Institute for Technology Management

University of St.Gallen

Corporate Cultural Prerequisites for Knowledge Sharing

St. Gallen, September 2002

ANJA SCHULZE

TEL: 0041-71-228 24 73, FAX: 0041-71-228 24 55
EMAIL: ANJA.SCHULZE@UNISG.CH

UNIVERSITY OF ST. GALLEN (HSG)
INSTITUTE FOR TECHNOLOGY MANAGEMENT
UNTERSTRASSE 22, CH-9000 ST. GALLEN

INSTITUT FÜR TECHNOLOGIEMANAGEMENT
UNTERSTRASSE 22, CH-9000 ST. GALLEN
TEL: 0041-71-228 24 73, FAX: 0041-71-228 24 55

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UNTERSTRASSE 22, CH-9000 ST. GALLEN
TEL: 0041-71-228 24 73, FAX: 0041-71-228 24 55

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List of abbreviations

BSC	Balanced Score Card
CEO	Chief Executive Officer
CoP	Community of Practice
KM	Knowledge Management

List of company abbreviations

Siemens PSE	Siemens AG Austria, Program and System Engineering (PSE)
Xerox	Xerox Global Services
SBS	Siemens Business Services GmbH & Co OHG
Phonak	Phonak AG
HP	HP Customer Support, EMEA Operations, Service Delivery Engineering
Dräger	Drägerwerk AG

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Company Information

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Prokesch, S. E., (1997): *Unleashing the power of learning: An Interview with British Petroleum's John Browne* in: Harvard Business Review September-October 1997

Drägerwerk AG
www.draeger.com
Email: eberhard.bohn@draeger.com

HP Customer Support
www.hp.com

PHONAK AG
www.phonak.ch

Shell Exploration and Production
www.shell.com

Siemens AG Austria, PSE I (Program and System Engineering)
www.pse.siemens.at

Siemens Business Services GmbH & Co OHG
www.Siemens.com
Email: Dirk.Ramhorst@siemens.com

Xerox Global Services
www.xerox.com/services

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UNTERSTRASSE 22, CH-9000 ST. GALLEN
TEL: 0041-71-228 24 73, FAX: 0041-71-228 24 55

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Introduction

In the months of March through to May 2002, the Institute for Technology Management at the University of St. Gallen (HSG) carried out a survey on aspects of corporate culture as prerequisites for knowledge management (KM). The aim of the survey was to identify those elements of corporate culture which are prerequisites for the successful sharing and use of knowledge.

For this purpose, 20 companies were identified which have successfully introduced concepts, methods and/or instruments for knowledge management. 16 companies were willing to complete a questionnaire (see Annex). After evaluating the completed questionnaires, companies were selected for a phone interview which showed particularly relevant experience in the whole subject. These companies are located in 5 different European countries. The contents of the interviews were grouped together as case studies.

Following a brief portrait of the company, the case studies then indicate the prime aspects of corporate culture in the corresponding company and the prerequisites for KM as lived in this company. The details have been deliberately not put into a scientific structure in order to produce a highly authentic picture of the various aspects. The study aims to shine a light on the corporate culture. The language is also an expression of culture, which is why the words of the interview partners have been reproduced as far as possible.

A cross comparison of the case studies led to the identification of eight core elements of corporate culture which are prerequisites for lively KM. These core elements are indicated below and explained with practical examples.

Elements of a culture of knowledge sharing

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TEL: 0041-71-228 24 73, FAX: 0041-71-228 24 55

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1 Management attention & support

1.1 (Christmas)Address (Siemens PSE)

Among other classic activities (like mailings, speeches, management forum), it was presumably the Christmas address given by the leadership of Siemens PSE to its top management in 1999 which was the starting point in the actual change in corporate culture. This address was given in a relatively familiar atmosphere and dealt with knowledge networking as its main subject. This address was crucial for the continuation of KM at Siemens PSE. The senior management actually recognised how important the topic is to the leadership of the company (doing it more than just lip service).

1.2 Funding and request for participation (Royal Dutch/Shell Group, BP)

The company consists of 5 business units. Senior board level managers of the Exploration and Production business (two of them out of six) were and are very passionate about KM. They passionately believe in it and therefore support as well as fund the KM initiatives. Funding equals about 7 Mio. $ per year. Especially in the beginning, when the KM team made mistakes or if other errors occurred, they would back up the team. In cases where middle management hindered participation, senior management would act and require participation. Also at BP, knowledge sharing has been reinforced by financial inducement from senior management.

1.3 HBR article by the CEO (BP)

The leadership of the CEO is a very important aspect concerning the success of KM at BP. Talks and an article in the Harvard Business Review consisting of an interview with him gave very strong signals and big messages to every person within BP. Not only did he show that he was convinced of the use and necessity of knowledge sharing. He also communicated that externally – to the whole world. The impact of that signal on people was enormous.

1.4 Permanent communication (Siemens PSE, HP, Phonak)

At every quarterly meeting, the CEO of Siemens PSE keeps on asking about the corporate network and indicates time and again how much he wants this. "We must act together to be successful." This practically makes it "politically incorrect" for a member of staff to say or do anything against it. KM at HP Customer Support is actively supported by the management by providing corresponding resources, permanently communicating the necessity of KM and acting out a culture of forwarding knowledge all the time, for example by communicating frequently with staff about company decisions. At the regular team meetings (weekly or fortnightly) attended by staff and management, the management is very open in the way it provides information about what is going on at present and plans for the near future. At Phonak too, the importance of KM is explicitly emphasised and propagated by the CEO.

1.5 Acting out the culture of knowledge sharing (SBS)

SBS has an open door policy right up to the divisional director, who acts out real knowledge sharing. In addition, the top management uses the possibilities of the KM tool box, e.g. using the chat function for sharing knowledge with members of staff as part of the change project. It is available to members of staff here at regular intervals to deal with questions and provide answers on all sorts of matters. This is how the management shows its commitment. There is a lively response to these offers made by the top management, but they do constitute a challenge and need to be well prepared with the answers being presented "black on white".

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2 Benefit arguments, objectives, and measurement

2.1 Conviction and adequate examples (Siemens PSE, Phonak)

The CEO of Siemens PSE was convinced that knowledge networking is of great importance for business. He was actively in favour of the KM initiative even without a full ROI calculation. It was clear to him that a decision based on "figures" would not have been very sound, because the figures could only be conditionally true. The management at Phonak also thinks that the effects of KM cannot be calculated so accurately.

2.2 Knowledge related goals (Xerox)

From the balanced scorecard based management model of Xerox, knowledge sharing goals were broken down into the objectives for the department, such as improving access to the intranet or providing new information channels. Together with the stated simply measured objectives, Xerox also agrees on cultural objectives which are included in the Balanced Score Card (BSC) and measured accordingly. One example for this is the formal evaluation and recognition of excellent performance and behaviour ("role models") regarding Knowledge Sharing.

2.3 Balanced Score Card (Siemens PSE)

The knowledge networking criterion on the BSC for the whole of Siemens PSE is the frequency with which the knowledge networks are used. But this variable is not broken down and integrated in the BSCs of the company units, since such a target could be achieved too easily by pseudo activities. These have a different focus, whereby it is a basic requirement that the criterion "promoting knowledge networking" must be contained in the BSC of every unit. But it is up to each unit to choose its own metric.

2.4 Measuring before and after pilot projects and/or initiatives (SBS, Xerox)

At SBS, measurement already starts before KM activities begin! This means staff are questioned before and after the introduction of KM. If people need less time for example to compile an offer after the introduction of KM through using the database or as a result of discussions in the communities, then SBS can see that the KM activities are being successful. Xerox proceeded with a pilot project which affected half the workforce. Before the project and 6 months after its completion, the performance of the staff involved and the other staff was measured. Xerox is well aware that the recorded success rates cannot always be attributed directly and exclusively to the KM activities. They do however show trends and tendencies.

2.5 Success stories to identify benefits, show results and to convince (Royal Dutch/Shell Group, BP)

In order to convince especially middle management, companies B and C collected success stories. Within 3 weeks the Royal Dutch/Shell Group called 50 people around the world on the phone to provide a story on how they experienced business benefits by using the KM system in their location or business unit. In the process of collecting stories they also asked the people to estimate and provide the $ value of that success. A benefit could result from cost savings or cost avoidance. The $ benefits that were purely due to the knowledge network were aggregated.

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3 Communication

3.1 Pushing the message out (Royal Dutch/Shell Group, HP, SBS)

Everybody should know what KM is all about. To build and spread the knowledge sharing culture the Royal Dutch/Shell Group and HP Customer Support pushed the 'message' out. The Royal Dutch/Shell Group spent 300'000 $ on marketing, printing material, websites etc. The instruments and approaches used for making KM known are:

- Global co-ordinators of the CoPs inform about the whole KM program on their tours.
- Articles are provided and websites created, containing information about KM.
- KM is actively marketed and advertised.
- Overall, external communication experts help to promote KM.

In order to introduce the importance of KM, the management at HP Customer Support invited the employees from the whole affected division to an evening event. Here the KM infrastructure was presented together with representatives from a university, and improvement suggestions were illustrated. Since then, team meetings are held regularly as part of normal business where the staff who support and promote KM in HP Customer Support illustrate and explain the methods and tools. In addition, KM activities are communicated using different methods, e.g. the Performance Newsletter introduces members of staff who have made a contribution to forwarding knowledge. The article also shows how they achieved this.

Intensive communication and the branding of KM also play a decisive role at SBS. SBS deliberately calls its activities "knowledg^{e}motion" rather than KM. This expression conceals movement on the one hand (Motion) and on the other hand the world of feelings (emotion). SBS has taken out world-wide protection on "knowledg^{e}motion". The corresponding logo is communicated to all employees and made familiar to them on posters, bags (for the multipliers) and other advertising media. SBS uses all conceivable means and channels of communication, such as posters or the intranet. The logo, project information and access information are even printed on inserts attached to the salary printout sheets.

3.2 Road Shows (Siemens PSE)

Siemens PSE uses so-called "road shows" at all locations to bring its knowledge networks "within reach" and increase familiarity.

3.3 Engaging motivational speakers (BP)

When BP learned in a conference about the US Army as being progressive regarding knowledge sharing, they approached an ex-US Army officer and also a university professor in the US who had extensive experience in KM. Both of them were used to engage BU leaders over a period of about six months. During that time, they travelled the subsidiaries and took the role of motivational speakers.

3.4 Catalytic elements and multipliers (SBS)

Staff in the extended KM core team at SBS travel around subsidiaries distributed across the world to act as catalytic elements for the local roll-out. They meet local staff to effect the "buy in" by the corresponding management team and to acquire local multipliers. Ideal local multipliers include staff who are motivated to working in networks, regardless of whether they are allowed to or not. SBS seeks to "arouse" such staff deliberately, i.e. to motivate them, and with them to obtain local multipliers at an early stage of the proceedings. The function of the

KM team at SBS is considered essentially in the function of a catalytic element. As soon as KM is implemented, the KM team in its current role is superfluous.

4 Embedding in processes

4.1 Embedding in processes (SBS)

It is SBS's aim to make it clear to its staff that KM activities do not constitute an additional task to their normal daily business but can be used as support in fulfilling daily jobs and thus make them easier. KM was defined as a support process. The staff had to be convinced not to perceive KM activities as an additional job but as a supportive task within their core business. It is therefore binding for KM to be integrated in project work, for example by holding a de-briefing session at the end of a project.

Although there is no obligation to look for experience in similar projects before starting a new project, if problems do occur in a project then this point will be taken up, and a member of staff will then have difficulties in justifying why he did not look for corresponding experience and knowledge.

4.2 Integration in business processes (Xerox)

With the introduction of a Knowledge Work initiative, staff training sessions were held in the individual local communities (e.g. regional service technicians). In every country there is one person responsible for providing and updating the knowledge sharing infrastructure and for organising the corresponding training events. These individuals also have other tasks, such as evaluating the success and any hindrances in utilising the KM methods or in knowledge sharing. In this way, the function of supporting KM is integrated in the business process. Xerox considers the total integration of KM in its business processes as an important criterion for success. KM must not be considered as something separate.

5 Trust

5.1 Events and physical meetings (Siemens PSE, Xerox, SBS)

At Siemens PSE, half-day's symposiums are carried out regularly concerning specific subject matters. The employees interested apply on their own initiative. Participating in these workshops is without any additional cost. Topics are selected out of practical experiences and "Public Relations" activities are not admitted. The exchange of experience and face-to-face meetings of employees nurtures mutual confidence. Xerox keeps on holding events for the various individuals to get to know each other and meet frequently. For example, once a year there is a meeting for all leaders of the KM initiatives. This provides a forum for discussing the demand for KM activities, new interesting aspects in the sector and problems that have occurred. SBS also creates trust and confidence by prompting and supporting physical meetings of the staff themselves. For example, the divisional director travels to the individual countries and gets to know the staff involved in open discussion events. In this way, the people working there get to know the director in person, which in the experience of SBS helps to improve trust and confidence.

5.2 Open door mentality and team working day (Xerox)

Xerox has an open door mentality. The culture at Xerox is also characterised by team work. Once a year there is a team working day which celebrates working in a team. The company management keeps on letting its staff know how important it is to work together flexibly and

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to be open for new tasks. The CEO in particular repeatedly appeals to the solidarity of the "Xerox Family" and preserving the "Xerox Spirit".

5.3 Grow informal networks (Royal Dutch/Shell Group)

People are proud of working for the corporation and often they are with it for longer than 20 years. About 10% of all employees people move around quite often. Due to that people get to know each other, informal networks grow, and the knowledge sharing culture is spread as well as the feeling that it is good to help, even though most people stay at their location.

5.4 Influence of the company founder and support for communication (HP, Phonak)

The corporate culture at HP Customer Support was formed decisively by the founders who developed a special set of rules: "The HP Way". This stipulates for example that everyone at HP Customer Support is equal, regardless of religion or race. The rules today are acknowledged as the basis of corporate culture at HP Customer Support. One particular feature of corporate culture at HP Customer Support is also that many employees are on first name terms.

The corporate culture at Phonak is also formed to a very great extent by the personal approach of the company founder. Over many years, Phonak has developed a unique corporate culture which focuses on the exchange (of knowledge) between members of staff. One of the most comprehensive measures for promoting trust and communication is the structure of the building. The rooms are all designed to be open-plan. There are no walls between the desks or offices. Many employees can see each other directly. In addition, the administration and production buildings are linked by the cafeteria and restaurant which are used by both production and administration staff. This aims to support and preserve communication between the two units.

5.5 New staff (Phonak)

New staff are introduced all round at the very beginning by taking a picture of every new member of staff at his place of work and then hanging the photo on the notice board accompanied by a few details (name and unit where he/she works). So posters with all the new staff hang on the notice board in the cafeteria and restaurant etc. for a month at a time.

5.6 Work practice analysis and "getting the feel" of the corporate culture (Xerox)

Xerox attaches great importance to getting the feel of the corporate culture before implementing KM. This consists among others of a work practice analysis with interviews and observations to ascertain how and where communication takes place, which informal relationships exist and where there are gaps in information, etc.

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6 User-friendliness

6.1 The simpler the better - "Take the time to halve the time." (BP)

In order to encourage people to share knowledge, the central team provided the tools to do so, showed people how to use the tools and how to apply the methods, but it was never mandatory to use these tools. It is up to the people what they use or not. Moreover, BP started to introduce fairly small, not very time consuming and very simple methods of knowledge sharing, such as After Action Reviews. As a result, even middle management felt it doesn't take long to answer 4 (about 15 minutes) and is easy to do. After a while, people understood the importance of taking the time to practice KM, especially after some successful KM experiences. The initial attempts were encouraged by the KM team and by the slogan: "Take the time to halve the time." At first, it was challenging to convince people. But they learnt quickly that they truly did save time. In one case a leader was reluctant at first. But it took only one instance and he saw the outcome and liked it.

6.2 Knowledge transfer suitable for use (HP)

One challenge for HP Customer Support was to process/prepare knowledge in such a way that an engineer can access the knowledge no matter where he is, and also interpret and use it accordingly. HP Customer Support developed simple standards for this, i.e. the knowledge is put into a certain form. This makes it easier to explain knowledge in documents, as well as reading these documents and thus taking up and finally using the knowledge

6.3 Guides for use (Dräger)

To make it easier for staff to get to know and handle the KM elements used at Dräger such as Yellow Pages, CoPs, and Best Practice Pool, Dräger has produced a guide for each element. Taking CoP as an example, the guide deals with such questions as:
- How and why do I set up a CoP?
- What aims should I have in mind?
- What functions are to be performed?
- How long does a CoP live?
- What kind of membership does it have?

6.4 KM-friendly infrastructure (Siemens PSE, Dräger, HP, SBS)

Siemens PSE requires best performance regarding ease of use of the tools applied. Reasons for this requirement are: Improving time efficiency and applying the tools voluntarily. If the tools are to be applied, users have to be convinced in doing so.

For its KM, Dräger deliberately uses software which is built up on existing software. Essentially the communication as part of the KM activities takes place in the intranet of the Dräger corporation. This means the staff do not need any additional skills for handling a special software/program. The motto is: "No new software just for knowledge management!".

HP Customer Support has the aim of making it extremely easy for staff to exchange information. For example, the offices consist partly of high partitions and are shaped in octagons. This structure accommodates 8 members of staff and promotes the immediate co-operation and collaboration among these 8 employees. But it also facilitates rapid communication because there are no concrete walls between the next office and the distance is very short. It is very simple just to stand up and go to the colleague or ask him a question. HP Customer Support has also set up separate smoking rooms where a lot of information is exchanged over and

beyond office or department limits. Furthermore, every floor has its "coffee pot", i.e. a coffee corner with free coffee and water. Also, the IT infrastructure is kept very simple. HP Customer Support has ensured that it is not contra productive to its daily business. Programs or structures must be self-explanatory as otherwise they take up too much of the user's time.

The surface design of the intranet at SBS has been made as user-friendly as possible to persuade staff to use the PC- and intranet-based CoPs, forums, chats etc. The staff are free to adapt the interface of the knowledge management application to the intranet style just by pressing a few buttons so that they can jump backwards and forwards between knowledge management and the "normal" intranet with a minimum of workload.

7 Deliberate investment: time

7.1 Investing time and resources in KM (HP)

HP Customer Support has deliberately decided to invest time and resources in the introduction and application of KM. At HP Customer Support it is possible for example for a member of staff to spend all day dealing with a certain topic, linking the results with his past experience and making a record of it all. He can also draw up a white paper. The incentive and topic can come from him. Or it can be stimulated by another member of staff who is of the opinion that a certain member of staff knows something about a topic, has experience in this field and could make his knowledge profitably available to others in a written form. This corresponds to a knowledge pull. HP Customer Support is aiming for a balance between knowledge push and pull.

7.2 Coffee break (Phonak)

Since Phonak was founded 35 years ago, the coffee break has always been an important part of knowledge swapping. Firstly it was the company founders who sat together over a cup of coffee and simply discussed lots of things. Particularly in the early days but still today too, solutions for current problems can be found in this way. Management and staff and in particular the company founders still think this is a very important form of communication. Everyone can come, there is no obligation. Participation is voluntary. Everything is ready at the beginning of the break, the coffee is ready on the tables. And at the end of the break everything can be left where it is. The service staff will clear it away. This leaves maximum time for communication during this break, for concentrating on the exchange and putting it to good use.

7.3 Lunch + Knowledge (Phonak)

Lunch + Knowledge is a common method of sharing knowledge at Phonak. Two concrete examples are used to illustrate the procedure.

I. 3 groups have been formed with 10 young engineers and marketing staff each. These groups had lunch together with the person about to leave the company (taking retirement). During lunch, the future pensioner spoke about a certain topic and thus shared his/her knowledge. Altogether 8 – 10 topics were discussed at "Lunch + Knowledge". These topics covered a lot of background information – why certain processes took place in a certain way, why co-operation works with certain external partners and not with others.

II. In another case of Lunch + Knowledge, a member of staff was going to move to another location. Over lunch he spoke to members of his own department about the contexts and development history.

7.4 Project Experience Workshops (Siemens PSE)

Investment of time and resources is used in different ways at Siemens PSE to get hold of, to share and to utilize the experiences gained at projects which were carried out by either individuals or teams: (1) Mostly, awareness is generated during the Project Experience Workshops held in the course of an individual project, e.g. at the end of a specific project phase. During the workshop, the employees involved meet together to exchange their experiences, frustrations, fear from the past and their expectations regarding the next project phases. (2) Another way of exchanging their experience is the wrapping-up-process at the end of a project: The employees involved document their experience in writing. (3) Yet an additional level is obtained when such experience from several projects is collected, refined and summarized which might be of interest within the whole company.

8 Motivation and Incentives

8.1 Use analogies (BP)

BP tried to get people to try KM as something that matters to them and also something they can relate to. The central team used analogies like the following: "If you go to buy a car, what do you do first – you get some information about the car and then ask friends and relatives about the brands and types they drive and about their experiences with their cars. Why don't you use these principles that you apply there when you have to fulfil tasks and solve problems at work"? In using that analogy BP got people to think their way and what's more, understand the KM message. The objective is to get people to apply equally the techniques they would use elsewhere to solve dilemmas.

8.2 Motivation with money is "impossible" (Siemens PSE)

Siemens PSE's experience has been that staff can only be motivated with money to a very limited extent. What is important to the staff is the actual content of their tasks. To make KM come alive in the Siemens PSE and to motivate staff to make the initial necessary investment in knowledge sharing, the employees must feel that this will benefit them in fulfilling their tasks.

8.3 Incentives for top activists and networking gala (SBS, Siemens PSE)

If staff at SBS place documents, articles or similar on the company knowledge management platform, they receive shares for doing so (a kind of "frequent flyer miles"). The top 50 "knowledge activities" are then declared on the basis of the collected shares. They are invited by the company to spend a week in the Alps, for example. Later these kinds of incentive are replaced by a catalogue procedure, whereby the staff can then swap their shares for goods (mobile phones) or services (training courses).

At SBS, people's individual KM activities also influence the target agreements together with employee and supervisor appraisal. This forms the basis for 360° feedback during employee pep talks regarding the employee's participation in knowledge sharing. Anyone wanting to become project director must have knowledge sharing skills. The corresponding evaluation is also based on a survey.

Every twelve months, Siemens PSE evaluates the success of its knowledge networks. This is based on the strength of the significance of the knowledge network for the business of Siemens PSE. The evaluation jury including representatives of the top management then comes to its final decision. This is followed by a corporate event – the big Network Gala – including the presentation of the 3 Best Network Awards (with budget) to the best knowledge networks

(teams) and in addition to that, one technology scout per business area is honoured. The event was attended by both management and staff, which in turn was another positive experience for the prize-winning knowledge networks. If your own supervisors and colleagues are there when you receive an award, that is much more motivating than "just" receiving a prize from the company leader.

8.4   Awards instead of monetary incentives (Xerox)

Xerox had considered using monetary incentives to stimulate knowledge sharing. But it was the employees themselves who didn't want this. They felt it would corrupt the system. The incentive should be exclusively the benefits of knowledge sharing. Nevertheless, Xerox still awards outstanding authors. These are people who have made either one outstanding or very many good contributions. The award winners are nominated on the basis of colleagues' recommendations, evaluations and/or statistical assessments. Xerox has no problems with cheating by giving good assessments to friends among the colleagues. When all is said and done, an employee receives his award in the presence of many colleagues. These know the community and would notice the manipulation; this in turn would destroy the employee's reputation. The community has a self-regulatory effect.

The awards are presented at regional or international meetings, but the ceremony is not a fixed institution. It is the pure use of the platform which should come to the fore. In other words, awards are only made when a particularly good solution has been shared or particular attention has been drawn to the positive behaviour of a particular member of staff.

8.5   Peers are challenging and peer recognition is motivating (BP, Xerox)

Not all BP people share knowledge in a way and frequency that would be most beneficial for BP. Some will always show the "Not-Invented-Here syndrome". But overall most people understand the importance and value of sharing knowledge. Often peers are very challenging. They ask: "Why did you not pass that experience on?" "Why did you not send the question out to the community?" "Why are you doing this again, this is what John did last time?"

At Xerox, it is peer recognition which motivates staff to share their knowledge with the community. The professional pride, for example in developing a solution no-one else has found, makes a positive contribution to knowledge sharing and individuals can create their own status in the Community as an acknowledged employee, expert, opinion leader, etc. In this way, employees can "make a name for themselves". In spite of the time pressure of operative business, at Xerox staff take the time to make records of their experiences. This doesn't take an awful lot of time (approx. ½ to 1 page). The tips are personal tips in each case, i.e. endorsed with the name of the person submitting them.

The benefits employees at the Royal Dutch/Shell Group see initially (first time use) is that they learn more. In a way people also enjoy sharing their knowledge. It is and also seems to them to be easy to help on one occasion and beneficial to get help at another occasion.

8.6   Obligations to share success instead of rewards (BP)

If people have an idea or solution that actually did save thousands of Dollars, they have an obligation to spread that idea or solution throughout the company. BP set an expectation for employees to pass these things on. Yet the firm does not give away big awards for sharing knowledge. There are only small things like tokens, pens or similar.

The biggest reward that people get is if they are asked for help. That provides enormous motivation. The motivation will be even more if their solution is applied by other people too. BP

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does not face an issue in terms of people spending time only helping other businesses. It is up to the individual to keep the balance and to decide between working for their own unit and helping another.

In general, as long as you give people the space and recognise that English is not their first language, they will participate in sharing their knowledge too. For example, if there are 20 people in the room, the culture at BP is to go round and ask everybody for his/ her opinion. Another practice at BP is that larger groups will break up into smaller groups of about 6 for discussion. Each group will elect a spokesmen who will present the summary of the group discussion to the whole group. That way, everybody gets involved, the knowledge and the experience of everybody will be included.

8.7   Knowledge bearers as sources of knowledge (HP)

The incentive to pass on knowledge during training sessions to a broader group of staff or to new staff mainly comes from the staff in the individual teams. In some cases it is these team members who then run the training session or prepare presentations for it. In this way, the employees actively share knowledge. The incentive is to fulfil other tasks as well as the daily business. Management supports this explicitly and the staff are motivated to get involved.

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TEL: 0041-71-228 24 73, FAX: 0041-71-228 24 55

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Case studies

Siemens PSE

Siemens PSE is one independent research and development division of Siemens. The research and development division is operating on an international basis with several subsidiaries and with a staff of more than 5,200 employees world-wide, 3'500 of them in Austria.

Knowledge networking as the key to success: looking back

In the year 1995 Siemens PSE founded small internal Technology-Consulting-Centres (so called "PSE Support Centers") to support in a professional way those technologies which are of significance to the company, and to obtain synergetic effects between business areas. There are six permanent members (Experts) with these Centers linked together with an additional network of experts from different areas of business if the need arises. The support Centres manage their own budget up to the amount of 30% of their turnover in order: (I) to be independent from allocating small accounts for work up to three hours (II) to promote professional management of technologies and (III) to advance into new areas of knowledge and expertise. The complementary amount of 70% is to be earned by way of selling their own project consulting services. The idea of implementing the support centres showed successful results. After all, out of 700 PSE Technologies more than 350 of them have developed to be company spanning interest. Since such an amount of centres can not be funded from a central source people created the idea of "Interest Nets" and Expert Nets". The "Interest Nets" are an informal group of members who are to finance their participation for their own. On the other hand, "Expert Nets" have to additionally offer professional consulting services to give evidence of projects serving as a reference.

Once some of these pilot networks had been established, Siemens PSE developed a web-application named "TechnoWeb" in the year 1999. This web was intended to make known to the whole Siemens PSE world all services provided from the networks. During autumn 1999 the TechnoWeb was introduced: middle and top level management was informed through an advance e-mail sent by the head of the network. Speeches were held with the management team of the business areas and articles were published in the internal newspaper.

"Win More Knowledge" scratch cards with corresponding prizes were distributed to try and motivate staff to become familiar with the TechnoWeb. The firm's experience was: this was seemingly too much like a game and wasn't taken seriously by the experts.

At the end of 1999, the top management recognised the importance of knowledge networking for Siemens PSE. Managers recognised the benefit they could gain from customer reactions and the staff departments for their own needs.

This was the point in time when the Human Resources department also started to show interest in the key players on the networks. At the start of 2000, Siemens PSE recorded high access figures but there were technical problems with the tool and inadequate user friendliness,

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which was then improved. During the first six months of 2000, great effort was required to keep the trend moving forwards, but problems with the tool were still a great hindrance. Considering usability, TechnoWeb Version 2 was then developed, and by the end of 2000 the knowledge networks of the TechnoWebs had gradually become a recognised feature. Siemens PSE's experience here was: a tool that will be deployed without training the user and shall be used on a voluntary basis has to meet supreme usability requirements.

With the involvement of the operative management, at the end of 2000 the company installed a Network Controlling Board consisting of various committed managers. All the main departments were involved. The Board functions cover 5 people. Although the Board is an official body in the company, it is not organised on a central basis. The reason for this is the corporate culture at Siemens PSE which means that such functions are shared jointly. Board meetings are convened about every 2.5 months by the network coach.

Another aspect which made a great contribution to Siemens PSE's knowledge networks was the evaluation of process maturity. The external assessor was very impressed by the knowledge networks and gave additional points for this aspect. Siemens PSE thus obtained the best possible evaluation grades which in turn is important for the customers and thus makes it easier to acquire orders. This success convinced staff on an internal basis too. Staff and management notice that networking is important for business.

Eventually, by the end of 2001 the TechnoWeb is acknowledged throughout the corporation to be one of the most successful solutions for knowledge networking/technology management/innovation drive.

A promotion candidate functions as full-time network coach on a job rotation basis. In performing his job, he gets to know the various technical areas where he assumes a normal function in the business after one year. In this way, he acts as knowledge carrier, helps the individual areas to get familiar with the TechnoWeb and the networks so that he also has a networking effect. And in view of the fact that he works in the individual areas in normal daily business, for the company he not only constitutes a cost factor but also a direct benefit.

TechnoWeb for networking

The TechnoWeb creates transparency and promotes trust and confidence at Siemens PSE. It is an electronic (web-based) tool which can be used by every member of staff to create a network quickly and easily with colleagues particularly from other departments. So each network in fact constitutes a (basically virtual) Community of Practice. No administrator is needed to set up a network, staff can do this themselves on the intranet. The only requirement is that staff from at least 2 different departments must be involved. Most networks have between 5 and 50 members, typically 15. But there are also networks with just 3 members. Every network has 2 contact partners, one being the main contact partner. To joint a network, employees have to register with this contact partner. But as a rule anyone can join. "We have no secrets from anybody". This is part of the corporate culture at Siemens PSE.

Since the start of 2001, every member of staff who submits a success story based on knowledge networking or using the TechnoWeb receives two cinema tickets, under the motto "Knowledge networks save time: we give you time!" The experience of Siemens PSE was: Despite this campaign, one will get to know about success stories far more by word of mouth than in written form.

Road shows for greater familiarity

The importance and methods of knowledge networks are still being put across today in addresses to management meetings, staff events and also to customers. So-called "road shows" at all locations bring the networks (implemented using the xy TechnoWeb) "within reach" and increase familiarity.

The "road shows" were initially taken to the domestic locations. Subsequently Siemens PSE tried to spread its successful knowledge networks to the regions outside its own borders. Initially no lasting success was achieved here. Together with language barriers, there were and are differences in culture which do not necessarily encourage knowledge sharing. Just one example of many is the differences of opinion regarding appropriate incentives.

Thinking about the half-life time of knowledge: forums for knowledge sharing

Siemens PSE used to have a tool database, but this was never really filled with life. The experience at Siemens PSE shows that networks with personal contacts are more robust than individuals who put their knowledge in databases. When all is said and done, Siemens PSE's TechnoWeb is considered primarily as a component to support knowledge sharing.

So the most valuable knowledge for Siemens PSE is the implied knowledge, because the half-life time of knowledge in the company is approx. 6 months. It takes a lot of time to explain this knowledge, because most employees are technicians and only a few have such didactic skills that they can process their knowledge in a pragmatic, didactically suitable manner. So Siemens PSE urges the transfer of implicit knowledge, e.g. in face-to-face meetings. Accordingly, a technical forum takes place every two weeks. This symposium usually takes half a day, sometimes a whole day, and is funded centrally without any costs for the individual employees. This produces a new culture, because the individual employee is free to decide whether he wants to join the symposium or not, but he does have to justify his decision with his supervisor. A typical event will be attended by about 50 employees, and consist of experience reports and presentations of new topics. In this way, knowledge is passed on which is not yet available through Siemens PSE's training system. A whole new dynamic spontaneity is produced, with regard to both participants and contents. For Siemens PSE, the effects of the event are as follows:

New information and new knowledge is passed on.

- A member of staff with a contribution to make stands up at the front of the room so that he can be recognised by other employees.

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- The presentation contents are saved in a database to make them available to all members of staff. People can reuse it also for customer presentations.

Top-down + bottom up – together we're successful

At first, no-one has given the concrete order to implement KM as such. Siemens PSE wanted to implement a lean solution for greater exchange of knowledge in order to support business. The concrete aims were to safeguard Siemens PSE's technological future, so that the Siemens PSE always has the knowledge which is important for its customers.

A Junior Work Circle was created with the aim of identifying technology drivers in the various business areas. So it wasn't the supervisors but the young staff who were selected to joint the work circle, a move which was initially unusual at Siemens PSE. The results of the work circles aroused great enthusiasm, with lots of new, good ideas and an extremely committed team. The enthusiasm was based among others on the fact that the young employees saw themselves being appreciated as knowledge carriers who can help to define the future. The work circle dealt with 20 objectives and activities, whereby the aims of knowledge networking were of essential significance in reaching 19 of these objectives. Knowledge networking has thus become one of the foundations of overall technology management. Furthermore, the company management has given its employees the freedom to implement the ideas of the knowledge networks and the TechnoWeb.

The management provides active support for the knowledge networks. When in individual cases the networks appeared to create a competition situation from a business point of view, the management gave instructions for **top-down** co-operation, because it was convinced that networking was not only useful but also necessary on a business level.

Siemens PSE's CEO does not only reckon in hard figures. He was convinced that knowledge networking is of great importance for business. This is why he actively supported and urged the initiative forward, even without a complete ROI calculation. He was aware that a decision based just on "figures" would not have been particularly sound, because the figures would only have been conditionally true. It is part of Siemens PSE's corporate culture that the top management bases such decisions not only on figures but on its many years of experience and the resulting instinct for what is profitable and what isn't.

Presumably, it was the Christmas address given by the leadership of Siemens PSE to its top management in 1999 which was the starting point in the actual change in corporate culture. This address was given in a relatively familiar atmosphere and dealt with knowledge networking as its main subject. This address was important for the continuation of KM at Siemens PSE. The senior management actually recognised how important the topic is to the leadership of the company (doing it more than just lip service).

This was followed at the start of 2000 by a 2-day annual management conference dedicated to "networking". It was attended by about 200 people (middle and senior management). This was significant insofar as Siemens PSE's experience indicates that the more direct a person's

business responsibility (middle management), the more sceptical he/she is about the benefits of knowledge networking.

Today too, the company CEO asks about the business networks at the quarterly meetings, thus always letting his staff know just how much he wants it. "We must work together to be successful." This practically makes it "politically incorrect" for anyone (staff and management) to say or do anything against it.

The **bottom up** motivation of staff for KM results on the one hand from the pressure to use the networks to produce corresponding problem solutions. Today, outstanding employees have about 80% of the knowledge they need to fulfil their tasks. They have to get the other 20% from the others. If a member of staff sees that someone else needs some knowledge, he will pass it on to him. Wanting to help is part of the corporate culture at Siemens PSE. On the other hand, motivation comes from the incentive of wanting to be visible as a member of staff or even expert in the company. Furthermore, staff have a basic interest in exchanging technical knowledge. This component exists primarily on the staff and technician level. (NOTE: "technician" refers to graduate engineers and in some cases staff with doctorates in various disciplines working as development engineers and consultants at Siemens PSE).

Siemens PSE used to have a relatively hierarchical organisation. This also applied to its communications channels. The knowledge networks have now created "cross links". In addition, there is an increasing number of interdisciplinary topics which demand communication with the other departments. Knowledge networking has therefore helped to break down the purely hierarchical structures. But this movement was only possible because knowledge network was specifically desired by the top management.

Motivation with money is "impossible"

According to Siemens PSE's past experience, staff can only be motivated with money to a very limited extent. Staff feel the content of their tasks is important. Siemens PSE has a workforce of 5000 employees, most of whom have had an academic education. It is the interesting work and development of new technologies etc. which motivates these people.

In addition, the employees are acutely aware that every hour costs money. To fill KM with life and motivate staff to make the initial investments needed in knowledge sharing, they must have the feeling that they can benefit from it.

There are three ways of gaining the time resource needed for knowledge sharing.

(1) The worst case is that nobody, except experts themselves, believes in the future of the technology. The members of the network use their spare time to build up know-how in their technology. As soon as the technology will be of business importance the experts in that technology will get personal advantages from being key persons involved in building up the new business.

(2) If the technology is of interest for an ongoing project, the leader will offer resources for the network to build up or exchange know-how.

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(3) The local management of a business unit will support a network, if the technology is of strategic importance to the business unit.

50% of the employees claim that knowledge networking doesn't affect them. In particular the committed experts are to be included.

Network gala

Every twelve months, the success of the knowledge networks is evaluated. Here it is important to communicate the evaluation rules. Evaluation is based on the strength of the significance of the knowledge network for the business of Siemens PSE. The evaluation jury including representatives of the top management then comes to its final decision. At the end of 2000, this was followed by a corporate event – a big network gala – held in the city where the company has its headquarters, with the presentation of the 3 Best Network Awards (with budget) to the best knowledge network (team) with prizes going to one technology scout for each business area. Staff were stimulated to attend the ceremony less by being able to watch the award presentation, or the invitation to dinner. Instead, it was basically technical content which interested the staff, consisting mainly of technicians. So the organisers decided that every technology scout receiving a prize should give a technology forecast in a short address. The event was then attended by both management and staff, which in turn was another positive experience for the prize-winning knowledge networks. If your own supervisors and colleagues are there when you receive an award, this is much more motivating than "just" receiving a prize auricularly. At the end of 2001, the Network Gala was held in Budapest, where the company has a subsidiary. To get there, Siemens PSE rented a special train, because this offers far more possibilities for communication among the passengers than alternative forms of transport, i.e. coaches. The selection of the venue was a deliberate signal to show how important the regions are for the knowledge networks. The event was as successful as hoped. It was attended by about 200 employees from practically all the regions where the company has branch offices or subsidiaries. This launched improved co-operation with the regions and really international knowledge networking at Siemens PSE. Since the start of 2002, the regions also want to be more present on the TechnoWeb. The Network Gala 2001 started at 7 a.m. with breakfast available on the train. The top management was practically complete. This is also a kind of communication. It shows staff that the top management not only supports knowledge networking but urges it on explicitly. The KM team gave this event a technical content too. So all in all the day was a technical event with papers and contributions, with the award ceremony taking place in the evening.

Best Network Award of 500 hours

The budget for the 3 Best Network Awards was not a personal incentive but a budget of 500 working hours for the winning team. This shows the management's trust in the knowledge carriers that they will put this time to good use. In addition, the award of time for a joint project promotes the networking and co-operation of team members who automatically come from different divisions.

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Siemens PSE's initial experience with this method was that the experts or network team didn't use the time, because they were involved to such a degree in their daily project business (because of their level of expertise). To avoid the hours from lapsing in future, now the winners have to announce which topic or project should receive the time. This generates greater commitment. As a rule, 500 hours is not enough to make any more than an initial start to finding new solutions. But the results can then be a new push forward in a new, innovative direction. Later on, the continuation of a project or further development of a technology etc., will have to be funded by concrete orders.

Project experience workshops

A project experience workshop is one of several methods, which use PSE to gather and record the project experiences of teams or individual persons in a systematic way, and to pass these on and use them. They cause positive changes in the everyday working life in three different ways.

1. Knowledge is passed on in project experience workshops, which take place during the project, e.g. following the conclusion of individual project phases. In a workshop, the employees involved in the project meet with a moderator and exchange their experiences, disappointments and fears as well as their expectations of the coming project phases. I.e. project experience workshops do not focus on facts or precise historical sequences. Instead the aim is to ensure that the team members involved are aware of their experiences and that they talk about the highlights and frustrating experiences. Priority is given to the wishes of the employees, which are aimed at achieving effective co-operation within the team in the coming project phase. Thus, a direct loop is generated, i.e. experiences are jointly reflected upon, personally passed on from one person to the next and are thus directly used.

2. A. second type of exchange of experience which is also personally effective is the assessment of projects by the employees involved. I.e. they record their experiences in writing. These experience reports bear the author's name and have an effect within a circle of people who mostly know each other within a medium-sized organisation.

3. In a third loop the knowledge from several projects which could be of interest for the whole company is filtered and summarized. Here, the relevant projects and employees involved are completely anonymous. PSE then passes on the concentrated findings to other employees in the form of events and publications or via posters and the intranet and allow them to flow into their processes.

If these three methods of passing on knowledge are compared, the number of employees with access to the knowledge increases from 1 to 3. The effect on the individual person decreases however. I.e. maximum benefit from passing on experiences is achieved directly in the experience workshops. There the exchange of experiences mostly leads to a direct change in the everyday working life of the people involved.

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Measurement

The knowledge networking criterion on the Balanced Score Card (BSC) for the whole of Siemens PSE is the frequency with which the knowledge networks are used. But this variable is not broken down and integrated in the BSCs of the company units, since such a target could be achieved too easily by pseudo activities. These have a different focus, whereby it is a basic requirement that the criterion "promoting knowledge networking" must be contained in the BSC of every unit. But it is up to each unit to choose its own metric.

The KM team measures the number of mouse clicks but doesn't publish these figures as this could lead to manipulation straight away. This would be contra productive, and the company is aware that it probably wouldn't be able to prevent any such abuse.

Step-by-step career model

Siemens PSE has a step-by-step career model with the conventional career on management level on the one hand and the career on a (technical) expert level on the other. Whereas in a manager it is the degree of responsibility which counts for the company, the value of an expert has to be evaluated by other means. Siemens PSE uses the indicator "broad effect" for this purpose, i.e. the employee's contribution to knowledge networking: to what extent does the employee share his knowledge with other staff? Here it should be borne in mind that an expert can certainly have the same "broad effect" as a supervisor over 100 employees.

It is the supervisor who stipulates the "broad effect" of an employee. The results consist of the various levels: basic employee, junior expert, expert, senior expert and authority. The last level corresponds to the conventional level of top management. Altogether, Siemens PSE has more than 100 senior experts, but only 2 authorities. Presently, the salary is also indirectly linked to these stages, being referred to during salary reviews but not integrated 1:1 into the salary calculation. The objective is to link the stages directly to the salary.

"Recipe" for knowledge networks

Siemens PSE's recipe for successful knowledge networks is as follows:

Take:
a sensible boss:
visible and honest commitment by the boss – boss with a good understanding for the company (not just figures)
knowledge managers with a fine instinct:
fine instinct for the company, corporate culture, communication in the company -
with a feeling for what employees need (not just what they want)
staff (experts) are often more professional than expected:
incentives can easily address the wrong target group -
it is the personal advantage or support during daily work which counts
Result:
Knowledge networks which result in a change in corporate culture.

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Time to sit back and relax …. probably never

The need and success of knowledge networks at Siemens PSE are well established and acknowledged. But the time to just sit back and relax will probably never come.

The Royal Dutch/Shell Group

The Royal Dutch/Shell Group is an internationally operating company on the energy sector with 90,000 employees. The following chapters refer to work that originally started in the Oil Products Business and then was joined by work within the Exploration and Production business, each business has approx. 30,000 employees. KM has been implemented here over the last 9 years and is initiated by both members of staff and by the top management.

Context is necessary

Initially, the Royal Dutch/Shell Group had a central technical support teams. If somebody at the business line had a problem, he/she could call the central support team. The team then would either help and answer the question or find somebody who could help. In the mid 80's subsidiaries were downsized and cut down to become more profitable. At that time, the central office teams was also downsized. This lead to an overload of queries coming into the centre from the depleted operational units with a lack of people to cope with the workload. In early '93, for pure survival reasons, one of the central support teams people got together to discuss how to cope.

The future leader of the KM team was also a lecturer at a university. There he saw that if students needed help in studying, they would send emails to all other students with the corresponding questions. Then other students would answer back again. The Royal Dutch/Shell Group employee took that idea back to the company: instead of having a central team answering everything, why not have the community answering?

When they applied that idea to the company it worked well. Since the KM system at the company was developed before the internet took off, people sent eMails to the leader of the community, who then forwarded these one (formatted, summarised titled well etc) to the whole community.

Out of the questions and answers of these eMails, and the central teams vast document system, the team started to develop a database. If people had a question they could search in there first. In case they could not find the appropriate answer in there, they still had the opportunity to send the question out to everybody in the community. To create the KM base was very expensive (you need a subject matter expert to understand what should go in and what should not, these people are not cheap and the work is slow and somewhat boring) and people did not use it too much Also, a KM base can not transfer that experience nor context in a fast and effective way. Subsequently, the Royal Dutch/Shell Group de-emphasised the KM base. Today the company strongly believes in collaboration, since context is necessary in order to share experiences. In addition to that, collaboration also ensures a definite reply to a problem which a KM base can not, and in the vast majority of cases that solution can be written in a few lines – so the time commitment is small. Today there are about 3 to 4 questions/answers per community per day, and many other similar communities were sporned following the success of the original.

The Exploration and Production business of the Royal Dutch/Shell Group took this experience and then applied it to their business with some experienced people from the Oil Products business. They had the advantage of the intranet as they started in 1997. They and others launched many web-based communities, and it quickly grew to 107 communities. Some worked - some did not, some were big - some were small. Here the corporation learned how to run communities via the web. The members were mostly pleased with the communities, but did not like the fact there were so many – which do I join?, and they certainly did not like the duplication of communities (a few on the same or very similar subject), and the final issue was one of collaboration across these communities.

So the initial 107 CoPs were merged to 3 ,. That way different functional themes are treated in one community. The Royal Dutch/Shell Group observed that people interact now who never did before. In addition to these, new CoPs were launched with the focus on business administration (eight in total – HR, IT, Commercial, Business Intelligence etc). Financial aspects or business intelligence topics are discussed there. On average, a person is involved in 2.3 CoPs. The company has a total of 11 CoPs. They are all are free of charge to individual members and most of them are fully open to join. The few restricted ones discuss e.g. competitive intelligence topics or need people to be able to understand a very specific context.

Community sizes range from 1000 to about 5000 employees. There are usually 2-3 people who run and support a community full time, and a host of part time help in each (10 to 15 people). Once a year these representatives physically meet, but they do host monthly audio conferences . Representatives bring new people in, help them to understand how the specific community functions and encourage new people to participate actively. Moreover, representatives keep middle and senior management happy by keeping them informed and showing them achievements and benefits of the community work. The Royal Dutch/Shell Group has 1 or 2 global co-ordinator for each community. They travel around the world and visits the local people, holds workshops, gives talks or does training. A total number of 18 people run the 11 CoPs and facilitate the community work. There is a total of 36 people working full time for KM. All of them are paid centrally.

The KM team started in business development and moved to HR later on. Today, the team is aligned with the professional learning program. There are sub-communities for providing training courses whereas the wider community will help and support the people in learning and meeting the course requirements.

KM tool trials and lessons learned

The KM team tried all the KM tools that are written about. The lessons learned are:

KM bases are not very beneficial.
"Knowledge is between your ears" Only context can provide the necessary antecedents to apply the knowledge properly in a new situation. Transforming experiences via documents takes time for the writer *and* the reader and cannot provide the necessary context. Documents are slow and cumbersome way to transfer knowledge

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KM software provides really fancy integrated solutions, yet the output are not actually used.

One has to understand and realise how people naturally work. One success factor of KM within the Royal Dutch/Shell Group is that the people who run KM were out in the field and know the business well. Instead of having IT experts in place the philosophy here is to use business people, and naturally extend on how people work.

Consulting companies are not able to provide real support.

They neither got to know the Royal Dutch/Shell Group culture nor the business processes enough or understood 'how it all works'. Striving for a successful knowledge sharing culture, one has to understand the company culture. In the case of the Royal Dutch/Shell Group, external consulting companies did not.

Yellow Pages that contain all employees are not needed.

Either one will get told by the community who the expert or person is who can best help in a certain situation or this specific person will answer the question himself (via the community web tool). The benefit here is that everybody can see the conversation which again might help other people in a similar situation. Everybody can observe all questions and all answers. A benefit for experts and developers is that they still keep in touch with the day to day work.

Aside from this method, one can find the phone number/email of almost any person in the Royal Dutch/Shell Group an electronic system. But there is no listing of people with their project background, experience etc.

CoPs provide the greatest value.

Today, the Royal Dutch/Shell Group has the following four KM activities in place:

Global Networks (CoPs) with a central service team

Centres of excellence (CoEs)

… are formally recognised teams of specialists' expertise, drawn from one or more locations around the global organisation. Mostly, they are located in the country where the real experts are located or where the topic is best known or needed, as opposed to hosting them in one of the technical service centres of the central offices.

Global consultancy (individually)

The Royal Dutch/Shell Group identified 220 key experts. These have 3 weeks spare time per year to travel and help other parts of the company in solving problems. The units that use the expertise pay the expenses. Senior management asked to introduce that practice.

These experts – and only these experts – are listed in the Royal Dutch/Shell Group's yellow pages. These employees are listed with their expertise, naming the projects they have done in the past and so forth. There is a high quality check on the information/people in these pages.

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Global teams to attack problems

Regarding KM, the Royal Dutch/Shell Group is partnering with the World Bank, with Buckman, SIEMENS and talks with Unilever. People from one company take a sabbatical and physically sit at the partner company to get to know how KM works there.

Success in a small part fuelled KM expansion

KM was started in a small engineering part of the company. Since the concept was extremely successful it expanded quickly. Other employees as well as senior management saw the benefits, were convinced of the use of KM at once, and from a very small bottom-up approach the Royal Dutch/Shell Group went to KM as a strategic direction and strategic tool.

The company consists of 5 business units. Senior board level managers of the Exploration and Production business (two of them out of six) were and are very passionate about KM. They passionately believe in it and therefore support as well as fund the KM initiatives. Funding equals about 7 Mio $ per year. Especially in the beginning, when the KM team made mistakes or if other errors occurred, they would back up the team.

Firstly, middle management was not told that KM was being implemented. Later on, KM was communicated throughout the company. Then, in order to convince middle management of the use of KM, the KM team specifically designed two booklets with success stories. Regarding the authors, the Royal Dutch/Shell Group saw that stories composed by journalists were not accepted compared to stories written in a fairly matter of fact and more technical manner composed by employees with technical backgrounds. In cases where middle management still hindered participation, senior management would act and require participation.

Everybody should know what KM is all about. To build and spread the knowledge sharing culture within the Royal Dutch/Shell Group, the 'message' is pushed out.

The instruments and approaches used for making KM known are:
- Global co-ordinators of the CoPs inform about the whole KM program on their tours.
- Articles are provided and websites created, containing information about KM.
- KM is actively marketed and advertised.
- Overall, external communication experts help to promote KM. They were brought in because most people who work in the KM team are engineers and expertise on how to communicate and market concepts is limited.

About 300'000 $ were spent on marketing, printing material, websites etc. In addition to that people get to know e.g. about the communities by active participation

New ways of working

In the beginning, the initiatives that the Royal Dutch/Shell Group pursued were not termed KM, because the Royal Dutch/Shell Group did not even know that what they were doing was

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UNTERSTRASSE 22, CH-9000 ST. GALLEN
TEL: 0041-71-228 24 73, FAX: 0041-71-228 24 55

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KM. Therefore, until '96 the activities were called "Business Improvement". Even nowadays, KM is not called KM within the company. Instead, the term "New Ways of Working" is used. Also "Helping Each Other" is a communicated and pursued philosophy: employees are encouraged to help and it is emphasized that it is good to help.

People are proud of working for the corporation. In the Royal Dutch/Shell Group, people work there for a long time – often longer than 20 years, and people move around a lot: about 3'000 out of 30'000 employees move around quite often. Due to that people get to know each other, informal networks grow, and the knowledge sharing culture is spread as well as the feeling that it is good to help, even though most people stay at their location.

Furthermore, there are a lot of engineers and just a few MBAs. Technical understanding dominates and the different (business and engineering) backgrounds do not get mixed up too much. The advantage is that people speak the same 'language' and they know what behaviour to expect from each other.

From the perspective of the Royal Dutch/Shell Group, the main aspects necessary to create a culture of knowledge sharing are:

- Provide people with a common purpose and similar goals.
- Strive to be more efficient.
- Help people to see and understand the benefits for themselves.
- Implement tools that are used simply and intuitively.
- Have a single place for putting all new questions, irrespective of topic, and give an email prompt each day of new things in this place

Since it is more challenging to bring the knowledge sharing culture to companies in the corporation that don't even have the same name as the corporation (joint venture partners), it is even more important to regard these points in those cases.

KM objectives and incentives

The benefits employees see initially (first time use) is that they learn more. In a way people also enjoy sharing their knowledge. It is and also seems to them to be easy to help on one occasion and beneficial to get help on another.

The Royal Dutch/Shell Group starts to include KM as an aspect of employee feedback meetings and appraisal systems. It is hard to evaluate the quality, not only the quantity e.g. of provided articles. Therefore guidelines for these meetings and discussions are provided instead of an exact measuring system or specific countable indicators. Rather questions shall be discussed like "How active is a person in the global network?" In addition the Royal Dutch/Shell Group takes into account that senior employees can and are asked to answer more questions than others. As people move towards senior level, experience increases. In order to evaluate a person as an expert, he or she has to increases his or her knowledge by asking questions and learning. There has to be a blend of asking people and replying to questions and being helpful.

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As an expert one gets also paid more. The company has a nominator panel for promoting people. In addition to that, local line managers support the evaluation of quality and activeness of the people. But there is no single way of these evaluations and guidelines. Local legislation is only one aspect that does not allow one single way. The KM centre thus provides a guideline. Countries can use and adjust that, but this is not mandatory.

Success stories to identify benefits and show results

In order to convince especially middle management, the Royal Dutch/Shell Group collected success stories. Within 3 weeks they called 50 people around the world on the phone to provide a story on how they experienced business benefits by using the KM system in their location and business unit. In the process of collecting stories they also asked the people to estimate and provide the $ value of that success.

A benefit could result from cost savings or cost avoidance. An example for the latter could be a recommendation not to buy a certain item of expensive technical equipment because it does not work the way it is supposed to and other cheaper equipment is better to use. Those benefits that were purely due to the network were collected. This figure was 237 million $ for the 50 people who were interviewed and only for the year 2000.

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BP

In 1990, three companies merged to become BP. In order to help create a new culture (from these three different ones) lots of meetings took place as well as open forums. People discussed what needs to be done to create that new culture and to get people involved. Initially BP had external moderators for these meetings. Over time BP employees learned how to moderate and lead these meetings. Eventually, external support was not needed anymore.

An HBR article by the CEO

In 1997 the CEO of BP was interviewed for an article in the Harvard Business Review. This gave a very strong signal and a big message to every person within BP. Not only did he show that he was convinced of the use and necessity of knowledge sharing. He also communicated that externally – to the whole world. The impact of that signal on people was enormous.

Some people below the CEO were and are certainly less convinced. But he is pushing the topic, and again and again he talks of the importance of sharing knowledge. Moreover, managers are encouraged to use 20% of their time to deal with other people's business, to help other business units. Specifically that meant: (middle) management was and is expected to help other businesses for 1 day a week. The objective is to create an awareness that it is important to share knowledge throughout the company – not only within one business unit. This help contained support and advice to other business units in a certain project, e.g. to check whether what they were doing in their project was the best way.

Overall aspects that BP regards as antecedents for a knowledge sharing culture and that the company pursues are:
Creating a spirit of openness (Trust is a very big element of knowledge sharing.)
Creating a technical platform that makes it easy to share
Reinforcing knowledge sharing by financial inducement from senior management

Engaging motivational speakers

The introduction of KM in BP was stimulated by articles in the press that top management had heard about. Also, BP learned about the US Army in a conference as being progressive regarding knowledge sharing. That was in 1995. Subsequently, they started a task force, approached the US Army and approached an university professor in the US who had extensive experience in KM. Both of them came to BP and gave talks, taking the role of motivational speakers. They were used to engage Business Unit leaders over a period of about six months

A central committee took the lead

At the time, a central committee of 12 people took the lead in KM and encouraged BP employees to participate in KM. For two years, that team spent about 2.5 Mio $ per year to make KM known and foremost, to make people familiar with the methods and tools of KM. The central team communicated KM intensively, e.g. giving awareness presentations. The head of

the KM team travelled the whole world to give these presentations. In addition to that, BP had the two motivational speakers to convince people of the use and the necessity of KM.

Also, 150 people from many of BP's different world-wide locations were brought together in a meeting in Milan where they talked about their experiences with knowledge sharing in their own organisation. There, people learnt from each other. In addition to that, the central team looked for best practices, put these together and shared them on the intranet. Soon KM spread like a virus throughout the whole company.

Later on, when most people were familiar with KM and when it was regarded as an integrated part of business, the team could decline. Now, KM is pushed and practised within the business units. Some units do have full time knowledge managers, others do not. Overall, 229 employees around the organisation belong to a knowledge network and have a passion for KM. They form a loose network, (CoP) concerning the issue KM.

Today business units pay themselves for sharing knowledge. For example, a team went to Vietnam to help review a business. While the hotel was paid by the Vietnamese business unit, the flights plus the working time were provided by the European unit. The latter simply believed in getting something – namely knowledge – back eventually.

Use analogies

BP tried to get people to try KM as something that matters to them and also something they can relate to. The central team used analogies like the following: "If you go to buy a car, what do you do first – you get some information about the car and then ask friends and relatives about the brands and types they drive and about their experiences with their cars. Why don't you use these principles that you apply there when you have to fulfil tasks and solve problems at work"? In using that analogy BP got people to think their way and what's more, understand the KM message. The objective is to get people to apply equally the techniques they would use elsewhere to solve dilemmas.

Yellow Pages and Knowledge Networks

Out of 100'000 employees, 32'000 people voluntarily signed up for the Yellow Page System at BP. These individuals are involved in about 3 to 6 networks. The networks were advertised by the KM team, and now foremost by word of mouth.

In addition to that, BP has about 200 active networks or communities. Each network has a person who keeps up with the conversations, puts fresh (new) material on the websites of a community, functions as a moderator of the conversations, puts out electronic requests on new issues etc.

KM is a "Contact Sport"

Knowledge sharing at BP can be described as a "Contact Sport" – people try to contact each other if they have questions, instead of searching for the answer in a database or developing a

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solution themselves. Moreover, KM at BP is not about software! It is about people talking to people. Whether they talk to each other on the phone, face-to-face or else does not matter.

Convincing by success stories

In order to convince people, especially middle management, of the benefits of KM, the central team focused on 6 projects. Then they created or collected success stories, with the dollar values given to a success story exclusively accounted for by the businesses. They declared what they have saved. And the first number the team collected were savings of about 12 Mio. $ in one year, by learning about rebranding sales locations in Europe.

"Take the time to halve the time."

In order to encourage people to share knowledge, the central team provided the tools to do so, showed people how to use the tools and how to apply the methods, but it was never mandatory to use these tools. It is up to the people what they use or not.

BP convinced middle management of KM and its benefits by starting to introduce fairly small, not very time consuming and very simple methods of knowledge sharing, such as After Action Reviews. As a result, even middle management felt it does not take very long (about 15 minutes) and is easy to do.

After a while, people understood the importance of taking the time to practice KM, especially after some successful KM experiences. The initial attempts were encouraged by the KM team and by the slogan: "Take the time to halve the time." At first, it was a challenge to convince people. But they learnt quickly that they really did save time. In one case a leader was reluctant at first. But it took only one instance and he saw the outcome and liked it.

Peers are challenging

Not all BP people share knowledge in a way and frequency that would be most beneficial for BP. Some will always show the "Not-Invented-Here syndrome". But overall most people understand the importance and value of sharing knowledge. Often peers are very challenging. They ask: "Why did you not pass that experience on?" "Why did you not send the question out to the community?" "Why are you doing this again, this is what John did last time?" In the end, using the networks is the lazy way of work – instead of looking information up and reading it, one just asks other people out there. Why create a new form, a new solution?

In another example people found out they have different insights. A team went to Vietnam in order to meet with the Vietnamese government to prepare a contract. During the meeting with the government they realised that not everybody on the team knew what was going on. Negotiations broke down. By reviewing what had happened in each meeting, people learned about the important issues and shared them

Obligations to share success instead of rewards

If people have an idea or solution that actually did save thousands of Dollars, they have an obligation to spread that idea or solution throughout the company. BP expects employees to

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pass these things on. BP does not give big awards for sharing knowledge. There are only small things like tokens, pens or similar. There is one reward from the chairman for reflecting about attributes like performance or innovation. The biggest reward that people get is if they are asked for help. That provides them enormous motivation. The motivation will be even more if their solution is applied by other people too. BP does not face an issue in terms of people spending time only helping other businesses. It is up to the individual to keep the balance and to decide between working for their own unit and helping another.

While some business units include the aspect of participation in knowledge sharing in assessing employees, other business units do not. How to include the knowledge sharing culture in the assessment of teams is a matter where BP is still learning, especially in countries like China.

In general, as long as you give people the space and recognise that English is not their first language, they will participate in sharing their knowledge too. For example, if there are 20 people in the room, the culture at BP is to go round and ask everybody for his/ her opinion. Another practice at BP is that larger groups will break down into groups of about 6 for discussion. Each group will elect a spokesmen who will present the summary of the group discussion to the whole group. That way, everybody gets involved, the knowledge and the experience of everybody will be included.

Extend virtual collaboration

Employees at BP spend an awful lot of money travelling to meetings. This is due to the following conditions: not every region has expertise in all fields. In case of a problem regarding that matter, they would use an employee from another region who is an expert and fly that person in. But travelling is a fairly time consuming and expensive way. Therefore BP is planning to extend virtual collaboration. Virtual collaboration used so far at BP is video conferencing. But the company wants to go beyond that and use a combination: videoconferencing and at the same time working jointly on a document. The technology is already available but they need to use it more.

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Dräger

Introduction of knowledge management

Knowledge management was introduced to Dräger by the executive board respectively top management as a project on the basis of an initiative. In a 2-day workshop, about 25 people from the top management including the executive board proceeded with a kind of stock-taking of the previous approaches to KM, indicating a first initial direction for KM to take at Dräger with key aspects (1999). This was naturally rather unspecific. So a pilot project then elaborated those KM elements which appeared appropriate for a systematic approach to knowledge in the Dräger corporation (2000). The following were examined:

 ➢ Knowledge Maps

 ➢ Yellow Pages

 ➢ Best Practice Pool

 ➢ Communities of Practice

Following a subsequent pilot phase, these four elements were to be implemented and tested under concrete conditions in planned work stages and with the corresponding tools. Apart from the knowledge maps, the above elements were introduced in individual business units. Dräger has decided not to use knowledge maps for now. Given the complex interconnections, it was difficult to draw up a knowledge map at all that was complete and had any appropriate meaning. At the moment, updating would only have been possible by hand, making it impossible.

The criteria for using the three elements yellow pages, best practice pool and CoP were and still are:

 – the core competence of the group is affected with regard to technology (oxygen measurement) and methods (logistics)

 – there is interest in knowledge sharing over and beyond geographic and organisational borders.

 – people actively involved in the CoPs/ best practice exchange are the first to fill the yellow pages.

Starting implementation

The rules required for successful use along these lines were then stipulated and tested for the three elements "yellow pages", CoPs and best practice pool. For the CoPs, these include

 * before setting up a CoP, it is important to ensure that the stated criteria can be justified with more or less relevance

 * every CoP must have a manager with his eyes on the stipulated goal who pushes the activities of the CoP or controls the direction of communication

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* if goals cannot be reached or the tasks have been fulfilled, the CoP is either dissolved again or continued with a new task

* the goals and tasks of the CoPs are to be oriented to the corporate objectives or must support the strategic tasks

* no chat rooms as CoP, and no project teams in the form of a CoP!
  It is less a case of sharing knowledge than exchanging experiences!

One form of supporting the work with these elements is an adequate implementation using software. The software works on the basis of existing software in the company so that no new software knowledge is required and shouldn't cause added handling problems. "No new software just for knowledge management!"

Support from other management systems: BEST and go BEST!

Since 1998 Dräger has used a management review (BEST: "Business Excellence System") in which the top management (heads of the business units and their managers who report to them directly) are interviewed in a 2-day review on methods and results of the following aspects based on approx. 250 questions:

➤ Strategy development and implementation

➤ Business planning

➤ Management of processes

➤ Improvement projects

➤ Staff and staff management

➤ Results (financial, process-related, customer/staff-related)

On the basis of these reviews, the best practices are sought for the named elements and published in a database with a brief description. This lies in the responsibility of the process owner with the holding the Royal Dutch/Shell Group responsible for the process. All members of staff have access to this database.

The reviews also regularly ask about documentation and the distribution of findings for example from improvement projects over and beyond the immediate organisation borders. The corresponding results are integrated in the overall evaluation which indicates strengths and improvement possibilities as recommendations for action. Points are awarded from 0 to 5, taking account of certain criteria. A good company has on average 3.5 to 4 points. Dräger's target is achieve 3.5 points in 2003. The current status is 2.8.

The reviews are repeated every 18 months in every business unit or company, measuring the progress made. The review is performed by two reviewers from the top management (heads of business units/companies) who do not belong to the unit being interviewed. They can contribute their own experience, can understand their "colleagues" on an equal footing and use what they learn from the answers for their own management tasks.

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In the large companies in the corporation, launching of world-wide initiative programmes *go* BEST! And "Fit for BEST" have been started which both progress on from BEST and are implemented by a team, respectively. Today these slogans cover all activities for the on-going further development of the companies. It is focussed on how the company deals with the knowledge which is distributed throughout the whole organisation and should be used more efficiently. A "Guide to Change" has been elaborated by selected members of staff to help the employees come to terms with the new direction the company is taking with a kick-off event to mark the programme roll-out throughout the company. Since then the *go* BEST! team for instance has coordinated various workshops and events to activate employees and senior executives with regard to a deliberate approach to knowledge. These events are accompanied by regular, comprehensive reporting on the change process in print and online media so that all employees can see and understand the progress being made in the cultural change and the intended change processes.

Perception and knowledge management

Interested members of staff can take out a subscription to a regular newsletter about the KM project and its current status of implementation to keep up-to-date on Dräger's KM activities. Since the first newsletter it has now acquired 232 subscribers. They express their opinions about Dräger's approach to knowledge management:

> ➢ "We need greater access to solutions/ help in our everyday problems (core competencies only affect the specialists)."

> ➢ "There is more interest in concrete success achieved through knowledge management than in theoretical considerations."

> ➢ "What has actually changed here since we started using knowledge management?"

According to Dräger's experience, in spite of the efforts to implement cultural change, the frontiers in the social environment of a company still have to be overcome. If the company has a rigid hierarchy, it is difficult to share knowledge across organisational frontiers. If priority is given to the interests of one's own business unit/ company and personal achievement levels are measured on this, there is no incentive to use knowledge management and its elements. As long as the top management fails to create any scope of freedom, all activities will only be evaluated according to financial criteria. The company will have to "live" an open, outgoing culture with the willingness to pass on "intellectual property" without any reservations so that this behaviour can also be applied to dealing with knowledge. Here a uniform "specialist language" has to be created which can be understood by all, consisting of the "simple things", such as rules of behaviour for meetings, quality improvement and problem solving projects based in interdisciplinary teams, training events and staff agreements about all such instruments. At Dräger training events were held to put over the "simple things" as part of the BEST initiatives.

The most important thing for members of staff is: "I would like to find someone who knows something about ***. Once I've got his/her phone number, I can sort the rest out myself". In

other words, personal contact is most important. Dräger has implemented this by always linking knowledge and experience with a certain person. Databases and information or links to other media are only the second level of knowledge management.

Right from the very start (even during the introductory phase), the top management including the executive board was closely involved in elaborating the fundamental aspects and strategic direction of the KM initiative. In addition, the executive board receives regular reports about progress in the project. In the meantime there is a widespread desire to do away with the word "knowledge management" and find something else based more on "experience."

In addition there is close co-operation with an associated project "Knowledge management in the innovation process" run by a product business unit under the leadership of an external specialist institute.

CoPs

In Dräger's experience, there is an incentive to take part in Communities of Practice when it is obvious that the employee's own interests will be considered. The aims and contents of the CoPs at Dräger are aligned to the business aims of the company and are to help the company achieve its goals. At the beginning there were just two CoPs, now there are ten. Not all have the same level of activity. Four are already active in the desired way. Dräger has stipulated that employees should not see a CoP as no more than just another additional task with a greater workload. Instead, he/she should see it as a useful supplement to deal more efficiently with the business processes. Furthermore, the staff do not explain their activities in the CoPs with reference to the CoP itself (in the sense of self-referential). Their arguments are based more on supporting the business processes and their daily work.

The CoPs at Dräger have a moderator who reports to the person responsible (e.g. executive board, supervisor) about the progress being made in the group; the moderator monitors the goals and "leads" the participants. The moderator performs this task for the "life" of the CoP. It is usually the individual with the greatest interest in the work results of the CoP. Every CoP has its own moderator. It is possible for one moderator to lead several CoPs – but in this case he/she has an extremely great interest in the work results. The moderator's function is not institutionalised and there is no special training for this task.

Dealing with a CoP is stipulated in a guide which looks at questions such as:

How and why do I set up a CoP?
What goals must we bear in mind?
Which functions have to be performed?
How long does a CoP live?
What kinds of "membership" are there?

Dräger aims to have eight active CoPs in 2002. The CoP members pass on their good experiences, for example simply by exchanging knowledge in a CoP the experts gathered there realised that it would be technically easier to open up an interesting market segment than was presumed up to then. In a relatively short time using market analysis it was possible to decide whether the Company should have a go at this market segment or not.

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Yellow Pages

To start with, Dräger expected all active participants in the CoPs to enter their knowledge and experience profiles in the Yellow Pages. In 2002, the Yellow Pages will contain approx. 300 members of staff. A side has also been prepared for the other members of staff already containing current public data, such as phone number and organisation information. Dräger wants to have just one employee directory for the whole corporation on a world-wide basis. A guide has been issued on how to produce a Yellow Page. Since the Yellow Pages were launched in September 2001, about 110 employees have made an entry with their knowledge profile.

Best Practice Pool

The aim of the best practice pool at Dräger is to create close-proximity access to best practice so that money and/or time can be saved by using best practices. Dräger is aware that someone who offers a best practice must also either hold specialist training/meetings personally or arrange for someone else to do this. The corresponding supervisor must be willing to provide corresponding capacities.

The reason for this is that the best practices are usually highly specific applications which only the specialists in the company know about, unless an external service has been recognised as best practice, in which case training can be offered to others by the external providers. It is only when this kind of best practice has become standard in the company that it is worth using it as basis for a training course, from an economical point of view.

But here again, it is important that the social environment in the company does not prevent the willingness to offer and take on best practices. The purpose and handling of the best practice pool is also explained in a guide. At the moment the pool contains four examples.

Intranet

Within Dräger's corporation, communication as part of the KM activities takes place on the intranet (German and English). This means no additional skills are required for handling specific software/programs. International access is possible.

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HP Customer Support

HP Customer Support is part of HP (Hewlett Packard), a leading global provider of products, technologies, solutions and services to consumers and businesses. The company's offerings span IT infrastructure, personal computing and access devices, global services and imaging and printing. HP completed its merger transaction involving Compaq Computer Corp. on May 3, 2002.

KM is not a "one-off" event: the management at HP Customer Support offers active support

At HP Customer Support both the management and the staff want knowledge sharing. Knowledge management in this service company is one of the main, if not even the prime, competitive factor. To survive in global competition, the availability and provision of knowledge plays a vital role in successful customer relations. For the staff at HP Customer Support, this means being supported in their tasks. They get more access to information, can assume more responsibility and thus acquire greater freedom for making decisions. This not only provides customers with more effective support but also increases staff satisfaction and allows for further on-going development.

Today too the management continues to actively support KM: it provides corresponding resources, it constantly communicates the need for KM, it acts out a culture of knowledge sharing by communicating frequently with its employees about company decisions, etc. At the regular team meetings (weekly for fortnightly) attended by staff and management, the management is very open in presenting what's going on at present and the plans for the near future. In addition, the staff are given the feeling that they are knowledge carriers because KM is always talked about during the team meetings, and above all, discussed with each individual members of staff during their employee pep talks. Another aspect is the "open door policy" at HP Customer Support. Every member of staff can approach the management with its questions or anxieties.

HP Customer Support transfers knowledge ready for use

Together with preserving the available knowledge, at HP Customer Support prime importance is given to generating new knowledge, giving priority to collective knowledge over individual knowledge. One challenge for HP Customer Support was to process the knowledge in such a way that an engineer can access this knowledge wherever he is, and interpret and use this knowledge accordingly. Here simple standards are used, i.e. the knowledge is put in a standardised form (document type). This makes it easier to explain knowledge in documents, and also to read, absorb and finally use this knowledge. The quality of the document contents is checked by experts; these are usually those responsible for the product.

For example, knowledge about problem solutions is processed and recorded. This knowledge is used above all in day-to-day business. For example, all members of staff have a manual

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containing the most common solutions. White papers are also compiled, describing the basic way to handle products.

The advantage of the way in which knowledge is explained and provided (e.g. in documents) for other members of staff at HP Customer Support has the advantage that the member of staff who is sharing his knowledge receives further questions on the topic from other members of staff. Based on these questions, he/she then tackles the topic again, in this way deepening his knowledge. With this form of communication, both the person asking the question and the person providing the answer learn to speak the same language, this is even an explicit requirement in some cases. Whereas up to know the emphasis was primarily on explaining knowledge, in its next stage HP Customer Support aims to support knowledge sharing with greater networking activities.

HP Customer Support has project managers who actively support and experience KM on a European level as part of their project management activities. Among others, these members of staff adapt the KM activities on a world-wide scale at HP Customer Support to the European requirements, respectively represent the local needs regularly at the world-wide knowledge management meetings and projects. This means locally acquired experience and procedures can be integrated and put to efficient use in the Company's world-wide strategies.

The divisions at HP Customer Support look beyond their own four walls

Customer inquiries at HP Customer Support are dealt with by different teams. These teams differ with respect to their task, their methods and qualification. Communication within the teams needs no special support through the KM team but is defined by the support process. Instead, the KM team supports the way in which the various levels communicate with each other. In other words, KM activities at HP Customer Support are focused particularly on transferring knowledge between teams and over and beyond departmental boundaries.

For this purpose, HP Customer Support has about 50 CoPs world-wide, run independently on a local level. Communication is either personal (face-to-face) or virtual. HP Customer Support provides the technology and also the moderators if required.

All new members of staff starting work at HP Customer Support come together for a familiarisation event. The first personal contacts and networks can be set up here, which help to create trust between the individual members of staff. This promotes the willingness to share knowledge (as a prime asset) without being afraid that it will be abused. This is a vital prerequisite for knowledge sharing, which already exists at HP Customer Support. The familiarisation training sessions are held on a national level but include the various different organisations. In addition, specialist training is also provided: these are usually organised for several countries at a time.

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HP Customer Support has a deliberate approach to knowledge.

Due to the fact that product cycles at HP Customer Support are short, knowledge becomes obsolete quickly and must be forwarded to staff and customers quickly and easily if the existing knowledge is to be put to good use. So at HP Customer Support, not every piece of knowledge that can be explained, has to be explained. There are clear decisions which areas should be exhausted (training necessary or ascertained by the person responsible for the product). Here a deliberate decision is taken in favour of the outlay required to explain the knowledge. In the end, the revenue must be greater than the outlay (which can be quite considerable for explaining knowledge in some cases). HP Customer Support is aware that it is the members of staff who are the knowledge carriers, and has included this aspect accordingly in the KM strategy. In addition, HP Customer Support has answered the question: "What is the management's contribution?" The result is the transformation to a knowledge company for the senior executives, which also entails changed working methods and roles for the members of staff too. In this way, the organisation can keep on making optimum adjustments to the constantly changing environment.

The HP Way - Corporate culture at HP Customer Support

HP Customer Support has a long history in which the corporate culture was defined primarily by the company's founders. They drew up a set of rules: "The HP Way". These stipulate for example that at HP Customer Support everyone is equal, regardless of religion or race. Today these rules are knows as the basis of the "HP Way" and the corporate culture at HP Customer Support. The founders, Bill Hewlett and Dave Packard, two Stanford engineers, combined their product ideas and unique management style to form a working partnership. The "HP Way" is based on the belief that employees want to achieve, find meaning in work, and enjoy themselves in the process. It is a closeness, informality and enthusiasm carried over from the early years when it was a small company. It is a working philosophy that has nurtured and shaped the growth of the Company to the success it is today. These rules show themselves in different forms, and one of the beliefs is the importance of flexibility and innovation. The rules also focus on a high level of achievement and contribution. With these, HP Customer Support believes that employees want to do a good and creative job and given the proper environment, they will do so. As one of the founders said, "The rules, when you really come down to it, are respecting the integrity of the individual."

In 1999 the Executive Council creates a further set of Rules to reconnect company F's employees with the spirit and intent of the company's founders. The new Rules are a specification of the first ones. The new Rules are:

"Believe you can change the world.
Work quickly, keep the tools unlocked, work whenever.
Know when to work alone and when to work together.
Share — tools, ideas. Trust your colleagues.
No politics. No bureaucracy. (These are ridiculous in a garage.)

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The customer defines a job well done.
Radical ideas are not bad ideas.
Invent different ways of working.
Make a contribution every day. If it doesn't contribute, it doesn't leave the garage.
Believe that together we can do anything.
Invent."

Even if KM has been actively implemented for years, HP Customer Support continually promotes knowledge sharing by creating the general conditions as indicated in the described rules. HP Customer Support lives in the endeavour of trying to help every member of staff who has a problem or question. On striking feature of the corporate culture at HP Customer Support is that lots of the employees are on first-name terms.

KM is a component and key element of day-to-day business at HP Customer Support

KM at HP Customer Support is an important element in day-to-day business. The availability and provision of knowledge is crucial for survival in global competition. KM must be directly associated or integrated in the business process to be successful at all. But HP Customer Support is of the opinion that additional incentives are necessary to motivate the employees to share and exchange knowledge. Here it is up to the team leaders to decide on the kind and type of incentive and how they are to be awarded. The degree to which members of staff have got involved in the explanation and sharing of knowledge is ascertained and recorded in employee pep talks.

The KM activities were rounded off by the introduction of a knowledge-based balanced scorecard. These supplement the traditional financial indicators by adding knowledge-based criteria (referred to customers, staff, processes and innovations). This makes "knowledge" a good which can be measured so that suitable evaluation or incentive systems can be created. For example, the number of document feedbacks, the number of revised documents or the number of accesses to documents.

KM-friendly infrastructure at HP Customer Support

Partly, the offices consist of high partitions and are shaped in hexagons. This honeycomb structure accommodates 8 members of staff and promotes the immediate co-operation and collaboration among these 8 employees. But it also facilitates rapid communication because there are no concrete walls between the next office and the distance is very short. It is very simple just to stand up and go to the colleague or ask him a question. HP Customer Support has also set up separate smoking rooms where a lot of information is exchanged over and beyond office or department limits. Furthermore, every floor has its "coffee pot", i.e. a coffee corner with free coffee and water.

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Furthermore, the IT infrastructure is kept very simple. HP Customer Support has ensured that it is not contra productive to its daily business. Programs or structures must be self-explanatory as otherwise they take up too much of the user's time.

HP Customer Support invests time and resources in KM

HP Customer Support has deliberately decided to invest time and resources in the introduction and application of KM. At HP Customer Support it is possible for example for a member of staff to spend all day dealing with a certain topic, linking the results with his past experience and making a record of it all. He can also draw up a white paper. The incentive and topic can come from him. Or it can be stimulated by another member of staff who is of the opinion that a certain member of staff knows something about a topic, has experience in this field and could make his knowledge profitably available to others in a written form. This corresponds to a knowledge pull. HP Customer Support is aiming for a balance between knowledge push and pull.

In addition, HP Customer Support aims for close co-operation with the universities when it comes to knowledge management. This is based primarily on exchanging experiences and developing new strategies and concepts, which are also taken into consideration in the internal projects.

HP Customer Support implements clear communication mechanisms

During the regular team meetings as part of normal day-to-day business, the KM methods and tools are demonstrated and explained to the staff by the knowledge manager. Here all kinds of questions can be asked and anxieties expressed without any hesitation. This results in close contact between the knowledge manager and the teams and staff.

In order to demonstrate the importance of KM, the management invited the staff of the whole support division to an evening event. Together with representatives from a university, the KM infrastructure was presented and improvement suggestions illustrated.

KM activities are communicated in various different ways. For example, a kind of "newsletter" presents the current activities of the members of staff. In addition, HP Customer Support has a very "strong" intranet, where lots of staff information is provided. All organisations present themselves here in great detail. This makes it easier to find and contact a particularly needed knowledge carrier.

Knowledge carriers as sources of knowledge

The greatest incentive for sharing knowledge in training sessions with a large group of staff or in particular with new staff primarily comes from the members of the staff in the individual teams. In some cases, these team members then hold the training session or prepare presentations. In this way, the staff are actively involved in knowledge sharing. The incentive consists

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of fulfilling other tasks parallel to the day-to-day business. This receives explicit support from the management, and staff are encouraged to get involved.

HP Customer Support supports knowledge networks with customers

HP Customer Support "lives" the sharing and exchange of knowledge not only on an internal level but also with its customers. For example, HP Customer Support has an electronic support centre (IT Resource Centre). This gives the customers an opportunity to use electronic media to contact HP Customer Support or gain access to support know-how. The elements of the electronic support centre are:

- World-wide technical knowledge database → offers solutions to existing customer inquiries

- Case based reasoning → offers explicit knowledge in a structured form to lead the user through the problem-solving process

- Discussion forums → offer access to and the exchange of implicit knowledge

The various media and knowledge forums give consideration to the varying needs and working methods of the customers. In this way, HP Customer Support is deliberately and actively trying to establish its network with the customers. There are regular virtual and face-to-face meetings on this topic with selected customers. The aim is to achieve continuous, intensive knowledge sharing with these customers to result in new strategies.

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Phonak

Phonak's main business is the implementation of improved, innovative electronic high-tech solutions for final consumers. The international company has currently 2,300 employees. Since the company was founded 35 years ago, there is a prevailing awareness of the high significance of knowledge sharing among the staff.

KM at Phonak

Many elements of the current approach to KM at Phonak were integrated in the organisation early on and are used on a day-to-day basis. There was never a deliberate aim to introduce knowledge management as such.

The culture at Phonak is defined to a great extent by the personal attitude of the founder. The founder is a very communicative person. One of his recipes for success in the context of KM is active communication.

Over the years, Phonak has developed a unique corporate culture focusing on the exchange (of information) between employees. Phonak calls this "People Value". This means the company puts the individual employee as a person at the focal core of its values and actions.

Building

One of the most extensive measures for promoting communication is the structure of the building, which guarantees maximum exchange between staff. The rooms are open on all sides. There are no walls between desks or offices. Many employees can see each other directly. The levels with the workstations are arranged around an atrium in the middle of the office building, and are open across all storeys. The atrium has a glass roof.

The production section as second building next to the offices is connected to the administration section by the cafeteria and restaurant which are used by both production and administration staff. The aim is to support or preserve communication between the two sections.

Phonak employs about 2,300 members of staff throughout the world, with 500 employees in headquarters. This workforce should not grow any further as this would prevent communication from being as effective as in the past.

Coffee break

Since Phonak was founded 35 years ago, the coffee break has always been an important part of knowledge swapping. Firstly it was the company founders who sat together over a cup of coffee and simply discussed lots of things. Particularly in the early days but still today too, solutions for current problems can be found in this way. Management and staff and in particular the company founders still think this is a very important form of communication. Everyone can come, there is no obligation. Participation is voluntary. Everything is ready at the beginning of the break, the coffee is ready on the tables. And at the end of the break everything can

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be left where it is. The service staff will clear it away. This leaves maximum time for communication during this break, for concentrating on the exchange and putting it to good use.

New staff

New staff are introduced all round at the very beginning by taking a picture of every new member of staff at his place of work and then hanging the photo on the notice board accompanied by a few details (name and unit where he/she works). So posters with all the new staff hang on the notice board in the cafeteria and restaurant etc. for a month at a time.

When staff leave the company (e.g. take retirement), Phonak tries to preserve the knowledge accumulated by these (key) individuals. Individual programmes have been developed to pass this knowledge on to other members of staff, for example:

Lunch + Knowledge

Lunch + Knowledge is a common method of sharing knowledge at Phonak. Two concrete examples are used to illustrate the procedure.

3 groups have been formed with 10 young engineers and marketing staff each. These groups had lunch together with the person about to leave the company (taking retirement). During lunch, the future pensioner spoke about a certain topic and thus shared his/her knowledge. Altogether 8 – 10 topics were discussed at "Lunch + Knowledge". These topics covered a lot of background information – why certain processes took place in a certain way, why co-operation works with certain external partners and not with others.

In another case of Lunch + Knowledge, a member of staff was going to move to another location. Over lunch he spoke to members of his own department about the contexts and development history.

Events

A whole series of events take place throughout the year, where people can get to know each other informally. These include company days-out, bicycle tours or barbecues. On average, such events take place every six weeks, initiated and organised by the individual locations and attended by the staff at each particular location. In addition, the entire company workforce comes together from all locations in a two-year rhythm. This is at considerable cost to the company, which has recognised that the outlay is well worth while in view of the personal networks and resulting exchange of knowledge.

R&D Meeting

Following the purchase of a Canadian firm by Phonak, a large number of R&D staff (about 15 persons) were flown out of Canada to work with the employees of the R&D department at headquarters for a whole week. This week had a very clear structure and was basically organ-

ised along specific technical lines. While the days' activities consisted of papers and lectures on technical subjects, the evenings came to a close on a social note.

In addition, a booklet was produced featuring every person attending the R&D meeting on his/her own page with a photo and information about where he/she works, etc. Phonak is aware that this information will become obsolete relatively quickly, but here hardcopies were deliberately given preference over the intranet as information carrier. Both during and after the event, people will take a quick, interested look through the booklet without necessarily looking for a specific person.

Organisation

Different parts of the company are responsible for the KM tasks. "Lunch + Knowledge" is the responsibility of the KM co-ordinator. New staff are introduced by the personnel department, and the R&D week is organised by the R&D department.

Persuasion and communication

Although the management team discusses the justification of KM or the monetary advantages of KM activities relatively frequently, these do not assume any priority. Phonak believes that the effects of KM cannot be expressed in monetary terms. The management must be persuaded of its benefits. Once the management is convinced of an idea, it can then be implemented. This was the case with KM. This is why the CEO is constantly emphasising and propagating the explicit significance of KM.

Intranet

The intranet is not a main focus of KM activities, which focus on personal (face-to-face) communication and knowledge sharing. Up to now, the intranet was used for classical functions. Now that the other KM activities are filled with life, the next stage plans to expand the intranet further. The aim here in particular is to promote communication between the different locations. But on the whole, Phonak manages without intranet solutions for KM and uses its existing resources for personal communication!

Yellow Pages

Phonak has not produced any Yellow Pages. This is currently a focus of controversial discussion. Some are of the opinion that the company is not yet big enough to need this instrument. Others are of the opinion that the company has just about reached a critical size. The company is possibly in a grey interim zone. Staff lists or phone lists are already available, so that staff can be contact quickly and easily. Additional information to be included in the Yellow Pages later on includes the experience of members of staff, and the projects they deal with. Today most members of staff working in similar areas know this about each other.

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Atmosphere

Phonak has a very open atmosphere. There are no barriers to prevent employees from contacting each other. But it is not so simple to transfer this culture to other companies. One reason for the open atmosphere is the very special structure of the building.

Documentation

The projects are documented in great detail, based on Phonak's quality system. The reason why lots of know-how which should rather be documented is still not available in the required written form is that the R&D staff in particular would rather use their limited time to find problem solutions rather than for documentation. Here a compromise has to be found. Phonak has taken a deliberate decision against mandatory documentation. The philosophy is rather to employee and keep motivated members of staff, instead of reducing motivation by mandatory documentation.

Debriefing

Depending on the size and complexity of a project, it is followed at the end by a debriefing session, chaired either by the project leader, the leader of another project or the Chief Technology Officer. This again depends on the size and complexity of the project. The procedure is stipulated in the quality manual. The results of a debriefing session are recorded in a report compiled usually by one of the participants or by the project leader.

Measurement

There is no meaningful number to illustrate the effect of KM, so that this is not measured at Phonak. If people are enthusiastic, then activities are successful. This is one reason why the aspect of knowledge sharing is not explicitly stated in the objective agreements. But Phonak is pursing developments in this area very closely. If one day some kind of measuring procedure or variable should become available for KM results, Phonak is sure to use it.

Planning

There are plans for further expansion of the tool aspects (PC-based tools), seeing the role of the tools clearly from a support point of view. They provide Phonak with a platform for compiling virtual documents. First and foremost these aim to support co-operation between the individual locations. Within a location itself, communication should be personal and direct (face-to-face) as far as possible. The infrastructure at a location is therefore designed for personal contacts.

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SBS

SBS is a unit of a large engineering corporation and supplies process and manufacturing companies with technical services. The activities of the KM team at SBS are the three areas operations-related services, production-related services and solutions. Projects form the core business at SBS and constitute the prime creation of value. The unit employs 36,000 employees. 60 of them belong to a KM team. The company has been using KM methods for 8 years. The KM activities include:

- Debriefing and lessons learned
- KM as support process
- KM tool box
- Local multipliers
- 80 change / 20 technology

Benchmarking for a greater awareness of KM

The knowledge management programme at SBS has two essential starting points.

An active approach to KM was prompted by a competitor benchmarking study. (Together with KM, other core and support processes were considered each with specific partners). SBS detected the need for KM in order to remain competitive.

The second starting point was the results of an internal quality management review which revealed the existence of more than 47 knowledge management islands (systems, programs etc.) and demanded the introduction of "one" knowledge management programme.
After consideration of the initial situations, it was obligatory for the top management to introduce KM: discussions in the management team respectively steering committee were dominated only by the question of extent – all or only certain employees. Approval was initially given for a pilot project phase after which the topic was to be institutionalised in an independent paper with direct reporting line to the divisional director. This commitment to the need for KM has persisted even with a new management team, which has now integrated it in the even larger framework of a "cultural change programme" dealing with values going over and beyond KM as such.

"Pick low-hanging fruits" and convince

The introduction of KM at SBS is justified with the following arguments:
→ to generate new fields of business – innovation management, faster learning
→ to become more efficient – avoiding inventing the wheel all over again
→ to use cost savings potential – making better use of resources (e.g. in purchasing)
→ quality management – fault prevention costs, established knowledge modules, etc.
→ to increase competitiveness – faster reaction times, etc.
→ to increase turnover – global multiplication of local success projects, references

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The need for KM can be argued using these operative and business potentials for added value creation. The top management is convinced that KM can help to achieve this added value creation. The rest of the management team and later on the workforce too will be convinced in particular by putting over concrete success stories. In Ireland, a country manager reported that in the past a member of staff often took 2 weeks (10 working days) to research the answer to a customer inquiry. Now this employee is part of a world-wide network which provides him with support when researching a customer inquiry so that an answer can be provided much faster (max. 48 hours or 2 working days) and on a far higher level of quality.

Nevertheless, trust in KM and knowledge sharing is still not wide-spread at SBS (active roll-out is still underway), so that on an internal level efforts are being made to continue developing it on a permanent scale through trust-creating measures and change management measures (including multipliers), which include for example forwarding and multiplying success stories (cf. significance of communication). Here the target group is the majority of all employees in the countries and business units (result of numerous considerations). Sales and delivery processes are core processes of great significance accompanied at the same time with a high degree of "mental trauma", so that SBS has started to optimise these using a tool box of KM tools including knowledge networks in order to communicate the corresponding success stories.

In addition, customers also expect knowledge to be exchanged on an internal level with the experience gained in reference projects flowing into the handling of their own specific projects. In this sense, KM is not seen as an additional topic at SBS, where the success of the knowledge management programme is measured within the core processes.

Catalytic elements and multipliers

SBS has a KM team consisting essentially of 4 headquarters staff and the KM co-ordinators of all business units and countries, together with a team of approx. 20 internal consultants. The applicable organisation size indicated by the benchmarking procedure was for about 0.8% of the organisation; at SBS, the concept is based essentially on a role-oriented approach. Staff on the KM core team or internal partners travel to all the countries where SBS is represented (66) to have a catalytic and supportive effect on the local rollout. Here they meet local staff to effect a "buy in" of the local management, on the one hand, and on the other hand to gain local multipliers and accompany the introductory process. Ideal local multipliers include staff already committed in their involvement with the networks, together with technical and power promoters. SBS attempts to arouse in particular those members of staff who run a relations network or a members of such elements, regardless of whether they are supposed to or not, in order to win them as local multipliers in an early stage of the proceedings.

The visits by the KM team to the individual countries are free of charge for these countries (part of the HQ allocation defined as a percentage of turnover). The activities of SBS's KM team are carried out as part of a divisional board project: the coming eighteen months are de-

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voted to introducing KM on the basis of this model. During this period funds are provided from a central budget (see above). Later on white collar allocations will be made: here the individual member of staff or individual business unit will not have any freedom of choice with regard to participation, or whether adequate benefit can be ascertained (depending on the critical mass of participants and contents).

SBS considers the function of the extended KM team essentially as a catalytic element. As soon as KM has been implemented, the KM team in its current role becomes superfluous.

Prerequisites for knowledge sharing at SBS

Management Commitment

SBS has an open-door policy right through to the divisional board, which also actively acts out knowledge sharing. In addition, the top management uses the KM tool box, for example using the chat function for an exchange of knowledge between staff as part of the change project. Here the top management is available at regular intervals to answer any questions from the employees to all manner of questions. In this way the management demonstrates its commitment. At the same time, the staff are confronted with the chat function. These offers from the top management are met by a lively response, but do constitute a challenge and need to be well prepared, with the answers appearing "in black and white". In addition, management communities are formed for example with the commercial staff to make the KM instruments more effective in management.

Embedded in the processes

Before the beginning of a project, the staff are under no obligation to look for experience with a similar project. But if problems with the project do occur, this aspect can come to light and an employee will then have difficulties to justify why he did not look for corresponding experience and knowledge.

SBS's aim is to make it clear to its employees that KM activities do not constitute additional tasks on top of their day-to-day business, but should be used as support elements to make it easier to fulfil daily tasks. This defines KM as a support process.

The introductory period considered essentially the following three points:

Identifying the KM stakeholders

Winning promoters at the start of implementation

Being so convincing that the staff do not see KM activities as an additional part but as active support for their core business.

Including KM in a binding form in project work, among others by concluding a project with a debriefing session which is then integrated with the final commercial procedure (e.g. attributing the personal turnover of the project staff to their turnover targets).

The debriefing sessions report about mistakes as well as positive experiences. The scope of these events depends on the size and scope of the project concerned. Debriefing sessions have a moderator in any case. The moderator is chosen by the project team, can also be a customer

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or someone invited from the outside. These project reviews are based on master documents and sets of questions which can differ depending on country and culture. The resulting protocol, experience reports and mistake descriptions constitute the essence or components of knowledge from this project. They can then be used comparatively easily in a subsequent project.

Usability

User friendliness
To encourage staff to use the PC- and intranet-based CoPs, forums, chats etc., the man/machine interface at SBS has been designed to be as user-friendly as possible. The staff are free to adjust the interface of the knowledge management application to the intranet style just by pressing a few buttons to make it easy to jump back and forwards between knowledge management solution and the normal intranet, without having to make lots of adjustments.

Performance
Another important aspect of usability is the performance of the applications, as seen by the "consultant" or "service technician" out in the field with the customers rather than someone in HQ.

Trust

SBS helps to build up trust by encouraging and supporting face-to-face meetings between members of staff. For example, the divisional manager will travel to the individual countries and meet the local staff in open discussion events. Here the staff working in each location can see and meet the divisional executive in person, which according to SBS's experience is an effective trust-creating measure. The divisional executive uses these meetings to present KM as a topic and explain the executive board's commitment, spreading the idea through the countries. Attendance at these meetings is voluntary, a normal employee will not face sanctions if he fails to attend.

Including the Works Council

Including the Works Council is one criteria of success indicating that active knowledge sharing takes place. An all-company agreement was reached with the Works Council on fundamental aspects of KM. In addition, a system of use has been developed together with the Works Council for the members of the Works Council whose mandate covers several locations, and the KM tool box is also used by the Works Council itself. In these days of future anxiety relating to job security, the Works Council has even discovered the success-critical dependency and joins the KM manager at local introductory events in certain countries, in particular in Germany.

Incentives

SBS has deliberately taken a long-term decision not to use financial incentives in the context of knowledge sharing. KM is seen to be part of the business approach and is therefore not subject to separate remuneration. Nevertheless there is a multi-stage incentive system, from

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OnTop incentives for use of the platform and the reduction of possible entrance barriers, right through to sanctioning promotion moves (e.g. to the project manager career).

Communication and branding

SBS deliberately calls its activities "knowledg^{e}motion" rather than KM. This expression conceals movement on the one hand (Motion) and on the other hand the world of feelings (emotion). SBS has taken out world-wide protection on "knowledg^{e}motion". The corresponding logo is communicated to all employees and made familiar to them on posters, bags (for the multipliers) and other advertising media. SBS uses all conceivable means and channels of communication, such as posters or the intranet. The logo, project information and access information are even printed on inserts attached to the salary printout sheets.

Interdisciplinary and cross-border knowledge sharing

Up to twice a year, SBS respectively its parent corporation holds a conference for KM managers and people interested in KM from all regions of the world. These conferences are used solely for exchanging knowledge, "Best Practice Sharing" and networking. Frequently a 2-day conference will be preceded by a 2-day training session, for purely practical reasons.

Similar events like the KM community meetings are also held for other communities. The staff decide for themselves whether they are going to attend. But they have to justify their attendance to their supervisor (and thus convince him/her of the benefits of attending). For example, they can multiply solutions in their own countries which they have come across at the events or by networking with other employees.

What's more, at SBS the discussion and sharing of problem solutions no longer takes place by eMail but primarily in the Communities (which are mainly organised on a virtual plane) and their technical platforms or virtual forms.

Incentives for top activists

If staff place documents, articles or similar on SBS's knowledge management platform, they receive shares for doing so (a kind of "frequent flyer miles"). The KM team varies the number of shares (phase-oriented control of user behaviour). For example, there will be a weekly campaign during which twice the normal number of shares will be awarded for sharing knowledge. The KM team keeps on trying to stimulate people to share knowledge, especially when knowledge exchange is at a low ebb. The principle corresponds to the frequent flyer programmes run by major airlines.

In the first phase, the system runs as a competition. The best 50 employees – the top 50 "knowledge activists" – are selected depending on the number of shares they have collected. The shares are distributed automatically by electronic means. SBS trusts that the collection of shares is not manipulated. When identifying the 50 top activists, the "origin" of the shares is verified. This would reveal any manipulation. As an incentive, the top 50 "knowledge activists" are invited by SBS for a week in the Alps, for example. In the second phase, the compe-

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tition is turned into a catalogue procedure, where the employees can swap their collected shares for goods (mobile phone) or services (training courses). The incentive catalogue is designed specially to avoid monetary advantages.

At SBS, people's individual KM activities also influence the target agreements together with employee and supervisor appraisal. Employee pep talks are held once or twice a year, including a 360° feedback regarding the employee's involvement in knowledge sharing. For this purpose, the supervisor, colleague and even the individual employee concerned fill in a corresponding questionnaire.

The rule in the last stage is that anyone wanting to become project director must have knowledge sharing skills. The corresponding evaluation is also based on a survey.

Get a first measurement before starting KM

At company H, the effects of KM are already measured before KM activities are launched! Before the team sets KM off in a new country, staff surveys are carried out on the awareness of KM activities in the company or on staff behaviour patterns. The KM team also analyses the behaviour patterns of staff in the CoPs and forums. For example, in one case 80% of the employees in one country said that they developed their own problem solutions without looking to see whether a solution to their problem already existed. In order to measure the success of KM, the staff of the corresponding country are then questioned again after introducing (the first stages of) KM. If people then take less time for example to compile a quotation because they can use the database or profit from discussions in the communities, then SBS can say its KM activities have been successful.

Success storeys and success communication

Here it should be stressed again that the success of KM at SBS is not measured by knowledge itself but by the business processes. SBS derives KPIs (key performance indicators) from its business goals. One KPI for example is the average time it takes to answer an inquiry in the call centre. How many inquiries per hour were answered before and after the introduction of KM? The hit rate for submitted quotations is another example. In addition, success stories are used for measurement purposes. Here arguments are used to indicate how much money has been saved by the knowledge networks. SBS has also ascertained that these are usually very convincing. SBS uses all conceivable channels to communicate the success it has achieved with KM. For example, 4 pages of the quarterly staff newsletter are dedicated to knowledge management.

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UNTERSTRASSE 22, CH-9000 ST. GALLEN
TEL: 0041-71-228 24 73, FAX: 0041-71-228 24 55

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Xerox

The company manufactures and markets office and business machines and employs 80'000 people worldwide. The firm has been active with KM initiatives for 10 years.

The business unit featured in the study is the company's consulting unit. The KM activities include Yellow Pages, Best Practice Sharing, CoPs, Lessons Learned Management, Knowledge Sharing Platforms and Knowledge Related Goals in the BSC (Balanced Score Card).

The meaning of communication and a common language

Knowledge sharing takes place automatically within the specific business units at Xerox. In addition knowledge permeates across all group, unit and country borders. Frequently staff work together on an interdisciplinary basis and it is part of the culture at Xerox that a member of staff also provides information in response to queries coming from outside his/her own unit. The advantage and direct benefit of knowledge sharing at Xerox are directly obvious so that such sharing does actually take place. Staff feel obliged to share knowledge. They "get" so that they also "give" with sustained motivation.

Differences resulting from the differing nationalities of the members have little (hindering) influence on knowledge sharing. The culture within a community is very similar. The different languages are more of a hindrance for certain communities (e.g. service technicians) when it comes to knowledge sharing over national frontiers. Xerox has ascertained that staff in countries where a high standard of English is spoken, will enter more tips into a knowledge sharing platform than others (English has been the corporate language for a long time).
To promote communication between staff in different countries, Xerox tries to use translating services. But programs currently available on the market are certainly not up to the standard required here. A tip given by a service technician must be translated so that it is clearly understood and easy to implement. Current translation programs are not capable of this. Xerox is observing technical developments on this front and is actively doing research in order to find a better solution for this problem. In addition, it is important to weigh up the cost and benefit aspects of having knowledge sharing contributions translated into many languages.

Staff in a business unit automatically have access to the corresponding CoP. If someone would like to "listen in" to another community as guest, usually he/she only needs to contact the corresponding community leader. As a rule, permission will then be granted.

"Knowledge Work" initiatives and close integration in business processes

The service technicians and sales management had already implemented lots of local KM initiatives by the time the top management decided in the 1990s to accord strategic importance to KM. The so-called "knowledge work" initiative was started. The management offered propagation support. In concrete terms, budgets were provided for establishing and expanding structures for knowledge sharing. In the community of service technicians, one of the oldest

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TEL: 0041-71-228 24 73, FAX: 0041-71-228 24 55

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initiatives, the standard platform for a mobile work environment was installed on a world-wide basis. Another task for KM is to ensure there is co-ordination between the business units. In addition there is also specific transfer of successful practices from one region to the others.

Following the decision to introduce KM on a world-wide basis, the staff in the individual communities (e.g. regional service technicians) were given specific training on the spot. For this purpose, in every country there is a person responsible for providing and updating the knowledge sharing infrastructure and for organising the necessary training sessions. These people also have other tasks such as evaluating success and hindrances to using the KM methods or knowledge sharing. This integrates the function of KM support in the business process. Xerox considers the full integration of KM in its business processes to be an important criterion for success. KM must not be considered to be something separate.

Events for stimulating knowledge sharing

Communities are organised for example on an inter-unit basis, where communication and knowledge sharing is deliberately stimulated. There is a continual series of events so that the people can get to know each other personally and sustain these relationships. For example, once a year there is a meeting of all leaders of the KM initiatives. These meetings discuss the need for KM activities, new interests in this particular area and any problems which have occurred. The events are organised by the senior manager in the knowledge work initiative. He/she is a member of a strategic body. The meetings are funded (time outlay and travelling expenses of the participants) by each participating unit.

Open door mentality and team working day

Xerox has an "open door mentality". Corporate culture at Xerox is also characterised by team work. Once a year there is a team working day which celebrates working in a team. Team work has been a motto at Xerox for a long time, well before KM became an established phrase. The company management keeps on putting over just how important it is to worth together flexibly and be open for new tasks. In particular, the CEO continually appeals to the cohesion of the "Xerox Family" and preserving the "Xerox Spirit".

At Xerox it is possible to contact people you have never seen and who work in other countries or on other continents, and ask them about problem solutions. There is a basic willingness to share knowledge and answer questions. People asking questions will always receive tips and answers. This means that first and foremost, Xerox uses a person-concentrated approach. But direct communication between staff means that there are not necessarily any records kept of many aspects and topics which could possible interest other employees. At the moment, Xerox is looking at how to safeguard this knowledge.

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TEL: 0041-71-228 24 73, FAX: 0041-71-228 24 55

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Peer recognition motivates

Whenever a service technician has failed to find a good solution for his problem in the database so that he then develops a good solution himself, he writes this down as a brief tip which he places on the knowledge sharing platform. A tip contains answers to the prime questions:

- What was the problem?
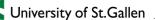- How was the problem solved?
- What was the cause?

The pool of new tips is evaluated by experienced staff (usually group leaders) for consistency, validity and comprehensibility. After possible checks and/or revision, the tips are published on the sharing platform.

The staff at Xerox are motivated to share their knowledge with the community by peer recognition. The professional pride in having developed a solution nobody else had found makes a positive contribution to knowledge sharing and people can create their own status in the community as an accepted colleague, expert, opinion leader, etc. This is how to "make a name" for yourself. In spite of the time pressure of operative business, staff at Xerox take the time to record their experiences. This does not take up an awful lot of time because the reports are usually kept short (approx. ½ to 1 page). Here certain text fields are simply filled in with a brief description of the symptoms and steps to the solution. Links can be set to more detailed system documentation. Experts already know how to work with brief tips. Newcomers can take a look at the more detailed descriptions in the documentation. This means the descriptions in the tips really can be kept short. In addition, the validation process also checks for comprehensibility to eliminate the uncertainties or errors which can occur when making rapid records of what has happened.

The tips are always personal tips, i.e. endorsed with the name of the person submitting the tip. Contributions published by one person can be evaluated by others. This also results in lots of contacts between colleagues all over the world. Preferred media are eMail and phone.

Awards instead of monetary incentives

Xerox had considered using monetary incentives to stimulate knowledge sharing. But it was the employees themselves who didn't want this. Thy felt it would corrupt the system. The incentive should be exclusively the benefits of knowledge sharing. Nevertheless, Xerox still awards outstanding authors. These are people who have made either one outstanding or very many good contributions. The award winners are nominated on the basis of colleagues' recommendations, evaluations and/or statistical assessments. Xerox has no problems with cheating by giving good assessments to friends among the colleagues. When all is said and done, an employee receives his award in the presence of many colleagues. These know the community and would notice the manipulation; this in turn would destroy the employee's reputation. The community has a self-regulatory effect.

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The awards are presented at regional or international meetings, but the ceremony is not a fixed institution. It is the pure use of the platform which should come to the fore. In other words, awards are only made when a particularly good solution has been shared or particular attention has been drawn to the positive behaviour of a particular member of staff.

Knowledge related goals

At Xerox, knowledge-related goals are broken down from the management model into the aims of the department, e.g.

- increasing access to the intranet
- making new information channels available

Together with the listed goals which are easy to measure, Xerox also agrees on cultural goals which are included in the BSC (balanced score card) and measured appropriately. A corresponding example here is: the formal evaluation and recognition of excellent performance and behaviour ("role models") in terms of Knowledge Sharing.

Basically it is the senior management which decides what is to be achieved. The members of the management team then ask themselves what this means for them. In this way the goals are broken down in a top-to-bottom direction. There is also a bottom-up channel so that stimulating ideas resulting from employee surveys reach the top management and can be integrated in the objectives.

Measuring before and after pilot projects

In many business units the quality management activities mean that many parameters and variables were already being measured long before the introduction of the KM initiatives. Xerox also tries to measure the effect of the KM initiatives based on real business transactions, such as shortening the period of time it takes to solve a customer problem. Here it is necessary to take stock of the situation before introducing the KM methods and then again after introduction. This is illustrated by the following example.

50% of the employees in a certain business unit (service technicians in France) were to be included in a pilot project (sharing system). The employees were chosen by random. Tips and practical hands-on advice were (and are) exchanged through the sharing system. Before the pilot project was introduced and 6 months after it was completed, the performance and learning progress of both groups (staff included on the project and staff not included on the project) was measured. In this concrete case, the pilot group was seen to have triple the learning rate. Xerox attached less value to the exact factor than to ascertaining the clear improvement.

In this way, Xerox found out that the company can save tens of millions of dollars a year. Xerox is aware here that such success should not be attributed wholly and exclusively to the KM activities. Nevertheless, they do indicate a certain tendency.

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TEL: 0041-71-228 24 73, FAX: 0041-71-228 24 55

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Work practice analyse and "getting a feel" for the corporate culture

Xerox attaches great importance to "getting a feel" for the corporate culture before the system and method are implemented. This is possibly for example by using work practice analysis with interviews and observations to record where and how communication takes place, which informal relationships exist and where there are gaps in information. It is therefore essential to have a good understanding of the units where the KM methods are to be introduced. This is the only way to result in a "rich" and essentially correct view of what's happening and where there is scope for improvement. For example, intensive co-operation with the service department in the context of KM has revealed that the service technicians each have two manuals: the one is submitted for the quality audits, the other contains countless remarks, is covered in Post It's and is the book actually used by the employees.

Evaluating the questionnaires

Period of time

Bar chart — x-axis "Years": 1.5, 2, 2.5, 3, 4, 5, 8, 10; y-axis "Number of companies" 0–5. Values: 1.5 = 1, 2 = 2, 2.5 = 1, 3 = 3, 4 = 5, 5 = 2, 8 = 1, 10 = 1.

On average the companies have been using knowledge management as such for approx. 4 years

Reasons for introducing knowledge management

- Reduction in redundant work
- Establish interdisciplinary processes
- Establish international cooperation
- Knowledge seen as key resource in the service business
- Inquiry from the business unit to implement KM following the excellent results achieved with KM in another unit
- Increase in productivity/ efficiency/ knowledge acquisition and optimisation
- Reduce staffing levels, benchmarking, audit report
- Sudden increase in the number of new staff
- Surplus of data, island solutions, long searches for information, need to make data available for eBusiness applications
- Order from top management
- Decision by the Executive Board
- Decentral islands (bottom up)/ central unit since 1 year (decision by the Executive Board)

Frequently "mental trauma"

Initiative came from...

... the employees 6

…the supervisors 2

... the company management 13

Usually initiated by top management.

ALL companies have a KM contact partner

Implementation

	Fully relevant	Partially relevant	Not at all relevant	No details given
The top management continues to be an active promoter even after KM has been introduced.	7	8	1	
The staff had/have no means of influencing the implementation of KM.	9	6	1	
A series of information events were/are organised for KM.	9	6	1	
Extensive training courses are offered for the KM instruments.	4	8	4	
New staff are guided specifically towards the goals and contents of KM	4	6	6	

It is vital to include and inform the staff.
The instruments must be self-exploratory.

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Knowledge culture – anchored in vision and strategy

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	Fully relevant	Partially relevant	Not at all relevant
KM is anchored in our corporate guidelines or vision	7	6	3
Our top management has made a clear statement on the KM vision	10	4	2
We have a KM strategy for the whole company	6	8	2

Although KM is not always explicitly anchored in the strategy/ commitment by the top management is still necessary.

Knowledge culture – how is it acted out?

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	Fully relevant	Partially relevant	Not at all relevant	No details given
Our top management personally defines our knowledge culture by acting as role model.	5	7	2	2
Our senior executives act out and promote knowledge sharing.	1	13	1	1
Knowledge sharing is perceived to be important and valuable by the staff.	7	8	1	
The staff are encouraged to take time for knowledge sharing.	2	13	1	
The Works Council has a positive attitude to open knowledge sharing and has already documented this, for example in corresponding Works Agreements.	4	2	2	8

Senior executives do not always act out active knowledge sharing. Only in some cases is time "granted" for knowledge sharing.

Knowledge culture – how is it lived?

	Fully relevant	Partially relevant	Not at all relevant	No details given
An integral part of our culture is to use problems as a chance for improvement.	6	8	2	
We attach value to having interdisciplinary teams to promote mutual learning.	7	8	1	
Pro-active knowledge sharing takes place within the departments/functions	7	8		1
Pro-active knowledge sharing takes place between the departments/functions	7	6	3	

If pro-active knowledge sharing takes place within the department, it also takes place over and beyond the individual department limits.

Knowledge culture – how is it lived?

	Yes	No
Our lived knowledge culture is reflected in concrete terms in:		
Individual goal agreements for senior executives.....................	8	7
Payment systems for staff..	3	13
Appraisals of team work...	7	8
Appraisal systems for internal reviews/audits...........................	10	5
Guidelines for staff pep talks...	8	8
Guidelines for supervisor appraisal..	4	11
Staff surveys..	10	6

Other:
Formation of CoPs
Staff newsletters
Definition of career stages for experts via broad effect / knowledge networking
Role model of change *go* BEST!

Knowledge culture is not reflected in payment systems and supervisor appraisal.

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Knowledge culture - measurement

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We have defined concrete parameters for the implementation of our knowledge culture (e.g. degree to which Yellow Pages are updated, growth rate of the document pool)   yes 12   no 4

Quantitative (12) No. of ...
- ✿ - Documents
- ✿ - Accesses
- ✿ - Hit rates
- ✿ - Comments
- ✿ - ...

Qualtitative (7)
- ✿ - Success stories
- ✿ - Ratings based on quality criteria
- ✿ - CoP activity based on quality criteria
- ✿ - Individual feedback
- ✿ - ...

**Most companies have measuring parameters.
These are usually quantitative by nature.**

Knowledge culture - perception

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	Fully relevant	Partially relevant	Not at all relevant	No details given
Our working climate has improved by using knowledge management.	2	10	2	2

KM only makes a partial contribution to improving the working climate.

Knowledge culture - perception

Perception of knowledge sharing as **positive factor**
- Openness (named twice)
- Trust (named 3 times)
- International networking/cooperation (named 4 times), "It's a contact sport"
- Cooperativeness among colleagues, social chapter important, teams
- Constant companion throughout the day
- Communities of Practice: are fun, support learning, offer help
- Not "knowledge is power" but "knowledge sharing is power"
- I can actually have an effect! (on the future of our unit)

Perception of knowledge sharing as **negative factor**
- Knowledge is power (the "incorrigibles")
- Value not convincing
- Scarcely present (staff still inactive)
- Perceived primarily on a technical level (tools)

**The perception of the knowledge culture in the company is a partially positive
and partially negative factor for knowledge sharing.**

KM targets

	Fully relevant	Partially relevant	Not at all relevant	No details given
All members of staff know which goals are to be achieved with KM.	3	12	1	
Progress in achieving the goals is "measured" regularly.	5	7	4	
The staff have adequate resources for achieving the goals.	1	12	1	1

**The staff are aware of the KM goals in only some cases.
The resources required to achieve these goals are not always adequate.**

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KM targets

- Saving costs and increasing efficiency 11
- Cooperation/ sharing 10
- Integration/ standardization 6
- Improving quality 4
- Increasing innovation 4
- Changing corporate culture 2

Cost savings and knowledge sharing are the prime goals.

Reasons for pro-active knowledge sharing

- Incentives/ goal agreements 7
- Recognition 7
- Recognising the benefits of the system 4
- Learning / personal development 4
- Stated explicitly: no monetary incentives 3
- Depends on the process 1

Incentives, but not monetary ones!

Reasons for querying and using other people's knowledge

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✤ Benefits /simplification of work 8

✤ Incentives/ goals (agreements) 6

✤ Corporate culture 2

✤ Learning/personal development 1

✤ Support from KM specialists 1

✤ Depends on the process 1

Personal benefit is the greatest driving force.

Benefits and results

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	Fully relevant	Partially relevant	Not at all relevant
The advantages of pro-active knowledge transferin their daily work are clearly noticeable to the staff	4	11	1
The successes of our KM strategy are made public in the company	10	5	1

This uses the following channels:		
Information through senior executives..	13	Others:
Company meetings	2	Mouth-to-mouth propaganda by people who have used KM successfully
Online media		
Intranet...	15	Presentation at team meetings
eMail Newsletter.........................	11	Status reports
Offline media		
Print media....................................	10	Story telling
		Forums, training sessions

The benefits of knowledge sharing are not always noticeable.
The successes of KM are made public.

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Attributes of the benefits

	Planned	Notplanned
The above attributes (benefits of knowledge transfer) were planned/not planned before introducing knowledge management:	9	5

Planned attributes show loyalty to the goals

Aspects of Corporate Culture as a Precondition for Successful Knowledge Management

The Survey

The Institute for Technology Management at the University of St. Gallen (HSG) is conducting a survey of approx. 20 companies into aspects of corporate culture as a precondition for the sharing and utilization of knowledge within a company. The aim of the survey is to identify which aspects of corporate culture are an essential precondition for successful knowledge management and, especially, for successful sharing and utilization of knowledge.

Your Investment

Our research has shown that your company has successfully introduced concepts, methods and/or instruments in the area of knowledge management. We would therefore like to ask you to complete the following questionnaire. Test runs have shown that you will need to invest about 20 minutes of your time to do so.

Next Steps

The survey will be completed at the end of April 2002. From those which return the questionnaires, a maximum of eight companies will be selected who have especially relevant experiences regarding the topics mentioned above. If our analysis of the returned questionnaires indicates that you are among these companies, we would like to conduct an interview by telephone with you, lasting approx. 45 minutes, to obtain additional information for a short case study. If you want, you will then be given the chance to contact the other successful companies. Otherwise, participants in the survey will remain anonymous.

Your Advantage

You will be sent a free summary of the systematic analysis of all the companies surveyed by the end of May 2002. The analyses of the expert report will help you position your company and will reveal important trends and successful approaches. All data will remain anonymous.

Thank you for taking part!

Questionnaire

Aspects of Corporate Culture as a Precondition for Successful Knowledge Management

Please return the completed questionnaire to us by mail or fax!
Thank you!

Instructions:

| | Enter text |
| Tick appropriate box |
→ | Jump from box to box using the Tab key |

To:

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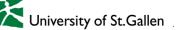Anja Schulze
Unterstrasse 16
CH-9000 St. Gallen

E-mail: **anja.schulze@unisg.ch**

Tel.: +41-71-228 24 73

Fax: +41-71-228-24 55

From:

Name, first name:
Company / organization:
Dept. / position:
Tel.:
Fax:
E-mail:
Address:

Website: http://www

(A) General information about your company

How many staff does your company employ worldwide?	employees
How many staff work in your department/business unit?	employees
On behalf of which department are you completing the questionnaire? (e.g. company as a whole, business unit XYZ ...)	

(B) Implementation and further development of KM in your company

How long have you been actively implementing KM in the department/business unit on behalf of which you are completing the questionnaire?	Years
What prompted you to introduce KM?	

KM was launched at the initiative of: ☐
staff ☐
superiors ☐
company management

We have appointed a point of contact for KM in the company or in the business unit.   Yes ☐   No ☐
If YES: He/she holds the following organizational role:

We apply KM in the area if R&D/ New Product Development/ Innovation.   Yes ☐   No ☐

	Completely true	Partly true	Not true	Not applicable
Top management continues to have an active role as promoter even after the introduction of KM.	☐	☐	☐	☐
Staff are/were given the chance to co-determine how KM is/was implemented	☐	☐	☐	☐
A number of information events were/are held about KM.	☐	☐	☐	☐
Extensive training in KM instruments is on offer.	☐	☐	☐	☐
New staff are specifically introduced to the objectives and contents of KM.	☐	☐	☐	☐

KM was introduced in: the entire organization ☐
the domestic branch offices ☐
the international subsidiaries ☐

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We have the following KM activities, instruments, concepts:
(e.g. Yellow Pages, Communities of Practice, best practice pool)
1. ☐
2. ☐
3. ☐
…
We are currently planning to expand our KM activities as follows:
1. ☐
2. ☐
3. ☐
…

(C) Knowledge culture

	Completely true	Partly true	Not true	Not applicable
KM is firmly anchored in our company's guiding philosophies and vision.	☐	☐	☐	☐
Our top managers have clearly expressed the KM vision	☐	☐	☐	☐
Our top managers act as role models, embodying our knowledge culture.	☐	☐	☐	☐
Our managers set an example, promoting the sharing and passing on of knowledge.	☐	☐	☐	☐
Our staff understand the importance and value of sharing knowledge.	☐	☐	☐	☐
Our staff are encouraged to take the time to share knowledge.	☐	☐	☐	☐
The works council has a positive attitude towards the open sharing of knowledge and has for example documented this in company agreements.	☐	☐	☐	☐
Consistently using identified problems as an opportunity for improvement is an integral part of our corporate culture.	☐	☐	☐	☐

We have defined specific parameters for measuring the development of our knowledge culture. (e.g. update status of the Yellow Pages / rate of growth of document pool)   Yes ☐   No ☐
If YES: Which: ....
☐

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Our knowledge culture is reflected specifically in:		
Individual target agreements for managers........................	Yes ☐	No ☐
Reward schemes for employees...	Yes ☐	No ☐
Assessment of teamwork (e.g. debriefing of project teams).................	Yes ☐	No ☐
Evaluation system in internal reviews / audits......................................	Yes ☐	No ☐
Guide to employee feedback meeting...	Yes ☐	No ☐
Guide to assessment of superiors...	Yes ☐	No ☐
Staff surveys...	Yes ☐	No ☐
Other:		

	Completely true	Partly true	Not true	Not applicable
We attach importance to interdisciplinary teams to promote reciprocal learning.	☐	☐	☐	☐
The application of knowledge management has improved our working atmosphere.	☐	☐	☐	☐
The knowledge culture perceived by our staff can be described by the following attributes: 1. 2. 3. ...				

(D) KM objectives and incentives

	Completely true	Partly true	Not true	Not applicable
We have introduced a company-wide KM strategy.	☐	☐	☐	☐
KM is intended to achieve the following objectives: 1. 2. 3. ...				
All our staff are familiar with the objectives which KM is intended to achieve.	☐	☐	☐	☐
Progress with regard to the achievement of the objectives is regularly "measured"	☐	☐	☐	☐
Staff have sufficient resources at their disposal to achieve the objectives	☐	☐	☐	☐
Pro-active knowledge sharing takes place within departments/functional areas.	☐	☐	☐	☐
Pro-active knowledge sharing takes place across department/functional area borders.	☐	☐	☐	☐

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Which financial or non-financial incentives have succeeded in encouraging staff to proactively share their knowledge with others?

1.
2.
…

Which financial or non-financial incentives have succeeded in encouraging staff to ask for their colleagues' and superiors' experiences and take advantage of this knowledge in their own work?

1.
2.
…

(E) Benefits/ Results

	Completely true	Partly true	Not true	Not applicable
Staff are able to clearly perceive the benefits of proactive knowledge transfer for their daily work.	☐	☐	☐	☐
The successes of our KM programme are announced within the company.	☐	☐	☐	☐

The following methods are used:

Information provided by managers................ ☐

Company meetings................................ ☐

Online-Media

    Intranet.. ☐

    E-Mail newsletter........................... ☐

Offline-Media

    Printmedia... ☐

Other (please specify: _____)

The benefits of our knowledge transfer can be described using the following attributes and, possibly, evaluated. (Please enter in order of importance):

1.
2.
3.
4.
5.
…

	Planned	Not planned
Before the introduction of knowledge management, the aforementioned attributes were:	☐	☐

Thank you for participating!!