers, and the outcome in the CEO study indicates that it also works under the Swedish conditions. What is more interesting is that the staff study was not so successful. Here we find the most important finding of this paper. An instrument that works well for one personnel group might not do that for others, as explored in depth in section 5.2.1. The easy solution is to use different sets of questions, but then we get the problem of connecting the answers between different subsets, thus a problem of interconnecting KM initiatives.

6.2 Issues of KM Assessments

The analysis of this paper shows some promising results, however some critical questions on a more general level must be raised.

First, a basic assumption of the questionnaire is that every question implies a good practice. Look at other basic research of the KM field, for example Hansen, et al. [11] who presents the theory that different KM strategies is needed for different competitive strategies. Naturally, one could expect different profiles to emerge from the questionnaire, but it is not an answer to the question "what is the right KM mix for our company". What is needed is a questionnaire that contains a number of profiles, which expects low agreement with a number of the questions.

This leads to the next issue, what is it managers and others really telling us when they answer. Is it how they think it should be, or how they think it is or is it how they want other to believe it is? There is a danger that the answers become a test on what manager's think is good and their wish to want appear as good might dictate their answers. The rational answer to this worry is that the managers are rational and know that correct answers are necessary for making the questionnaire useful. However, people are not always rational, and even with the best intentions it might be hard to overcome biases and hidden personal assumptions. The way to go is probably the rather complex questionnaires with a lot of questions, just like the investigated one. What are missing in that questionnaire are KM profiles, that recognizes that one cannot and should not be "good" at everything at the same time. This will not result in good KM practices. The use of the questionnaire in the staff groups could be discussed in similar direction. Although the solution might be the opposite, i.e. more specialized and containing shorter list of questions. The need of KM activities, which would be classified to be good, is probably dependent on the specific works situation.

Here we discover the depth of the challenge as discussed in 6.1. To develop an integrated KM plan, the evaluation instrument must both accommodate the complexity of many KM profiles and also be scalable to more narrow uses in certain work situations.

6.3 Future Research

The outcome of the study shows both the need of instruments for evaluation of the KM situation in a company and that the investigate instrument seems possible to use. The key problem was if it was possible to build further on the consult-instrument that has been studied. There is a potential for further development of this idea, however much work remains. The future studies should have two directions.

First a theoretical direction should be taken, where the questionnaire is analysis and updated for the development of KM theory. It should in that process be ensured that a number current KM strategies can be measured using the instrument. An aspect of this process should also include a re-translation to English. This would provide extra review of the instrument and further insure that the problems of language and translations are minimized.

The second direction should be empirical, and would include a use of statistical measures (for example Cronbach measure for reliability, Cronbach, & Shavelson,

[12]). The goal would be to create an instrument that is possible to scale down to create smaller subsets, which would be more accommodating for different groups of staff.

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