

Writing learning stories: The case of Telcotech

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Introduction

Countless publications on the future of management education and on qualifications needed at the workplace emphasize the need for learning from experience, (Smith, 2000). While practice can be viewed as a rich source of new knowledge and learning about management (Kim, 1999), the learners' active participation in learning is essential to capture the learnings occurring in job assignments (Ulrich/Greenfield, 1995).

Experience based learning

Experience-based learning aims at learning from these work-based experiences to prevent the repetition of specific failures and to help generalize learnings from specific challenging situations (Smith/Morphey, 1994). By pushing the application of knowledge towards the solution of actual workplace problems in which learners can see the results of their decisions (Fulmer, 1997), experience-based learning occurs within the context of an application and not in an abstract, decontextualized way (Renkl/Mandl/Gruber, 1997). Learning then becomes problem-oriented, providing developmental outcomes that can be applied in the work setting (Bunning, 1996.). Additionally, the active involvement of the learner in the learning process increases the likelihood that the learning will be retained as mere participation in management tasks and action is not enough for management learning to occur (McKenna, 1999).

Aim of this work

The aim of this work is to introduce a method to realize collective learning from experiences by taking a narrative based approach. The case writing method developed in this work unites components of organizational learning theory with theory about organizational storytelling and case learning. It focuses on organizational actors' understanding of organizational experiences, including the subjective meanings attached to these experiences and how these can be used as a basis for collective learning.

The following paragraphs will quickly introduce the specific perspective on organizational learning taken in this work. In a second part the narrative approach will be introduced explaining why a narrative approach seems to be particularly appropriate to foster collective learning.

Approach to organizational learning in this work

Organizational learning enables organizations to build a new understanding and interpretation of their environment, which results in associations, cognitive systems and memories that are developed and shared by members of the organization. The current

literature on organizational learning focuses on four key elements to enable organizational learning: The existence of multiple interpretations, reflection, dialogue and shared mental models. For collective learning to take place, organizational members have to go through the following phases:

Recognizing multiple interpretations

By confronting organizational members with multiple views of their organization and its activities that capture a different reality (and are also plausible), organizational members recognize that their own vision of reality is not necessarily the only and the “right” view, but the result of interpretative processes.

Joint reflection

Reflection is a sense making of information, analyzing and understanding what happened and what can be learned from it by relating the observations to a known framework of understanding, or by creating a unique framework of its own.

Reflection turns experiences into learning, resulting in a change in meaning structures and the externalization of knowledge.

Dialogue

By making mental models explicit and creating joint meaning through dialogue, learning can be spread from an individual to a collective level. In the process of dialogue, organizational members “build communities of understanding”. Such dialogue presents the base for the joint development of shared mental models (Boyce/Franklin, 1996; Senge, 1990).

Development of shared mental models

Learning occurs when individual members of the organization jointly construct understanding – their mental models – of the organization and the environment. The ability to amend or update shared mental models based on experience is viewed as a critical element of organizational learning (Dixon, 1997). Changing shared mental models alters the organizational members’ assumptions (Francis, 1997), thereby enabling double-loop learning to take place (McGill/Slocum/Lai, 1992).

The current study is based on an interpretive, narrative approach to organizational learning. The interpretive perspective focuses on how people understand and interpret events and how this understanding is transferred to a shared organizational level. It assumes that individuals construct knowledge through interpretive interaction with the social world which they experience (Billett, 1995). Learning is seen as an interpretive process in which new meaning is constructed. Organizational learning can therefore be viewed as encased in how people

recount and interpret their organizational experiences, which are manifested in organizational stories². Media such as language, text or metaphor are viewed as reflecting the processes of sense-making and learning by organizational actors (Boyce, 1996). The analysis and interpretation of these media can reveal organizational members' learning.

Stories in organizations

The following paragraphs give a short overview of the particular functions of stories in an organizational context.

Teaching of culture, norms and values

Most of data shared in an organization comes from organizational members' stories of what is happening. Stories are often a means of implicit teaching³, implying the hidden rules and acceptable standards of behaviour (Forster et al., 1999). Organizational stories are part of the information processing system in and around the organization (Boje, 1991). By summing up a company's core values (Pike, 1992), providing orientation as to how things are and should be done (Hughes, 1995) and conveying role models and organizational norms, stories are carriers of corporate culture (Stewart, 1987).

Metaphors play an important role in the teaching of norms and values: Being part of an organization's knowledge system, they describe the way of doing things in an organizational context. The use of specific metaphors implicitly passes a value judgment and prescribes a mode of appropriate behaviour (Tsoukas, 1991; Jordan, 1996)⁴.

Enhancing deep understanding

Storytelling can lead to a deep understanding in ways that are meaningful and relevant (Kaye/Jacobson, 1999; Collison/Mackenzie, 1999). First, stories are qualified to tap into intuitive and emotional components of understanding. They have the capacity to connect on a personal level. In this context Hughes (1995) stresses that stories represent a way of experiencing someone else's reality, thereby "transmitting perceptions".

Second, stories are well-positioned to capture the diversity and complexity present in organizations (Barry/Elmes, 1997). The sanctioning of ambiguity and paradox is one of the unique and most important characteristics of stories, since it allows the simultaneous holding of two opposite viewpoints (Czarniawska-Joerges, 1995). In that sense stories present an ideal medium to hold irreconcilable alternatives in suspension (Boyce, 1995), to uncover contradictions, dilemmas and paradoxes (Hawes, 1991) and hold them up for critical interrogation.

Construction of meaning

Through storytelling the individual makes retrospectively sense of past events (Schneider/Dunbar, 1992). This act of sense making is not limited to an individual's personal experiences, but enables the embedding of individual experience into a bigger context of organizational processes and relationships.

Organizational members produce a shared, intersubjective understanding of reality through talking, providing themselves with a scheme for making sense of that reality. Organizational members, who share the same meaning, and thus the same reality, share a set of interpretations about the real world which becomes the basis for joint action to emerge. Stories are a device for creating and sustaining this shared meaning and for constructing a collective sense (Boyce, 1995).

A specific consideration of metaphors

Metaphors deserve a special consideration, since they exhibit unique characteristics such as the transfer of meaning from a familiar to a different and unfamiliar domain, the understanding through other and the revelation of hidden beliefs. The following paragraphs give a short summary of these characteristics and summarize in how far they are relevant for learning to occur.

Revelation of experience and creation of understanding

Metaphors imply a way of thinking that reveals how people see the world. Lakoff and Johnson (1980) demonstrated that the conceptualization of the world is largely dependent upon interlocking systems of metaphors that permeate language. The authors therefore emphasize the importance of metaphors in theory building, since they not only structure language, but also one's conceptual system. Metaphor is a basic structural form of experience through which human beings engage, organize and understand their world (Morgan, 1983). They assist organization members to assign meaning to things they experience. In this sense metaphors assume the function of cognitive lenses by making sense of situations. In this process of sense-making the social world is continuously re-constituted through linguistic and symbolic means (Morgan, 1980; Weick, 1979) that bind the various parts together in meaningful wholes.

Since people's cognitive maps of the world are shaped by language, an awareness of the images and metaphors used provides a useful means for understanding life within organizations (Forster et al. 1999). As Marshak (1993) points out in this context, a common metaphor provides a shared understanding within an organization while differing unexpressed metaphorical reasoning may be preventing people from really understanding one another. When the underlying metaphors used by organizational members differ, conflict over what to

do and how to do it is common. By revealing the implicit imagery that guides the thinking, discussion can be initiated on what needs to be done.

Understanding through other

Metaphors involve the transfer of information from a familiar domain to a different and relatively unfamiliar domain, thereby asserting similarities between the source and the target domains in an implicit manner (Tsoukas, 1993). When transferring meanings from one domain to another (Manning, 1997) metaphoric thinking maintains a “double vision” (Brown, 1976) by simultaneously regarding an object from multiple points of view. This unique characteristic of metaphor enables the transformation of implicit meanings across linguistic boundaries.

Revelation of hidden beliefs

Individuals view and interpret events through a set of beliefs and assumptions which are often subconscious and rarely examined or questioned. These underlying, usually unarticulated understandings about a situation, are often shaped and revealed metaphorically⁵ (Marshak, 1993), resulting in a particular vision of reality and in potentially appropriate actions within this framework. Thinking of an organization in terms of a machine metaphor invites thinking about organizational change in terms of something “breaking down” and therefore “needing repairs” (Marshak, 1993). In this sense, metaphors are not only descriptive but also constitutive of social situations⁶.

Marshak (1993) found that the metaphors and imagery used to understand and describe change differed within the same organization, depicting change as developmental, transitional or transformational. The difference in metaphors revealed a distinctively different sense-making of what was going on in the organization. By choosing certain metaphors over others, a certain perception of reality is not only described, but it is simultaneously prescribed as the way in which reality ought to be viewed and evaluated (Tsoukas, 1991). Paying attention to the metaphors and images used, can help to diagnose unarticulated assumptions and beliefs by which organizational members perceive, think and decide (Hughes, 1995).

Becoming aware of the metaphorical assumptions from which an organization is viewed, opens up the option of consciously choosing another angle from which the organization can be viewed. Brink (1993), for example encourages the formulation of metaphors that facilitate organizational development. In a similar consideration Marshak (1993) suggests the use of congruent and appropriate metaphors to prepare and align people with the nature and requirements of change.

Having thus far focused on functions of narratives and metaphors, the focus now shifts to exploring how narratives can become a device for organizational learning, what type of knowledge can be gained through stories and how this knowledge can be externalized.

Organizational learning through narratives

The following paragraphs focus on how stories can lead to individual and organizational learning. The argument is divided into four main aspects which focus on descriptions of how: Firstly, stories can alter perception thereby contributing to collective learning. Secondly, stories can lead to learning through the joint construction of a new narrative. Thirdly, learning can be derived from the deliberate reflection on the learnings implied in various narratives. Fourthly the externalization of implicit knowledge is made possible by making use of a story's figurative language.

Confronting the differences in narratives

Organizations can be understood as complex sets of multiple, often conflicting interpretations, reflecting the different ways of how people make sense. If members of an organization make sense of organizational experiences in a different way, they will have different versions of the same events. These different interpretations are expressed through different stories⁷.

By explicitly surfacing conflicting definitions of a situation and exposing the perspectives of a wide range of organizational characters apparent in different narratives, the discussion of the apparent differences can be initiated. Acting as mirrors of human experience, stories thereby facilitate a shift in perspective, showing people how to look at reality in a different way or suggesting alternative realities (Forster et al., 1999) which can result in new learnings (Cash, 1997). The confrontation of narratives can therefore help reveal new lines of thought and generate alternative responses to the future (Gold, 1996).

Altering perception through narrative

According to Tamm (1987) the particular story that prevails in giving meaning to events "to a large extent determines the nature of our lived experience and our patterns of action." This statement is noteworthy since it turns around the prevailing idea that experience is only *reflected* in stories, by claiming that the stories told determine the potential range of experiences. As a consequence, changing an organization's stories means changing the organization (Stewart, 1986)⁸. If organizational members better understand how they construct themselves and their organization, they will be better able to address their problems (Barry, 1997) and collectively enact change through the use of stories.

Joint construction of a narrative

To bring about learning the multiple interpretations of organizational events have to be taken into account. Confronting the different interpretations, testing one's own and determining the controversies between various sides of a story leads to a shared understanding

of the problems and possibilities inherent in an organizational situation. In the course of discussion organizational members can negotiate a mutually agreeable definition of the events recounted, finally moving to a synthesis and a new jointly developed reality. This integration of the different perspectives serves as a basis for new meanings and cooperative actions to emerge (Harmon, 1990). The emerging joint meaning can be collectively created and expressed in a jointly told story that involves a multitude of tellers, with each organizational member relating bits of the story line that in their ensemble conveys the full story.

Reflection on narratives

Stories connect the storyteller and his/her audience to their *own* experiences (Gold, 1996). Through reflection on the events recounted in organizational stories narrative can be a valuable source of insight into organizations. By determining the learning linked to the recounted event and by interpreting how and why the learning took place, stories help to reflect on experiences (Kaye/Jacobson, 1999). This involves examining in detail how the events unfolded towards success or failure and what factors relate to the outcomes. Through reflection on past events and their inherent learnings, people look for hidden principles to make the story transferable and applicable to other situations. Learning from examples is fostered by defining such patterns through the interpretation of experiences⁹.

The learnings drawn from narratives can then be transferred in various ways: Pike (1992) reports on the transfer of learning in story form through the writing up of stories as one pagers, retaining all personal elements and adding the moral as the key lesson to be learned. IBM uses shared storytelling as an effective approach for reflection on prior organizational learning and considering its relevance for the present (Boyce/Franklin, 1996). Using the stories to procure large contracts the company reassembles the people who worked on a deal and asks them to relive their story. The lessons of their successful deal are afterwards shared as best practices (Stewart, 1986)¹⁰.

Externalization of tacit knowledge

Tacit knowledge can be described as a subjective, highly individualized store of knowledge and practical know-how (Nonaka, 1994; Polanyi, 1958). It resembles a form of intuition (Smith, 2000), and is therefore sometimes also referred to as practical or intuitive understanding. By being produced in the context of application (Eck, 1997), tacit knowledge is learned independently of direct instruction and is based on the cumulative experiences of an individual's involvement in a specific context (Polanyi, 1966; Raelin, 1998)¹¹.

The process of translating tacit knowledge into explicit knowledge is critical. Since tacit knowledge is mostly taken for granted (Smith, 2000), and sometimes not even recognized by its holders, it is difficult to formalize or to communicate to others (Nonaka/Konno, 1998)¹².

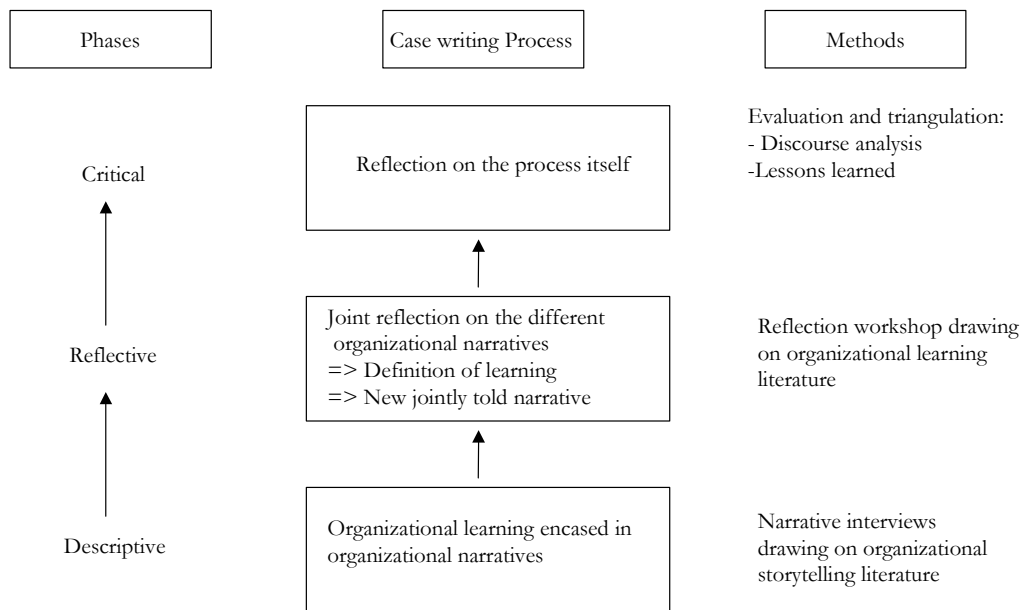
The use of figurative language, metaphors and narrative help reveal such hidden aspects of organizational life that other, more traditional, research methods fail to identify, thereby

fostering the externalization of implicit knowledge (Hartfield/Hamilton, 1997; Nonaka/Konno 1998). By formulating questions that require the members of assumptive networks to answer self-reflectively with narratives rather than with codes or jargon, the insider's specific understanding is surfaced in the story told. Through the translation of knowledge into narrative accounts, the prevailing assumptions of a particular organizational group are made accessible and thus discussible (Hawes, 1991). This process of rendering implicit knowledge explicit, enables the subsequent questioning of the group assumptions (Roth/Kleiner 1998). By questioning the validity of these assumptions, the group's self-consciousness is enhanced, which can lead to the revision of the group's established customs and practices. As already mentioned in the section on metaphors, metaphors assume a particular role in uncovering the "underlying usually unarticulated understandings about a situation" (Marshak, 1993). Organizational members often intuitively use metaphors, while the reason for the choice of a specific set of metaphors becomes only clear after further reflection on the similarities between the metaphors and the target domain described. A conscious examination of metaphors and their meaning allows a shift from the unconscious and tacit to the conscious and explicit (Oswick/Montgomery, 1999), thereby giving voice to previously tacit perceptions.

Overview on the empirical part

The case writing approach developed in this work consists of three phases, namely the descriptive, the reflective and the critical phase. In the first descriptive phase, organizational stories about the implementation of a knowledge management initiative at the telecommunication equipment division of Telcotech, a big European multinational¹³, were collected through narrative interviews from a variety of organizational members. Each organizational narrative conveyed a different perspective and evaluation of the Telcotech knowledge management project. These different organizational narratives represented the basis for a collective reflection by the interviewed Telcotech employees, on their organizational stories and the meanings of these stories, including similarities and differences as well as contradictions and inconsistencies. The outcome of this reflective investigation was a joint definition of the learnings from the narratives through Telcotech employees and a new jointly written narrative about the Telcotech project. In the third and last phase of the process, a critical evaluation was made to examine the potential learning effects generated from the case writing method. This phase comprised an analysis of the lessons learned as defined by organizational members in the reflection phase as well as a discourse analysis of the jointly created organizational case narrative about the Telcotech project.

The following chart summarizes the three phases involved in the research process:



Research questions

The current study focused on the following research questions:

- What are the different stories that organizational actors tell about the knowledge management initiative at Telcotech, and in which aspects do these stories differ?
- What learning can be derived about the Telcotech project from the comparison of the different organizational stories?
- What learning effects can be attained through the projects team's joint reflection on the differing narratives?

The following chapter briefly introduces the case company Telcotech. The description provides the basis to understanding the motives for the creation of their knowledge management initiative and depicts the setting of this project.

The Telcotech Company

Telcotech is a large electrical engineering and electronics company comprising eight business units. The current study focuses on Telcotech's Information and Communication Network business unit. The unit employs about 7000 people and aims to provide diverse corporate and carrier network clients with solutions for data and telecommunication applications.

As a consequence of increasingly sophisticated customer expectations and shorter product cycles Telcotech realized that value in sales was increasingly associated with developing

knowledge-intensive individualized solutions for their customers. Solutions were increasingly jointly developed with the customer and required substantial resources. This radical industry transformation from being a “Box Mover” that sells pre-specified telephone systems, towards being a “Solution Provider” that focuses on the provision of highly individualized knowledge-intensive data and telecommunication solutions, meant that Telcotech had to come up with timely solutions to customers’ complex problems by tapping its spectrum of knowledge and experience.

Knowledge Management at Telcotech

Recognizing that the management of organizational knowledge was a precondition for future growth and competitive dominance, the unit had to ensure that selected core service activities, such as the timely provision of complex, integrated portfolios of products and services, would be shared. This implied that the sharing of localized knowledge took place across sales regions. The envisaged benefits to be gained from preventing the “re-invention of the wheel” in the provision of solutions, included reduced time to market, increased quality by avoiding past mistakes, and better customer service.

Telcotech’s top management decided to set up a task force mechanism, called the Knowledge Networking (KN) team, to foster knowledge sharing between the sales regions. The aim of this task force was to develop and implement a conceptual apparatus for knowledge sharing¹⁴. While the full scope of the knowledge management initiative was set to embrace all 7000 employees at the Telcotech Communication Networks division, the KN team focused for the development of the initiative on the German market and its six sales regions as a pilot project.

This study uses Telcotech’s experiences of the KN project to apply and test the case writing method described in the introductory chapter. This means that the two year history of the KN implementation was subjected to the various phases of the case writing method detailed in the following paragraphs.

Methodology

The following sections describe the methodological approach and the various data collection methods used for the employment of the case writing method at the Telcotech organization.

Interviews

To elicit the experiences and perceptions from the various Telcotech employees involved in Telcotech’s knowledge management project, individual narrative interviews were conducted with twenty employees who had been involved with the project. To ensure the inclusion of stories from a great variety of organizational actors¹⁵, interviewees were selected

from a broad range of functions within Telcotech. This included individuals with high and low organizational status, employees at the centre and at the periphery of the Telcotech organization¹⁶.

The interviews were conducted by a team of two researchers, with one researcher assuming the role of interviewer and the other assuming the role of note taker and process observer. Each semi-structured interview lasted between 45 and 60 minutes. Permission to record the interview was granted in most cases.

The overall interview structure covered the context, process and content of the Telcotech knowledge management project. Each interviewee was asked to tell the story of this project. Questions focused on the project in general (What happened? Why did this happen?), the interviewee's role in the project, the difficulties faced, the learnings and potential conclusions from the projects¹⁷. Interviewees were told that potentially opposing views held by different interviewees would be described in the reflection workshop without disclosing the identity of the holder of these views. The interviewer did not ask people about their use of metaphors or prompt them in any way to use metaphors. However, the open-ended questions allowed metaphors to appear naturally while people spoke about their project experiences.

The generation of themes

To generate themes from the gathered interview data, the current work adopted a grounded theory approach (Glaser/Strauss, 1967). The distillation process took place in several phases. The data analysis started with a phase of initial coding in which the expressions and metaphors describing actions and changes perceived by the interviewees were identified. The actual words of the interviewees were used as substantial codes¹⁸. The initial coding was followed by a process of open coding by paragraphs of the interview narratives into as many concepts as possible to ensure full coverage¹⁹. The descriptions and definitions were refined through comparison across all interviews. In the following phase relationships among concepts were discerned, leading to the grouping of the various concepts into clusters. In the last phase of "axial coding" (Strauss/Cobin, 1990), themes were defined from the various groupings.

The six themes evolving from the interview transcripts with Telcotech employees are briefly described in the following sections. The issues for reflection and discussion stemming from these themes are represented in the indented questions following each theme.

Theme1: Obstacles to the implementation of the KN initiative

Interviewees referred to the organizational structure and culture as "not conducive" to the implementation of the KN initiative. They additionally reported that in spite of the KN initiative there was no general change of consciousness in terms of organizational sensitivity towards knowledge.

- How can the Telcotech culture be described and what repercussions does this have in terms of knowledge sharing, acceptance of knowledge from other parts of the organization and interaction with the management?
- What structures and organizational principles hinder the implementation of the KN initiative?
- Can something be done about the identified obstacles?

Theme 2: Implementation difficulties

Interviewees were occupied with the question of why, in spite of the KN team's efforts, the KN initiative did not gain momentum. Explanations for this phenomenon ranged from the reluctance of the sales and service employees to collaborate with the KN team to the lack of user-friendliness, and the KN team's lack of knowledge about the needs of the sales and service employees in the regions.

- Do the different user groups have specific traits and if so, how do they impact on the KN implementation? What promotes receptiveness to the KN initiatives?
- Why was the cooperation with the sales and service employees in the regions so difficult? How could the apparent mutual frustration between the KN team and the field have been prevented?

Theme 3: Communication

The communication theme surfaced in different contexts in all interviews. One part of the comments focused on the difficult communication between the KN team and management, while the other remarks described a lack of communication of the KN initiative to the Telcotech employees in the regions.

- Why did communication between the KN team and management break down?
- Why was there ignorance or confusion about the KN initiative in the field?
- Why was the KN initiative not perceived as successful by management even though it realized many of its aims?

Theme 4: The implementation approach

The interviews revealed different perceptions concerning the appropriate implementation approach for the KN initiative. The two main positions vacillated between a standardized top-down approach aiming at a broad recognition of the importance of knowledge management, and a differentiated bottom-up approach aiming at specific focus groups and their needs. The discussion of the temporal order of the launch of the four initiatives was also part of this theme.

- What would be an appropriate implementation approach for the KN initiative?

Theme 5: The KN team and leadership

Major issues exposed by the interviews were the various changes in the KN team composition and their implications for the overall KN project.

- What effects did the discontinuity of leadership have on the KN team and on the project?
- How should the team responsible for the implementation of such a knowledge management initiative be managed and staffed?

Theme 6: Internal competition

While the Knowledge Networking initiative had been the first knowledge management initiative at Telcotech, a group of other knowledge management projects had evolved within the company over time. The theme of dealing with these “rival” initiatives surfaced in different contexts in the interviews.

- What effect did the emergence of other knowledge management initiatives have on the KN project?
- How can an organization deal with various initiatives pursuing the same aim?

The following table summarizes the central themes and issues described above.

Central theme	Issues
Theme1: Organizational obstacles	• Culture • Strategy • Politics
Theme 2: Implementation difficulties	• Incentives • Cooperation KN team with the field
Theme 3: Communication	• Top: Expectations of management, communication breakdown • Down: Confusion or ignorance about the initiative
Theme 4: Implementation approach	• Top-down vs. bottom-up approach • Launch pattern: Parallel or consecutive
Theme 5: KN team and leadership	• Staffing • Personal discontinuities
Theme 6: Internal competition	• Management and coordination of “rival” initiatives

The themes and questions were taken up in the following phase of the reflection workshop. They formed the basis of the joint definition of the KN case learnings in the form of lessons learned as well as the writing of the case narrative by Telcotech employees.

Reflection workshop

The following stage of the case-writing process was a one-day workshop with the interviewees aiming at a critical, reflective inquiry into the KN project²⁰. In the introduction to the workshop participants were told that the focus was on generating insights through a joint confrontation of and reflection on the development of the KN project. It was emphasized that the aim was to generate a real dialogue on the themes emerging from the individual narratives. This implied that behaviours such as mutual blaming, defensive routines or refusal

to talk about sensitive issues had to be minimized. To support the reflection process, the author and a trained Telcotech insider who had not participated in the KN project, assumed the role of moderators. Participants of the workshop were additionally guaranteed that *individual* opinions expressed in the workshop would be kept confidential within that group.

At the start of the workshop participants were exposed to the themes generated by the interviews. Issues that had surfaced in the interviews, the nature and the context in which these situations occurred, were analyzed in order for them to understand the different meanings of the KN project. The participants then analyzed the themes and the different, predominant perspectives linked to these themes. They reflected on the new understandings of the situation that could be derived from the different, individual stories that had surfaced in the interviews²¹.

The focus then shifted to improving practice through reflection and dialogue. With their increasing understanding of the different perspectives, participants identified causal links between the narrated events and KN project outcomes. They then developed explanations based on the surfaced differences in the narratives. As an outcome, lessons learned and their implications for management practice were jointly defined.

Writing

The aim of the writing phase following the reflection workshop was to give the collective sense making of the reflection workshop a means of expression by the joint construction of an organizational narrative. Narrative events and project issues that had surfaced in the interviews and had been discussed in the workshop, evolved into story themes indicating the collective sense making of the group.

The writing phase made use of a double format: While participants wrote a *case* narrative to describe their actual experiences in the project, their *teaching note* abstracted from the particular KN project and summarized the general learnings that could be drawn therefrom²².

Results of the case-writing method

The following chapters analyze the outcome of the case writing method and evaluate the learning generated through the case writing method. The analysis consists of two components: The first component is the narrative analysis of the interviews and the case narrative written by Telcotech members. The second component is the analysis of the lessons learned as defined by the Telcotech employees themselves. While the lessons learned describes learnings that have been explicitly defined by the Telcotech employees themselves, the narrative analysis focuses on revealing hidden aspects of the KN initiative that are implicitly conveyed through the use of language and metaphors.

Metaphorical themes

Narrative is an effective means of revealing hidden organizational dynamics that other, more traditional, research methods fail to identify (Sköldberg's, 1994). By paying attention to symbols, tales, legends and myths that organizational members use to describe their experience, a researcher can tune into operative dynamics that would otherwise remain covert and inaccessible (Smith/Simmons, 1983). By interpreting organizational texts, themes can emerge that go beyond surface meanings, possibly uncovering non-rational explanations, or purposes other than the stated ones.

The aim of the narrative analysis of the Telcotech organizational narratives was to gain an understanding of the different reality versions developed by various organizational actors in the course of working on the Telcotech project. Based on these different constructions, the implications thereof for the KN project are discussed. The analysis furthermore considers to what extent the different theme categories reveal contradictions, tensions and dilemmas inherent in the KN project.

The following four theme categories were identified in the interviews and case narratives²³:

- The description of the KN initiative
- The different approaches to implementation
- The role of the regions and the local organizations
- The perceptions of the KN team

Each theme category contains at least one set of distinct metaphors. The following sections describe and analyze each of these themes in detail, focusing on the implications of the metaphors for the development of the KN initiative.

The description of the KN initiative

When organizational members use metaphors to describe a specific concept or circumstance, the most dominant attributes of the metaphor are projected on the denoted object (Oswick/Montgomery, 1999). In the case of Telcotech, the organizational members used a variety of metaphors to describe knowledge and the KN initiative. After sorting out the most dominant attributes of the metaphors chosen, the material revealed that there was no single coherent set of metaphors describing how knowledge in general, and the KN initiative in particular, are perceived within Telcotech.

Three main groups of description categories were identified: The first category attached positive connotations to knowledge and the KN initiative. The second category depicted knowledge and the initiative in a negative way. The third category was more descriptive without clearly classifying the initiative as either positive or negative.

To gain more insight into the use of the different metaphors and to search for an explanation for this observation, a further form of categorization was undertaken²⁴. Two

coders - the author and another researcher - independently classified all knowledge metaphors according to the attitude they conveyed towards the KN initiative, namely positive, neutral or negative. The two researchers established an inter-rater reliability of 96%. Through the classification it became apparent that organizational group membership is the major factor of correlation in explaining differences in attitude. While the Telcotech management and the KN team used positive or neutrally classified metaphors to characterize the initiative, the regions depicted the KN project with metaphors expressing a negative attitude. The following paragraphs introduce the various metaphors found for each category, and discuss the implications of these disparate visions for the KN project.

Positive connotations of KN

Among the positive connotations of knowledge and the KN initiative, three main sets of metaphors could be identified. At the beginning of the KN initiative, the KN project was described by the KN team as the “spearhead” of knowledge management at Telcotech, emphasizing its leading position in dealing with the new issue. KN played a trend-setter role, giving it an exposed position within the organization, high visibility and a considerable amount of attention.

The management additionally depicted the KN initiative as part of the Telcotech strategy, calling it “one of its indispensable pillars”. The demand that KN should be integrated into the Telcotech strategy was underlined by statements such as: “The management of our knowledge assets constitutes not only an indispensable pillar of our business, but should be seen as the central element of our strategy at Telcotech”. This statement represents the KN initiative as a fundamental, stabilizing element for Telcotech. As such, the initiative is depicted as being of critical importance to the organization’s strategy²⁵.

The Telcotech management and the KN team both engaged in an economic discourse about knowledge by comparing knowledge to an economic “good”. In this discourse the recognition of the richness of employees’ experiences is depicted as the basis of the initiative. “Practically every employee at our company possesses a rich portfolio of knowledge and experience. This resource can only be put to use with his or her active and voluntary collaboration.” The portfolio comparison creates stock market associations. Similarly to stocks, knowledge and experience are depicted as valuables that generate return²⁶.

In line with the economic discourse, the Telcotech employees in the regions, regardless of appeals by the KN team, treated their knowledge as a valuable that they did not want to give away easily. Descriptions such as “Employees still tended to hoard their knowledge to the detriment of the company, rather than sharing it”, testify to the fact that knowledge was treated as any other scarce input resource. Sales representatives are described as guarding themselves against “predatory colleagues” by hoarding their valuable knowledge, or by only sharing it through long-established contacts with colleagues within their region.

Confronted by this hoarding behavior in the field, the KN team developed a variation of the economic discourse which expressed their powerlessness to force knowledge sharing. With reference to the particular character of knowledge, the KN team described knowledge as a “resource locked in the human mind”. Elaborating on this statement, they point out that “the most valuable aspects of knowledge – often tacit in nature - are locked in the human mind”. Depicting knowledge in such a way implies the insight that “knowledge sharing could neither be supervised nor forced”. It additionally portrays the difficult situation in which the KN team found itself. Even though it could offer help to facilitate knowledge management, KN team members ultimately did not own “the key” to unlock the knowledge stored in the human mind. This implies a dependence on the voluntary collaboration of broad parts of the organization. In terms of speech acts²⁷, this description represents a justification for the difficulties encountered with knowledge sharing in the regions. It implies that the KN team cannot be blamed for the natural tendency of knowledge to remain locked in human minds. The description of knowledge as “locked”, implies a connotation of distance and unassailability between the team’s possible actions and the realization of knowledge sharing across Telcotech regions.

Commenting on these metaphors containing positive connotations of knowledge, it is noticeable that the metaphors used were not in line with the behavior postulated by any of the parties involved. While the Telcotech management claimed that knowledge management was part of the Telcotech strategy, this claim did not manifest itself in an alignment of the entire organization with this part of the strategy. The KN team similarly claimed that knowledge was valuable, but did not really consider treating it as an economic “good”, since it expected the field to share this value freely. It was only at a much later stage of the implementation process that it introduced an organizational incentive system that acknowledged efforts at knowledge sharing. Mere appeals to participate for the good of the whole organization, such as “my knowledge pays for Telcotech”, did not convince the Telcotech members to engage in the KN initiative.

Negative connotations of KN

The Telcotech employees in the field, i.e. the targeted KN users in the regions, employed four main metaphors when describing the KN initiative. It was variously described as old wine, a luxury, an appendix and a green-field design. The following sections describe these metaphors in more detail and discuss their implications for the KN initiative.

The comparison of the KN initiative to “old wine in new bottles”, attributes the KN initiative with a lack of innovation and newness. The comparison implicitly depicts the KN initiative as being deceptive, since it is seen to pretend newness whereas it is just disguised practices of knowledge sharing that already exist within Telcotech. As a consequence, the KN initiative did not arouse any special attention or interest in the field.

The “luxury” and “appendix” metaphors are additional expressions of this vision. Both metaphors depict KN as not really necessary. The luxury metaphor suggests that KN is an additional project which is not crucial for the survival of the organization, but an additional gadget that the organization can afford. This vision is in sharp contrast to the management’s vision of the KN initiative as a “pillar” of Telcotech’s future success.

When comparing the images of a pillar, a spearhead or an economic good as used by the management and the KN team, with the appendix, luxury and old wine metaphors used by the Telcotech employees in the field, it becomes clear that the KN initiative failed to effectively communicate the value proposition proposed by the initiative. As a consequence, the initiative was neither seen as new or innovative (old wine), nor as useful and efficient (appendix, luxury).

Another metaphor which provides further insight into the lack of enthusiasm for the KN initiative from the field, can be found in the description of the initiative as a “green-field design”. This refers to the way in which the KN initiative was developed. Starting from a “green field” depicts the initiative as being developed “from scratch”. It implies that the initiative was constructed from the perspective of a “tabula rasa”, without considering any established practices, or pre-existing customs to be found in the field.

The image alludes to the fact that the field, i.e. the potential users, was not sufficiently integrated into the design of the initiative²⁸. From the perspective of the employees in the regions, the KN initiative had been developed at the headquarters, and did not sufficiently consider their regional concerns. This lack of formal involvement by the field in general, as well as the lack of input from the regional sales personnel regarding crucial features of the KN initiative in particular, led to the perception of KN as not meeting the users’ needs. The initiative was consequently seen as a “luxury” or “an appendix”.

All four metaphors used by the employees in the regions depict a negative attitude towards the KN initiative. The descriptions range from hostility to indifference towards the KN project. The contrast in metaphors between employees and management reflects the difference in attitudes about the initiative and foreshadows the difficulties encountered during the KN implementation.

Other descriptions of KN

Two other discourses that could not be classified as clearly expressing a positive or a negative attitude towards the KN initiative also emerged from the metaphor analysis. The “networking” discourse describes the KN implementation in terms of the building of an organization-wide network, while the discourse of “care and education” depicts the KN initiative as a child-raising activity. While the former metaphor had been used by both the Telcotech management and the KN team, the latter discourse was only employed by members of the KN team. Both images share a very person-oriented approach towards knowledge management.

Knowledge Networking as a network

Driven by the vision that knowledge should be shared universally, the vision of building a network of knowledge sharing that would embrace all Telcotech employees, was created at the very beginning. The Telcotech management emphasized the objective of the project by stating: “Practically every employee at our company possesses a rich portfolio of knowledge and experience. We need to get our colleagues to build a network of knowledge sharing. The objective of knowledge networking is to create a network of knowledge sharing among all employees at Telcotech. We need to connect everybody with everybody else”.

The image of the knowledge management initiative as a network emphasizes the interaction and connectedness between all Telcotech members. The network metaphor suggests that Telcotech employees share common interests which link them and create a certain degree of nearness and closeness between them. As illustrated by the internal knowledge sharing practices within the individual Telcotech sales regions, trust is an important factor if a network is to function successfully. The use of the network metaphor implicitly assumes the existence of such an underlying mutual trust among the organizational actors. Additionally, the implication of the network metaphor to include the entire Telcotech division alludes to a standardized approach to implementation. Without anticipating the analysis of the implementation theme, a consistence between the groups of metaphors and organizational groups can be recognized: The network metaphor was used by the same organizational actors, in this case the Telcotech management and the KN team, who also opted for a standardized approach of implementation.

Looking at the context in which the network metaphor is employed, it is noteworthy that the Telcotech management uses the network metaphor in connection with the economic good discourse: “Practically every employee at our company possesses a rich portfolio of knowledge and experience. We need to get our colleagues to build a network of knowledge sharing”. The motivation for knowledge management in these two discourses is, however, very different: While the economic discourse focuses on knowledge management for profitability, the networking discourse emphasizes knowledge management to help employees to assist each other by establishing personal contacts.

The employment of these two diametrical opposed discourses in the same context, leads to the hypothesis that the credibility of the network discourse is diminished through its overshadowing by the economic discourse. As the description of the existing knowledge sharing practices within individual sales regions suggests, knowledge management in the regions functions through long established personal contacts of trust. It can therefore be assumed that Telcotech employees working in the field are more susceptible to the network metaphor than to the economic metaphor. The employment of the economic discourse may thus have been detrimental to the network metaphor in as far as it did not carry much weight.

Knowledge Networking as child raising

The second theme in this category of descriptions is the care and development theme depicting the KN initiative in variations of a child-raising metaphor, and used predominantly by a majority of the KN team members. The case narrative picks up this imagery and compares the KN initiative directly to a child-raising activity: “Both processes (i.e. child-raising and implementing the KN initiative) were essentially preoccupied with giving birth to, promoting and nurturing a baby – often in environments that are not conducive to the development of a child”. Additionally, interviewees and the case narrative refer explicitly to different stages in the development of the child, talking about birth (“Two and a half years after its birth, the knowledge management initiative at Telcotech was in the middle of its puberty”), a baby (“These tensions contributed to the loss of momentum of knowledge management at Telcotech, and provided the impetus for a critical reflection on the birth and adolescence of the knowledge management baby”), infancy (“In a time when knowledge management was still in its infancy, top management at Telcotech was quick to realize that the intangible character of knowledge had to be considered.”) and adolescence (“What would the adolescence of the KN baby look like?”). The consideration of the various stages of the KN initiative, accounts for the KN team’s awareness of the initiative’s developmental character, which highlights different needs and predominant issues at different stages of its development.

Turning to the interpretation of the child-raising metaphor, the following analysis focuses on the implications of the metaphor for the definition of the KN team’s role in the initiative: The KN team’s use of the child-raising metaphor suggests that it is they - as the team responsible for the KN initiative - who assume the parent role. This characterization of the initiative implies two aspects: Firstly, the image of the team as the actual child raisers of the KN initiative, points to the strong emotional involvement implied in the commitment of the KN team. The KN project is not perceived as a mere task or a job, but involves a crucial emotional commitment. Secondly, speaking of the KN initiative as child raising denotes the initiative’s educational character. Picking up on the child-raising metaphor, the former KN team leader is explicit about the hard and soft factors involved in this education process: “As in raising a child, you need to educate by explaining and developing an understanding, just as much as you need to sometimes punish. Successful KN demands corollary incentives, e.g. in the form of financial royalties for knowledge sharing”²⁹. The attribution of the parent role to the KN team depicts the team in a position of educational authority. As such an authority, it applies educational measures and decides how to instruct the rest of the Telcotech organization on the necessity of knowledge management. The imagery implies that the potential users of the KN tools are the addressees of the KN team’s educational measures, denoting the KN team’s intellectual superiority above that of other organizational members.

As seen during the development of the KN initiative, the child-raising metaphor is problematic in two aspects: The first aspect is that the metaphor breaks down when the parental authority of the KN team is examined. In terms of the educational measures at its

disposal, the KN team broadly explained and communicated the KN initiative to sensitize organizational members to knowledge management. However, unlike a parent, the KN team only utilized force of persuasion and incentives to make Telcotech members participate in the initiative, but could not sanction any organizational members' "misbehaviour". Since the KN team had no penalty it could apply for failing to participate in the KN initiative, the team's parental role broke down when faced with the critical situation of getting the sales managers of the regions to provide time for presentation of the KN initiative. Unlike a parent, the KN team could not oblige addressees of their educational measures to follow their instructions.

The second problematic aspect of the child-raising metaphor lies in its implicit connotation as belonging to its parents. To point out a lack of support by other organizational members, the KN team depicted problems in the implementation phase of the initiative by pursuing the child metaphor: "While everyone wanted to stroke the KN baby, nobody wanted to change its nappies". This description refers explicitly to the reluctance of sales managers to provide time for presentations of the KN initiative in the regions. It implicitly claims that the "nappy change" could not be done by the KN team alone, but that it was a collaborative task with other parties, in this case Telcotech members working in the regions. Yet, by positioning the initiative as belonging to "parents", e.g. a specific group within the organization, the full responsibility for the initiative's success was attributed to the KN team. The image consequently suggests that the baby's parents, i.e. the KN team, were to assume the task of changing the nappy. This implicit child-parent role attribution may have contributed to the impression that the involvement of others was not necessary, or even appropriate.

The implications of the child-raising metaphor anticipate a lesson that the KN team learned later in the implementation process and defined afterwards in the reflection workshop: The lack of integration of Telcotech employees into the initiative from its infancy, i.e. the conceptualization phase onwards, resulted in the Telcotech employees being neither ready nor willing to assume the parental role, since they felt that "it was not their baby", thus not their responsibility to take care of the KN initiative.

The following diagram summarizes the various metaphors used to describe the KN initiative and attributes the metaphors to the different organizational groups using them:



Figure. *The KN Initiative*

The different approaches to implementation

The examination of the interviews and the case narrative revealed two different approaches to the implementation of the KN initiative. Each approach is described by a distinct set of metaphors. The first approach, opting for a standardized implementation, is broadly depicted by religious metaphors. The second approach, opting for a focus on specific small target groups, is described by war and illness metaphors. The following sections describe these two different approaches and discuss their implications for the Telcotech organization.

The standardized approach

The standardized approach describes the implementation of the KN initiative as a broad communication of the same KN idea throughout the whole Telcotech organization. This approach does not differentiate between different groups of target customers within the organization. The following citation from the Telcotech management illustrates this position: “KN means evangelization of all employees, changing the mindset of the lethargic masses, and not cherry picking the individual groups”. The following sections examine three aspects of the religious metaphor theme: The way in which the KN initiative is depicted, the role the KN team had to assume according to this perspective, and the impact thereof on the team’s interactions with the rest of the organization.

The comparison between the expansion of the KN initiative and the spreading of a religion is picked up in the Telcotech management’s discourse on the KN implementation. Expressions such as “spreading the word of the initiative” or “spreading the KN message” surface in the management’s discourse. Following this religious metaphor, the KN initiative is equated with the “good message” or the gospel. As is applicable to the gospel, this approach implies that everybody had to be confronted with the same message, thus the “standardization approach”, since this message represents a universal truth.

The use of religious metaphors to depict the KN initiative, suggests that knowledge management has a mystic connotation. By comparing the initiative to the word of God, the initiative is up valued to something sacred, implying that this “God-given” word should not be questioned. As in a religious conviction, the KN initiative was seen as something that went beyond mere rational reasoning. Expanding the religious metaphor, the belief in knowledge management seemed to be driven by a power beyond a provable *raison d’être*, implying the necessity to believe in it unquestioningly in order for it to take full effect.

The role the KN team was supposed to assume in the standardized approach, was that of “preachers” and “knowledge evangelists” preaching the importance of knowledge sharing throughout the organization and evoking the benefits and promises of the KN gospel. Slogans such as “my knowledge pays for Telcotech” and other “evangelical appeals” were part of this approach in attempting to make employees realize that “any career advantages of hoarding knowledge were obliterated in the knowledge economy”. The missionary character of the initiative suggested by the religious metaphors furthermore implies that organizational members needed to be “converted”, since they are implicitly depicted as thus far ignoring “the truth”. Such imagery denotes a certain superiority on behalf of the KN team who, in contrast to the rest of the organization, understood and knew the KN message.

The implications of the religious implementation approach are far-reaching: By implicitly depicting the content of the KN initiative as something beyond discussion and critique, the KN team is portrayed as an ultimate authority on the KN subject. Due to the dogmatic character of the initiative, the team seems to enjoy an implicit protection against criticism. However, the employment of the religious metaphors may have contributed to the problems of justification and acceptance as later faced in the field from some of the targeted users of the

initiative. The religious implementation approach of broad proselytization inherently carries the risk of misperception and lack of acceptance by the rest of the organization. The gospel in particular and religion in general, are not collaboratively negotiated concepts, but are based on commandments and dogma. Treating the KN initiative as the gospel, excludes a joint construction of the “good message”, i.e. the KN initiative, by both the KN team and the field. A behaviour in accordance with the religious metaphors precludes a collaborative effort with the field, e.g. in the form of discussion and input from other parts of the organization, in the conceptualization of the initiative. By revealing a behaviour in accordance with the role of knowledge preachers, the KN team contributed to the later perceived lack of fit between the needs of the field and the initiative as conceptualized by the KN team.

In a retrospective, self-critical comment the KN team members in the interviews referred to the religious conviction and missionary character by which the KN initiative was driven: “We wanted to convert everybody to Catholicism. The credo was everybody needs KN. However, there seemed to be fundamentally different needs and expectations within individual organizational groups as to what exactly KN would be needed for.” The use of the credo metaphor expresses the strong conviction that the KN team attached to their actions, implying that the appropriateness of the approach was not questioned at that time. The comparison of the KN initiative to a missionary effort of trying to render everybody Catholic fits into the aforementioned strategy of evangelical appeals to convert organizational members. Such appeals represent general statements which do not focus on specific groups of audiences. This means that the question of immediate individual utility is not answered by these appeals³⁰. This lack of differentiation in the overall KN message led to a lack of recognition as to what extent KN was also a “good message” for the individual employee. A result was that the KN team faced a lack of motivation by those in the field to utilize the KN tools.

Looking at the evolution of the KN project, it is important to point out that there were significant changes in the use of the religious metaphors over time. While the religious image for the implementation approach was coined by the Telcotech top management, and picked up by the KN team vocabulary at the beginning of the initiative, the KN team members changed their perspective of key success factors of the KN implementation. They moved from a standardized approach to a customized, focused approach of implementation. This change in the implementation approach was reflected by a change to a different set of metaphors to characterize the different way of implementation. However, while the KN team altered its perception of the appropriate implementation approach, the Telcotech management’s outlook on the initiative did not change. The management continued to speak about the initial vision of the KN implementation as in an “evangelization approach”, and did not adapt the new metaphors. The increasing divergence in the use of metaphors for the implementation approach reflects the problems of communication that surfaced at a later stage of the implementation between the management and the KN team³¹³². The problem was aggravated by the fact that the KN team’s shift in the implementation approach was not an explicit issue of discussion between the KN team and the management. A careful examination and

deconstruction of the distinct sets of metaphors could have contributed to a better understanding of the differences in the visions of the implementation.

The customization approach

During the further progress of the KN project, the KN team's language shifted to the use of a different set of metaphors depicting a much focused implementation approach. Two themes describe this approach: The first is an illness theme describing the KN implementation in terms of a "virus infection", while the second is a war theme comparing the implementation of the KN initiative to a "guerrilla warfare tactic". The following sections describe each theme and then discuss their implications for Telcotech and the KN project.

The "virus infection" theme likens the KN initiative to an illness that spreads consecutively. As the former KN team leader suggested, the KN virus should focus on small teams and their specific needs, referred to as "hubs of the total KN strategy". The hub metaphor suggests that the specific needs of these small teams were the means of connecting them to the KN initiative. To infect a team with the KN "virus", meaning to motivate and inspire organizational members to use and appreciate KN, they needed to be confronted with the concrete benefits of knowledge management for their particular circumstances. Once the benefits for a specific target group had been realized, the infected teams themselves were to subsequently "infest other organizational members with the KN virus". Taking advantage of existing networks of collaboration, the virus was supposed to spread across teams that were already cooperating naturally and connect these until the whole organization was integrated "to finally link all 7000 sales employees in the knowledge sharing initiative".

In contrast to the standardized approach, the "virus infection" approach implies a stepwise implementation. Compared to the standardized approach, this process is more self-organizing, since it takes advantage of promotion through others. This stepwise implementation process is, however, slower in the beginning due to the time lag resulting from having to wait until concrete results are generated with the first initiatives. The process is then supposed to gain momentum and accelerate as a result of the growth of the "virus cells" throughout the organization.

Following the virus infection metaphor, the vision of the KN initiative and the role of the KN team are discussed in the following sections.

The virus infection metaphor attributes positive characteristics to something which is generally perceived negatively. While in everyday usage the notion of a "virus infection" has the negative connotation of spreading an illness and therefore representing a threat to human life, it was, in the context of KN implementation, the KN team's deliberately chosen approach to deal with the Telcotech organization. The negative connotation usually attributed to the use of an illness metaphor is reversed, presenting the spreading of an illness as something good for the organization. This turning of a negative connotation into a positive vision of the illness, implies the implicit superiority inherent in the KN team. The organization had to be infected

for its own good - which is known to the KN team. The passing on of the virus was based on the KN team's conviction that it would result in a positive outcome for the organization. As a result of such an infection, organizational members were to change established patterns of behavior with regard to knowledge sharing and exchange³³.

Following this image, the KN team assumed the role of infectors who passed the KN illness on to the rest of the organization. By infecting the first teams with the virus, i.e. by motivating a specific target group to apply knowledge management, the KN team acted as an initiator of the initiative, but left the responsibility of spreading the initiative to other members of the organization. By attacking one specific target group in the organization, and trying to make this group susceptible to the KN illness, the KN team's role in this instance was far more focused in comparison to that of the "knowledge preachers" of the standardized approach.

The other theme used for the focused implementation approach, is that of guerrilla warfare. The following paragraphs discuss this theme, focusing on the self-image of the KN team as guerrilla fighters and their stance regarding the rest of the organization.

In contrast to the peaceful, non-violent and preaching approach of the standardized implementation strategy, guerrilla warfare represents a violent underground activity which needs small groups of fighters, in this case the KN team members, to succeed. Following this image, the KN team implicitly assumed the role of guerrilla fighters. Waging guerrilla warfare, similarly to implementing the KN initiative, has a connotation of being a dangerous enterprise for the participants. Their organizational mission, to change organizational attitudes and behaviour towards the treatment of knowledge, was seen as unpredictable and risky. In terms of the approach to waging this war, the guerrilla image implies that there were few rules or guidelines that could be followed to guarantee the survival, and thus the success, of the KN initiative.

The warfare image depicts the rest of the organization as hostile: they were potent adversaries who had to be defeated by guerrilla tactics. The description furthermore indicates the minority position of the KN team within Telcotech. It presents the KN team as a small troop of fighters who could not count on much help from other parts of the organization. Following the guerrilla war metaphor, the "landscape", i.e. the organizational surroundings, is characterized by the unpredictability thereof.

The war imagery suggests that in order to fulfil the KN mission, a high degree of violence against members of the own organization was inevitable. The implementation work of the KN team is compared to specifically aimed attacks on the Telcotech organization, aiming to defeat hindering forces in the organization. Simultaneously the use of the guerrilla warfare metaphor suggests functions of justification and legitimization. Portraying themselves as small group of brave fighters in a difficult situation when compared to the preponderance of the rest of the hostile organization that did not share their ideas, the KN team insinuated that any means to ensure survival had to be thought permissible.

The evolution of metaphors from an evangelizing metaphor to the virus infection and guerrilla warfare metaphor reflects the KN team's changed awareness of how to implement the KN initiative successfully. It also implies a shift from "soft" to "hard" measures. This evolution reflects the insight of later having to offer "hard", tangible and concrete benefits to motivate Telcotech employees to participate in the KN initiative. The preaching approach that focused on persuading the Telcotech members to participate through an appeal to their empathy and understanding was therefore replaced by violent measures of infection and war-like attacks³⁴. However, in spite of the use of violent figurative language such as warfare, the KN team did not possess tangible measures of force that could have obliged the Telcotech employees to participate in the initiative.

In summarization of this chapter on the different implementation approaches, it can be concluded that the two sets of metaphors used to depict the implementation of the KN initiative, describe two distinctively differing approaches. The virus infection and the guerrilla warfare metaphors both depict a specific stepwise, concentrated, bottom-up approach of implementation that is focused on specific groups, while the evangelizing metaphor implies a broad, top-down approach that aims to simultaneously convert different groups of the organization to an identical KN message.

The metaphors not only reflect these different approaches. At the same time the different sets of metaphors draw attention to the parallel existence of two incompatible metaphorical themes employed by two different organizational groups, namely Telcotech management and the KN team. They foreshadow the difficulties in communication between these two groups, since they "do not speak the same language". The difference in metaphorical systems and vocabulary indicates that the two groups do not refer to the same codes, or share the same frame of reference. Besides, the different visions of the implementation approach are manifested in the differences in the marketing of the initiative throughout Telcotech.

The following table summarizes the themes used to describe the KN implementation approach, and attributes the metaphors to the organizational groups using them:

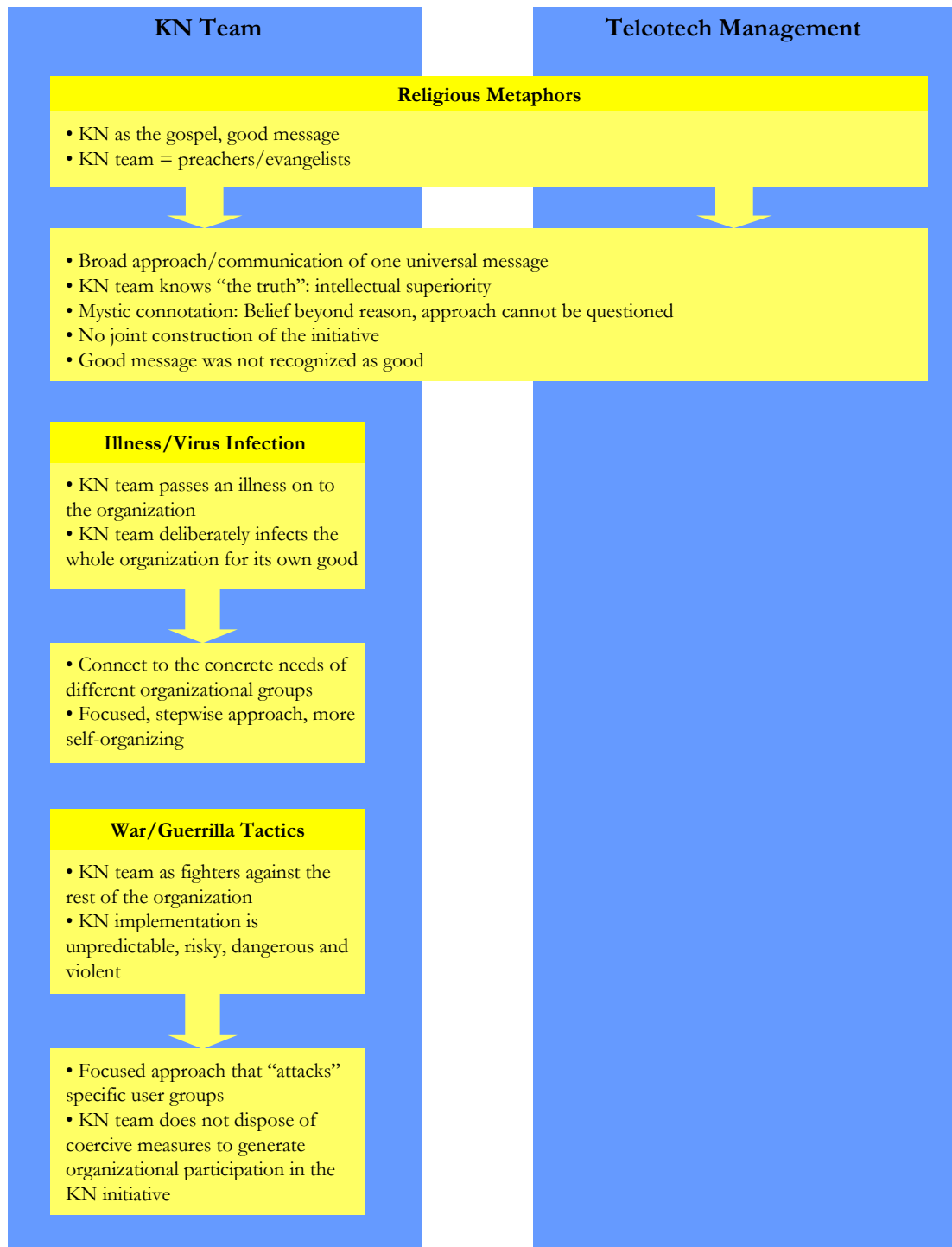


Figure. *KN Implementation Approach*

The role of the regions and local organizations

The KN team - region interactions represent a major theme of the case narrative. The theme is characterized by a specific set of metaphors employed by the KN team to depict the Telcotech employees in the regions: Referring to the different sales regions and local sales organizations within the regions, the KN team described the Telcotech organization as “a

variety of discrete knowledge duchies". The use of the term "knowledge duchies" points to the autonomy and sovereignty enjoyed by the different regions within the Telcotech structure. At the same time it indicates a strong demarcation when it comes to issues of knowledge management, especially with reference to knowledge sharing.

The problems encountered in motivating the regions to participate in the KN initiative are expressed by the KN team's description of the sales managers and employees working in the regions. They were seen as "a bunch of dukes and duchesses who rule their duchies with near-to absolute sovereignty. Gone for good is the managerial hegemony that is needed to get them to share their knowledge". This is a strongly negative depiction of the employees in the regions. Describing the activity of sales managers as that of "ruling", points to their absolute power as well as a certain extravagance. The ironic description of the regional employees as "dukes" and "duchesses" implies a vision of the regions as revealing arrogance due to an alleged "noble", and therefore better, origin. The lack of control over the regions, as evoked by the duchy metaphor, seemed to be disturbing to the KN team. As initiators of the KN project, the team was concerned by the fact that their initiative did not enjoy a certain "managerial hegemony", thus giving priority to the demands of the KN initiative above other regional concerns. The term "hegemony" implies the demand that the employees in the regions recognize the KN initiative's superiority.

In terms of a speech act the description of the regions does two things: By portraying the sales people in the regions in this way, the blame for problems encountered between the regions ("duchies") and the company headquarters is implicitly attributed to the headstrong wilfulness and unwillingness of the regions to collaborate with one another as well as with the Telcotech headquarters. The reason for the lack of acceptance of the KN initiative seems to lie in the regions' high degree of independence. According to the KN team, the "relative sovereignty traditionally granted to them [the regions] led to an inappropriate commitment to the KN initiative". Additionally, the description of the regions as separate duchies implies a lack of a united doctrine among the regions. The underlying assumption that the regions lack coherence and collaboration among themselves supports and contributes to the perception that it is in general very difficult to deal with the regions. This becomes evident later in the case when it is stated that "valuable customer solutions provided in the Hamburg-duchy were not reapplied in the Munich-duchy, and the wheel was reinvented over and over again. This situation was commonly bemoaned as "if Telcotech only knew what Telcotech knows". This description alludes to a lack of efficiency in the attitude of the "duchies", resulting in a loss of innovation and additional costs. The "duchies'" attitude is depicted as so ludicrous that it is "commonly bemoaned".

Yet, in spite of the KN team's negative perception of the regions, it faced the challenge to "access the knowledge where it was accumulated, namely in the various local organizations, the duchies", and to make it available to other regions where similar projects were undertaken. This implies the KN team's dependence on the collaboration of the regions. Since the duchy metaphor implies that any coercive measures to force the participation of the regions would

have led to resistance, it has to be questioned whether the KN approach to winning the “duchies” support was appropriate in the light of the connotation attached to the local organizations: Following the duchy metaphor, it can be asked what the appropriate treatment of a duke or duchess would be. A treatment acknowledging the “noble” nature of the “duchies” would have implied, in the first place, recognition of their independent position. Yet, the KN team refused to literally approach the regions with the submissive attitude demanded for interaction with “nobles”. As the team did not want to deal with the stubbornness and unwillingness to collaborate which they attributed to the regions, the “dukes and duchesses” as the targeted users of the initiative were not integrated into the design of the initiative. This implies that some of the needs of the “dukes and duchesses”, i.e. the regions, were not addressed.³⁵

The lack of regional integration into the design of the KN initiative cannot be explained by a perception of the regions as generally incapable of knowledge sharing. Focusing on the high level of trust and feeling of belonging within the “duchies” themselves, the KN team members recognized that “the sales employees within a given duchy shared knowledge through informal or long established contacts and friendships”. However, the KN team did not pick up on these levers and existing channels of knowledge exchange to gain access to their focus group, and to foster acceptance or understanding of the KN initiative.

In conclusion it can be noted that due to the sovereignty of the regions, it should have been anticipated that the KN initiative would be seen as interference in the regions’ autonomy. The KN team members’ metaphors to describe the regions depict the sensitivity and foreshadow the problems of the KN team-region interaction. However, the images expressing the negative perceptions of the regions may have contributed to some major difficulties of the initiative, such as a lack of acceptance. Finally, even though the KN team recognized the challenges in dealing with the regions, it did not treat the regions according to the duke and duchess metaphors the team itself employed.

The following diagram gives a short summary of the analysis of this section:

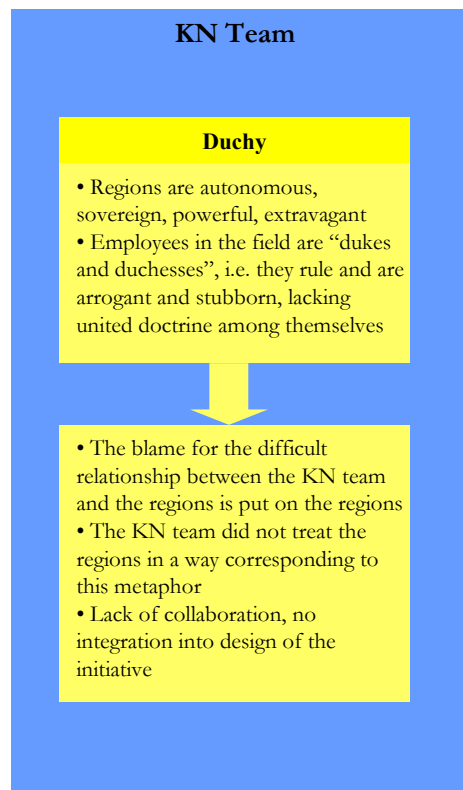


Figure. *Image of the Regions*

Perceptions of the KN team

Even though most of the metaphors describing the KN team have already implicitly surfaced in other sections of the narrative analysis, an exclusive focus on the perceptions of the KN team is useful for the following two reasons. Since difficulties of understanding and interaction between the different organizational groups were major issues in the KN project, this section on the differences in perceptions addresses and explores this issue exclusively. Secondly, comparing other organizational groups' differences in perceptions with those of the KN team represents an opportunity to check for coherence with previously described differences according to the organizational group membership.

As the KN team is a central actor in Telcotech's knowledge management activities, the narrative surfaced various roles that were attributed to the KN team: The focus of the following analysis is a comparison between the self-image of the KN team and the image depicted by other organizational actors.

As seen in descriptions in previous sections, the KN team depicts itself using three main metaphors: guerrilla war fighters, virus infectors and child raisers. Other self-descriptions describe the KN team as “turning around organizational mindsets” and as “orchestrating” the introduction of knowledge management at Telcotech. While these metaphors are distinctively different in terms of the degree of violence involved, all the metaphors convey a notion of

activity, involvement and forcefulness: As combatants in a war and infectors, the KN team brings about change to the entire organization through stepwise, violent acts. As child raisers the KN team members nurture and give the KN initiative direction. The change of mindsets depicts the team as exercising a major impact on the thinking patterns of the Telcotech employees. By its “orchestrating” the KN team co-ordinates and reconciles different organizational voices. All these metaphors share a notion of general strengths and authority. The KN team is characterized as having the power to change things and knowing what to do.

In contrast to this self-description, the Telcotech management attributes the role of preachers to the KN team, thereby suggesting a more supervisory and passive role that is less focused on one particular subject. The mismatch between the powerful self-image of the KN team, and the image employees in the regions had about the KN team, underlines the polarized attitudes towards the KN team by means of a sharp contrast: A sales manager’s cynical observation on the appropriateness and usefulness of the KN initiative: “I become sceptical when a blind person speaks about colours twice”, reflects the field’s view of the KN team as lacking understanding of and insight into the organizational practices in the field. Picturing the KN team as “blind”, conveys a vision of the team as lacking competence and contact with the field. It implies that employees in the field did not have confidence in the usefulness of the initiative for their needs. The contrast is heightened by the contrast in the comparison itself, namely the use of the words “blind” and “colour”. The sharp contrast between the self-image of the KN team and its image in the regions reflects the difficult interaction between these two groups. The regions’ vision of the KN team as “blind” corresponds to the field’s negative perceptions of the KN initiative as expressed in the section on negative connotations of knowledge networking.

The following table illustrates the differences in the metaphors used to depict the KN team:

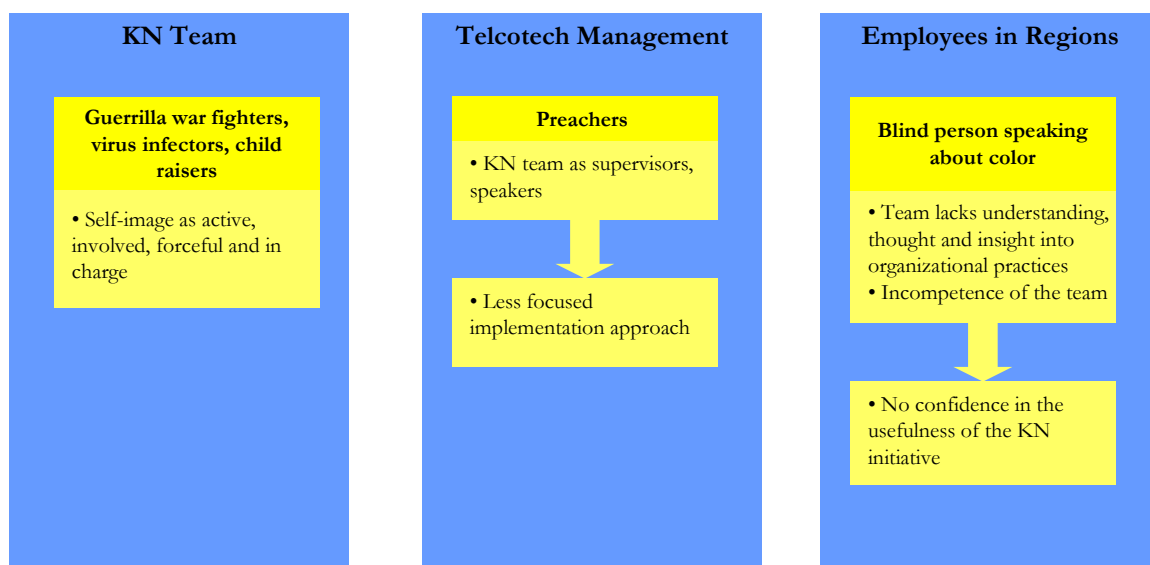


Figure. *Perceptions of the KN Team*

2. Evaluation of the narrative analysis

The chapter concludes with an evaluation of the extent to which the figurative language found in the narrative anticipates the project outcomes and reflects the lessons learned from the KN initiative.

Reflection of project developments

As shown in the previous analysis the different groups of metaphors correspond to the distinctively different perceptions of the initiative by particular organizational groups. The differences in connotations of the metaphors reflect the conflicting attitudes towards Telcotech's knowledge management initiative. This observation is consistent with the distinct differences in the depiction of the KN team. The metaphors used to characterize the KN team are as widely polarized between different organizational groups as the description of the initiative itself. The same organizational group that reveals a negative attitude to the KN initiative also expresses a critical perception of the KN team. The conflicts between different Telcotech organizational groups are reflected in the metaphors with which they give voice to their attitudes, experience and perceptions.

The change in the KN implementation approach is reflected by the change in metaphors used by the KN team to describe the implementation. The KN team's new attitude towards the regions is accompanied by a language change labelling the regions "customers" instead of "duchies".

Anticipation of the lessons learned

By revealing the contradictions in metaphors, organizational tensions and project difficulties can be anticipated. Pointing this out to organizations may enable them to make more conscious decisions about using metaphors to enhance effectiveness (Cleary/Packard, 1992). Several examples of the anticipation of the lessons learned through the prevailing metaphors can be found in the Telcotech case: The KN team's use of the duchy metaphor to characterize the sales regions indicated the team's critical perception of the regions. Knowing that the KN project necessitated a high degree of interaction between these two groups, the difficult interaction between the KN team and the "duchies" could have been anticipated. Similarly the change of metaphors used by the KN team to depict the customized implementation approach, could have anticipated the difficult communication between Telcotech management and the KN team, since both groups no longer "spoke the same language".

A regular examination of the surfacing metaphors from an early stage of the project onwards would have foreshadowed later project developments, and would have left room for the implementation of measures to monitor those developments.

Learning through metaphors

The metaphor analysis of the Telcotech KN initiative also provides an additional benefit: The detected metaphors help to reveal hidden dimensions of the KN project, allowing hypotheses, based on these dimensions, to be formulated about otherwise tacit dynamics of the project.

In Telcotech's case there are three hidden categories of insights that can be gained from these unarticulated issues. Firstly, metaphor analysis can help sensitize Telcotech employees to the detrimental effects of certain metaphors on organizational effectiveness. Examples of this would be the hypothesis that the child-raising metaphor as used by the KN team might have been detrimental to gaining commitment from a wide range of organizational members, since it depicts the initiative as "belonging" to the KN team. Similarly, the use of religious metaphors to characterize the implementation approach might have hindered a collaborative definition of the KN initiative. Finally, the management's use of two contradictory discourses (the economic discourse and the networking discourse) may have been counterproductive. Based on the recognition of the implications of certain metaphors, measures can be formulated for a better communication strategy with more coherence.

Secondly, metaphor analysis can help reveal inconsistencies between talk and behaviour. An example of this is the Telcotech management's claim that the KN initiative was a pillar of the company strategy, while signalling through their behaviour that this was not the case. Another example is KN team's labelling of the regions as "duchies", while not treating them that way, or the KN team's sharp criticism of the regions' hoarding behaviour and protectionism, while the team was simultaneously trying to protect itself from other "rival KN initiatives". The revelation of the gap between the organizational actors' theories in use and their espoused theories offers the potential for double-loop learning.

Finally, metaphor analysis can contribute to the revelation of hidden, underlying organizational forces and their impact on the organization. In Telcotech's case the KN team's choice of implementation metaphors, implying a high degree of violence might have been used to trigger a discussion about Telcotech's organizational culture and why the KN team referred to violent measures when wishing to generate change.

The following part analyses the learning generated in the reflection workshop from the joint definition of lessons learned about the KN initiative. It focuses particularly on the discussion of the content of learning generated by this method, its type and level and sustainability³⁶.

Evaluation of the lessons learned

The lessons learned as defined by the Telcotech members in the teaching note, evolve around the six themes identified in the individual interviews. The specifically formulated lessons learned can be found in the annex.

Content and type of learning

As the detailed analysis of the lessons learned shows³⁷, the case writing method is appropriate for producing self-reflection and self-critique. The level, on which this self-reflection occurs, differs. It can either occur as single-loop learning, or as double-loop learning.

The case writing method generated a series of double-loop learning lessons leading participants to question themselves, or important principles of their work. Examples of this type of learning include the KN team's new perspective of the Telcotech employees in the regions that has grown from seeing them as addressees of headquarters' ideas to partners in the design of the KN initiative, or the questioning of the initial KN implementation strategy that aimed to convert the entire Telcotech organization. These lessons question fundamental assumptions about the organizational functioning, e.g. how to implement change or what the recipes for success actually are³⁸.

Other lessons from the KN project are expressions of single-loop learning that focus on optimizing certain tasks of the KN project without questioning the task itself. Examples of this would be the optimization of the launch pattern, the focus on higher regularity of staffing patterns, or how to improve communication with Telcotech management. Such lessons evolve around optimizing behaviour without questioning the prevailing frame of reference. This can be illustrated with examples from the aforementioned lessons: neither the approach of selling high to management, nor of dealing with the KN project in a team setting is questioned.

A critical examination of the insights of single-loop learnings can become the basis of double-loop learning. This can happen in three ways: Through the revelation of the hidden perceptions and mental models implicit in the single-loop lesson, through the detection of defensive reasoning and through the detection of hidden contradictions.

Single-loop lessons can form the basis of the revelation of implicit perceptions and mental models. An example of such a potential for double-loop learning would be the questioning of the single-loop lesson about the communication with Telcotech management. Such questioning reveals the implicit negative perception of management as having to be deceived to grant support and thereby provides the potential for a close examination of the roots of this perception. Another example is the regions' lack of involvement in the design of the KN initiative which bespeaks of a hierarchical organizational culture that does not value feedback from the bottom of the organization. The detection of these traits implicit in the descriptions can depict attitudes, mindsets and behaviours that are deeply rooted in the organizational culture. Being aware of these traits can give hints about potential barriers to change that are rooted in the culture. At the same time the analysis of such descriptions can become the basis for detecting defensive reasoning. For example, the implicit depicting of management as being unable or too stubborn to change the implementation strategy, in spite of the field's need for a differentiated implementation approach, implicitly attributes blame to management. The confrontation of this implicit meaning can represent a first step towards further critical introspection and a close examination of the relationships among different

organizational groups. Potential changes of mental models about the self and other organizational groups can be triangulated with a change of language³⁹.

The detection of hidden contradictions can form the basis of the realization of unconscious contradictory behaviour and the questioning of its roots. For example, while on the one hand some case descriptions suggest a more centralized, coercive organizational structure, other descriptions on the other hand simultaneously stress the importance of the voluntariness of knowledge sharing. This apparent contradiction regarding the appropriate strategy to promote knowledge sharing deserves further consideration and explicit discussion among different organizational groups. Additionally, the analysis of the lessons learned revealed another implicit contradiction: While the KN team condemned the regions' refusal to collaborate with one another, the team recommended that, due to the competition provided by "rival" knowledge management initiatives, they keep their distance from these. The revelation of such similarity of protective behaviour can form the basis of the realization of contradictory behaviour and the questioning of its roots.

Even though such statements do not provide an exact scale for measuring the degree of learning, it clearly indicates that the case writing method in general, and the reflection workshop in particular, provided the basis for collective double-loop learning. The recognition of the necessity of disclosing one's true thoughts and the insight into own mistakes indicate a readiness for non-defensive reasoning and for questioning one's thoughts and actions. With the participants having undergone a process of self-reflection, their statements bear witness of an enhanced knowledge of themselves. This supports the hypothesis that the case method is appropriate for the enhancement of collective double-loop learning, since the reflection workshop included features, such as the joint reflection and dialogue about the KN project. When such a reflection process has taken place, and the cognitive modification of the organizational functioning is transformed into abstract knowledge and thereby made explicit – as it happened in the lessons learned- it is usually accepted that learning has occurred (Boyd/Fales, 1983).

Final evaluation of the method

In terms of the generic results attained through the case-writing method this study demonstrated that the case writing method enables the generation of lessons learned from an authentic project. As shown in the narrative analysis these metaphors can then become the basis for the revelation of inconsistencies between organizational talk and behaviour and other hidden, undiscussed aspects of the examined project. Through an examination and comparison of the metaphors surfaced in the various organizational narratives hidden meaning can be externalized. These interpretations can become the base for a process of collective sense-making and learning in which organizational members jointly refine their vision of organizational reality.

ANNEX

The lessons learned are presented according the following pattern: The first paragraph puts the lesson learned into the project context; the second paragraph is the copy of the lesson learned as formulated in the joint reflection phase while the last indented paragraphs represent the author's analysis of the formulated lesson.

Lesson 1: Communication with Telcotech management

While there had been regular feedback between the KN team and Telcotech management at the beginning of the KN initiative, this dialogue broke down during the later stages, resulting in damaging consequences for the entire project: Over time it had become obvious to the KN team that the initial claims about the potential of the KN initiative were too optimistic, yet management's outlook was still dominated by the very ambitious claims of the conceptualization phase. Since the top management's perception was not synchronized over the different phases of the implementation process, its view of the initiative became increasingly anachronistic as the initiative matured. The result was a widening gap between the management's perception and the initiative's reality.

Participants of the case writing method formulated the following lesson:

“Top management is a critical stakeholder in the management of knowledge. The successful implementation of knowledge management requires the formal consideration and management of the perception of the top management. It is thus important to “sell” knowledge management to this stakeholder, thereby evoking its benefits for the entire organization. To succeed in selling knowledge management to management, a good standing with top management, as well as credibility among employees on the shop floor is essential.

However, the quantification of the added value of knowledge management in general and the KN initiative in particular, is problematic, since the attempt to render knowledge management's worth tangible is often an elusive goal. Nevertheless, it is vital to communicate tangible benefits to top management, even if these benefits are only rough estimates and approximations, in order to obtain the legitimization and support of top management for knowledge management.

The continuity of communication is a decisive factor in the relationship with management. If the expectations raised in the initialization phase prove to be too ambitious, it is especially crucial to synchronize management's expectations and perceptions of the initiative with the individual phases of the implementation process.“

- Telcotech members recognize the faults committed regarding the management of their relationship with the Telcotech management, self-critically commenting on their failure to synchronize the management's outlook on the KN initiative with their own.

- However, in spite of the acknowledged risk of raising expectations about the initiative too highly, the lesson learned represents a clear recommendation to nurture high expectations in management in order to get momentum for the initiative. This implies a conscious suggestion to first deceive management about the potential of knowledge management and then to correct management's distorted outlook in a stepwise process.
- In terms of learning evaluation, the lessons learned regarding the communication with the Telcotech management are examples of single-loop learning.

Lesson 2: Communication with Telcotech employees

Putting knowledge management on the top management agenda made the initiative a highly politicized issue. Telcotech employees consequently formally pledged their co-operation with the initiative. However, the initiative later proved to lack support from its target customers, due to a lack of true belief in, and thus commitment to, the initiative in the field. After the launch of the KN tool implementation, the field expressed concerns about the utility of the KN tools. Furthermore, since they had not been included in the conceptualization of the KN initiative, they did not feel any obligation to support the spreading and the promotion of the initiative.

Participants of the case writing method formulated the following lesson:

“Establishing communication with the field early on in the knowledge management initiative ensures the inclusion of the specific needs and concerns of the targeted groups and thus diminishes the risk of neglecting important features of the designed knowledge management tools. As a result, the probability of acceptance, and thus of return of the provided tools, is significantly increased”.

- The mere description of the targeting of specific organizational user groups is an expression of single-loop learning by detailing how communication with the field can be done more efficiently.
- However, the self-reflective recognition of having badly managed the relationship with the field, questions the predominant attitude with which the Telcotech members in the regions had been treated. Instead of adhering to a hierarchical top-down approach that considers the gaining of top management's support as sufficient, and then driving the initiative through to the bottom of the organization, the KN team admits that this fundamental assumption about organizational functioning has to be questioned. This new vision implies a significant change in the perspective of how to implement change in the regions successfully.

Lesson 3: Implementation approach

Even though the overall global KN message was generally appreciated and understood throughout Telcotech, it did not lead to willingness by the Telcotech employees in the field to accept and implement the initiative there.

Participants of the case writing method formulated the following lesson:

“The initial aim of the knowledge management initiative, namely to develop a standardized KN approach that could be used by virtually everyone for virtually every purpose, implies a risk of a lack of customer focus. This means that the value propositions of a standardized approach are too undifferentiated and do not pay enough attention to the specific everyday needs of the different focus groups. On the other hand, a customized approach implies a risk of fragmenting the overall knowledge management initiative into a portfolio of highly specialized projects that seemingly lack a united doctrine with a low name recognition. The dilemma of the implementation approach thus evolves around the trade-off between accommodating the needs of individualized clusters of target customers versus the merits of a standardized approach with a higher overall organizational visibility“.

- The discussion of the two fundamentally opposed approaches to implementation is an expression of a process of double-loop learning. While at the beginning of the initiative it had been taken for granted that a standardized approach, as stipulated by the management, was the correct way of implementation, this basic assumption, and recipe for success, was increasingly questioned following the reactions from the field. The result was a different frame of reference on how to deal with the regions.
- Yet, the lesson does not include an explicit reflection on the reasons for management's attitude or the implicitly negative perception attached to this attitude.

Lesson 4: Concentration on specific target groups

With the progression of the KN initiative, the KN team became conscious of the fact that within individual groups of the sales and service force there were fundamentally different needs and expectations as to possible KN applications.

Participants of the case writing method formulated the following lesson:

“To successfully implement knowledge management initiatives, it is crucial to focus on meeting the needs of the different target groups of employees in a custom-made way. This implies offering knowledge management solutions to individual clusters of employees by taking their individual conditions into consideration. As these individual clusters represent groups that already work together and share a particular professional interest, knowledge

management initiatives in such a limited scope can additionally benefit from the feeling of mutual trust prevailing within these groups“.

- The questioning of the initial assumption that employees in the field are a coherent group who share the same universal needs indicates a change in mental models of Telcotech employees in the field.

Lesson 5: Design of the initiative

Since the KN initiative did not solicit the input of actual users of the knowledge management tools in the design of the initiatives, the initiatives later proved not to fully address the needs of the target customers.

Participants of the case writing method formulated the following lesson:

“To tailor the KN initiative as closely as possible to the needs of the different target groups, the integration of representatives from each group into the design thereof is crucial. This has two effects: Firstly, it provides an understanding of the real needs of the potential users and thus increases the chances of constructing the most useful offer. Secondly, it creates ties between the KN initiators and their focus groups, thereby increasing the commitment of both parties, which is crucial for the implementation phase“.

- While the KN team first relied on the hierarchical pressure to support the KN initiative team members recognized that authority-driven measures had to be replaced through a careful consideration of the users’ needs and concerns.
- The lesson implies a change in the KN team’s self-perception and in their perception of other organizational groups.
- However, the lesson does not discuss the organizational culture underlying the initial lack of integration of employees in the field.

Lesson 6: Tangible benefits

The KN team realized that without the communication of concrete, tangible benefits to the targeted customers, KN was difficult to implement and sustain. While several promotional activities were under way that gave incentives for sharing knowledge, their positive effects were often limited in duration.

Participants of the case writing method formulated the following lesson:

“To guarantee commitment by the various organizational user groups, knowledge management has to be connected to the day-to-day problems and needs of the individual employee. By addressing the concrete problems occurring on the shop floor, knowledge management offers its target customers direct, tangible benefits instead of some abstract

message without an immediate connection to everyday practice. Initiators of a knowledge management initiative thus first need to listen to their targeted user group and focus on constructing immediate benefits for this group. If the immanent value proposition of the knowledge initiative is understood, the individual employee will be more receptive to his/her role in the overall knowledge management process. Since this sensitization is more difficult to attain if there is no actual or latent dissatisfaction within a potential user group, initiators of knowledge management should first address target groups with a high potential leverage for knowledge management measures.“

- As an expression of the shift in the relationship with employees in the field, the targeted employees are now designated as “customers”. This changed mental map regarding the Telcotech employees in the regions and the role the KN initiators should assume in the implementation of the KN initiative, can be seen as the result of a “transformation in meaning perspectives” (Rigano/Edwards, 1998) leading to a redefinition of the self representation and the representation of others.

Lesson 7: Incentives

As the KN team recognized during the progress of the implementation process, target groups differ greatly with respect to their susceptibility to KN.

Participants of the case writing method formulated the following lesson:

“A consequence of the differentiation between the various target groups of the knowledge management initiative is to examine how the different target groups differ in terms of motivational factors for the support of the use of the KN tools. This implies adapting the communication strategy and incentive systems accordingly, instead of assuming a universal functioning of the field“.

- This lesson learned regarding incentives is a logical consequence of the shift in the perspective on how to deal with the target customers in the field.

Lesson 8: Launch pattern

In the case of the KN initiative, four different tools were launched and implemented simultaneously. This resulted in confusion and misinterpretations among beneficiaries as the specific aim and focus group of each partial initiative was not clearly differentiated.

Participants of the case writing method formulated the following lesson:

“Designing a set of knowledge management initiatives under a common roof, a critical question is whether to launch these consecutively or simultaneously. By approaching the

implementation of knowledge management as a phased sequence of interventions, the dynamic inherent in project phases can be exploited. Projects typically witness several phases: initially growing to a certain peak of organizational attention, then dropping in employees' perceptions. By juxtaposing the s-curve "peaks" of the different KN initiatives, the likelihood is increased of sustaining high levels of attention from both top management and the beneficiaries. The additional merit of a consecutive launch lies in communicating the KN message more clearly, since each single launch is accompanied by an explanation of the specific aims of the respective initiative."

- The lesson learned regarding the launch pattern is another example of single-loop learning from mistakes.

Lesson 9: Organizational structure as an obstacle

The Telcotech structure was found to be based on a model that proved anachronistic for the disclosure and re-deployment of knowledge.

Participants of the case writing method formulated the following lesson:

"Knowledge management requires the alignment of organizational structures to favour intra-organizational cooperation with the sharing of knowledge. An extremely decentralized structure of disparate independent regions is not conducive to an organization-wide knowledge sharing across regional and local boundaries".

- While this lesson formulates a single-loop learning insight about the necessity of aligning the organizational structure with knowledge management, it does not question the underlying assumption of this insight. The lesson explicitly attributes responsibility for project difficulties to others, in this case the regional organization. The lack of commitment to the implementation of the KN initiative by the regional sales managers is therefore seen as rooted in the freedom granted to the sales regions. This description implicitly suggests that a more centralized and coercive treatment of the regions, e.g. the Telcotech management ordering the regions to support the initiative, would have facilitated the KN implementation. This hidden, hierarchical top-down understanding of management expressed in the case description, is in sharp contrast with the explicit statement of the case that knowledge sharing cannot be ordered or mandated, but has to occur voluntarily since "knowledge is locked in the minds of the organization's employees". It indicates that in spite of the explicit recognition of the voluntary nature of knowledge management, there is still a prevailing, hidden assumption about the power of the hierarchy to bring about behavioural change.

Lesson 10: Organizational culture as an obstacle

Since the top management strongly promoted the topic of knowledge management at the beginning of the initiative, everybody seemed thrilled by the broad potential and pledged their co-operation. However, past structures, systems, policies and practices fostered behaviour that obstructed knowledge management.

Competition among regions hampered cross-regional collaboration, inasmuch as the regions were protective of their knowledge assets and concerned about the consequences of losing power through knowledge sharing. Sales representatives were keen to protect themselves against “predatory colleagues,” by hoarding their valuable knowledge, or by only sharing it with long-established contacts with colleagues within their respective region.

Participants of the case writing method formulated the following lesson:

“An organization’s reformulation of its strategy to that of a more formal consideration of knowledge, necessitates a realignment with attitudes and behaviours required to foster knowledge sharing practice. To instill such new attitudes and new mindsets, organizational structures, managerial processes, and cultural artifacts have to be geared towards the formal accommodation of knowledge.

The implementation of knowledge management initiatives therefore requires formal consideration of organizational structures, mindsets, and processes. If these are not conducive to the accommodation of knowledge management, inappropriate structures and attitudes need to be amended. By implication a careful consideration needs to be made of the depth and scope of the change necessary, and the resources required to engineer such change need to be provided. Without formal consideration of this change management aspect, the management of knowledge is likely to be impaired“.

- The descriptions indicate that no culture change has occurred. Employees in the regions perceive knowledge as power. While there are indications, for example through the practice of knowledge sharing within the regions, that trust is crucial for knowledge management to work, mistrust prevails. The lesson does not discuss that the lack of trust is not limited to the regional level, but is implicit between the Telcotech management and the rest of the organization: With reference to the politicized character of the KN initiative due to the priority it was given on managerial agendas, it can be assumed that either the rest of the organization had not dared to criticize the communicated vision that the Telcotech management had had about knowledge management or the criticism had been ignored by management.
- The reference to organizational culture as a hindering force of the KN initiative, points to circumstances and collective patterns of behaviour that are beyond the reach of a single Telcotech employee, or even a single group of the organization. The situation as described in the lesson learned, shifts the responsibility for problems encountered in the initiative to parameters of organizational life that lie beyond an individual’s scope of

change, thereby exempting specific organizational actors of blame for problems encountered. The lesson indicates a consciousness among Telcotech members that a broader scope of change in attitudes, mindsets and behaviour needs to take place to succeed with the KN initiative.

Lesson 11 Management of the KN team

The lesson regarding the management of the team responsible for a knowledge management project evolves around two main insights: The need for personal continuity and commitment, and the necessity to cover different roles within the team.

Participants of the case writing method formulated the following lesson:

“To grant stability to a long-term project such as the design and implementation of a knowledge management initiative, the continuity of key personnel across the different project phases is crucial. This necessitates a careful consideration of the availability of key figures over the whole implementation process so that they may be retained. It implies that the number of temporary team members should be minimized to ensure a long-term commitment and dedication to the project. Continuity should also be maintained regarding roles in the implementation phase.”

- Telcotech members cited staff discontinuities in the KN team in general, and a change of KN team leadership in particular, as reasons for the communication breakdown between the KN team and Telcotech management. The lesson defined from these experiences is a single-loop learning insight on how to avoid such disruptions in future. However, a Telcotech outsider may wonder why in the time of leadership transition the remaining KN team members did not talk directly to the management themselves. The fact that this alternative was neither discussed nor suggested points to distinct aspects of the Telcotech culture. As the option of approaching the Telcotech management directly was not considered feasible, it can be deduced that the degree of hierarchy and formality of the Telcotech culture is relatively high. Therefore direct communication with the management across hierarchical barriers, would have constituted stepping outside the established frame of organizationally accepted behavior. However, the joint reflection on this issue, neither recognized these barriers, nor questioned their utility or behavioral consequences. This implies that regarding the issue of team management double-loop learning did not take place.

Lesson 12: The management of rival initiatives

In the case of Telcotech, the KN initiative was increasingly surrounded by a myriad of progressively emerging knowledge management projects, both on departmental and corporate

levels. Coincident with this emerging competition, the conceptual and practical value proposition boundaries of the various initiatives became increasingly blurred. It thus became increasingly difficult for the target customer to detect the differences in target and scope between the various knowledge management projects. The result was a considerable confusion about the relevance and applicability of the different knowledge management offers, thereby detracting attention from the KN initiative.

Participants of the case writing method formulated the following lesson:

“The implementation of knowledge management initiatives requires formal anticipation and recognition of related projects that could develop into “competitors”. In turn the pre-empting of interference by rival knowledge management initiatives requires co-ordination on a corporate level in order to provide a clear-cut value proposition of each initiative. If such co-ordination is absent, great care has to be taken to position, and clearly communicate, the individual value propositions of a given initiative relative to competing projects in order to sustain a “competitive space” for each”.

- The lesson regarding the management of rival initiatives focuses on the mistakes made in the past, and suggests measures such as coordination on a corporate level and clear communication, to prevent such mistakes. Looking at the descriptions of other knowledge management initiatives, the overriding impression is that a rather hostile image is painted of these initiatives. They are seen as “competitors” or even “rivals”. Such descriptions depict the prevailing competitive thinking and internal rivalry among employees working for different knowledge management initiatives. Simultaneously these descriptions remind one of the KN team’s description of the Telcotech regions’ behavior as similar to that of closed “duchies” focusing on their self-interest. While the KN team heavily criticized the regions’ behavior as being stubborn and uncooperative, their own comparable attitude displayed towards their own “internal competitors” was not self-reflectively admitted.

Endnotes

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 - ² To explore the organizational learning that occurred in the YWCA between 1946 and 1970, Boyce/Franklin (1996) used a method of shared storytelling with former YWCA leaders. In the course of their study the authors show that organizational learning can be surfaced in the stories being told by various organizational actors.
 - ³ Studies confirm that using textbooks rewritten in a narrative style result in a significantly higher recall rate, allowing up to three times more information to be remembered (Shanahan/Maira, 1998).
 - ⁴ In an exploratory study, Kendall/Kendall (1993) identified the metaphors used in systems' development processes, determining which metaphors were articulated in different user groups. By comparing the language of information system analysts in 16 different organizations, the authors extracted a group of main metaphors. The analysis revealed that different kinds of systems' development methodologies entailed distinctly different principal metaphors, differing in terms of goal orientation, and vision of the environment. The choice of metaphors spelled out how systems analysts should interact and proceed as well as telling analysts how to think about an organizational situation. By guiding the analysts on the appropriate ways to interact and behave, the set of metaphors used presented opportunities for action as well as constrained the analyst from seeing and enacting alternative possibilities (Kendall/Kendall, 1993).
 - ⁵ Srivasta/Barrett (1988) argue that metaphorical language is superior to literal language, since it captures experiences and emotions better and can therefore communicate meaning in complex, ambiguous situations where literal language is inadequate (Palmer/Dunford, 1996).
 - ⁶ An excellent example of how conception is based on the implicit metaphorical systems used to comprehend and engage reality is given by Smith/Simmons (1983). The authors conducted research in an organization described by its members as a "Rumpelstiltskin" organization. Following this tale imagery, the researchers started to retrace characteristics of the fairy tale in the researched organization, attributing organizational actors to the roles in the fairy tale. As developments unfolded, they could identify various phases and processes in the organization's history that paralleled the tale. Yet, as the authors emphasize, the Rumpelstiltskin metaphor did not merely *reflect* the events occurring within the organization, but it also *contributed* to the creation of the company reality. Assuming the mental reality implicit in the Rumpelstiltskin tale made the group leader the repository of the group's mutual projections (Smith/Simmons, 1983). By using the Rumpelstiltskin image the authors conclude that organizational members had become "victims of their self-created reality" which was implicitly built on the Rumpelstiltskin assumption.
 - ⁷ Brown and Jones (1998) describe alternative interpretations of the failed introduction of an information system in a UK hospital. Their analysis highlights the differences between the explanations offered by different groups, which are reflected in alternative narratives. While the first group of narratives attributed failure to the occurrence of particular events which were described to have led to the inevitable failure of the IT project, the second group of narratives attributed the failure to the deliberate actions of specific groups or individuals within the organization, claiming that conspiracy was the real source of failure. As shown by this example, the labelling of success or failure and their respective sources is not inherent in the events themselves, but a result of the storytelling process and an interpretation of the storytellers (Rhodes, 1997).
 - ⁸ Shanahan/Maira (1998) apply this insight by suggesting working backward from a concrete statement of the future to the events that created it. Organizational members tell a story identifying exactly what had happened in each proceeding stage, making the next step plausible. By spinning the narrative backward from the envisioned end-point to current reality, new patterns of thinking are encouraged, making participants of the storytelling exercise aware of and receptive to the anticipated events. Additionally, the stories developed provide clearer images of the changes that need to take place than survey numbers do (Boje, 1991a).
 - ⁹ Akin/Schultheiss (1990), for instance, apply storytelling to reveal what constitutes "good work" in a specific department of an organization. By comparing the individual stories of department members about outstanding accomplishments in the their department, the group engages in a joint reflection and interpretation of these stories, thereby sorting out the circumstances and actions that led to the success.

- ¹⁰ The overall condition for the described insights to occur is for the reflection process to be free of particular types of power inequalities. This implies participants' readiness to question themselves. Otherwise, as Hughes (1995) points out, just reflecting on one perspective could lead to the manipulation of stories which, in turn, will prevent the acceptance of new ideas and impair the ability to change.
- ¹¹ Even though individuals might know that they dispose of tacit knowledge to accomplish a specific task such as recognizing a pattern, they often do not know how they do it and are thus not able to articulate it directly. Examples of tacit knowledge would be riding a bike, recognizing a face or saying a grammatically correct sentence in one's native language (Ellerman, 1999).
- ¹² Every culture or profession, for instance, codes its operations by tacitly assuming a rather extensive network of information and experience that has been acquired through and is grounded in the extensive experience of the membership of the aforesaid group (Mitchell, 1996). In a similar way, different organizational groups share different "networks of assumptions" which are not accessible to others, since the assumptions are coded by their members as common sense and located in silence. As a result each network of assumptions, i.e. each distinct group, shares different realities (Hawes, 1991).
- ¹³ The company will be named Telcotech throughout this work to protect the identity of the researched organization.
- ¹⁴ The KN task force designed the encompassing knowledge networking initiative as a portfolio of four intranet-based initiatives.
- KN "Yellow Pages" were designed to identify people with an expertise in a specific field and resulted in a directory of expert employees.
 - KN Service Knowledge aimed to provide individualized customer solutions, including tips and tricks for service employees and a virtual discussion forum.
 - KN Competitive Intelligence focused on the leveraging and re-deployment of knowledge regarding product and service solutions with specific features and information on competitors' offerings.
 - The KN Knowledge Workshops were designed to detect new areas of intervention and monitor Telcotech employees' needs in the domain of knowledge management, serving as a convenient platform for spreading the overall KN message.
- ¹⁵ The seeking of different meanings held by different organizational members seems especially important to prevent a pro-management bias (Boyce, 1996). Guba and Lincoln (1989) speak in this context about a "maximum variation sample".
- ¹⁶ Nine of the interviewees were members of the knowledge networking task force, while eleven were other Telcotech employees, either Telcotech managers assuming the role of mentors (three persons) for the Telcotech project, or Telcotech employees working in the various sales regions (eight persons).
- ¹⁷ The questions asked by the interviewer were aimed to influence the interviewees as little as possible. For clarification purposes, or for illustration with examples, follow-up questions were asked that aimed at eliciting more narrative while providing as little direction as possible. To ensure that the meaning conveyed by the interviewees was understood accurately, the interviewer applied the active listening technique whereby the interviewer periodically summarized what she believed the interviewee had told her. Being aware of the potential biases of case study interviewing, both in terms of researcher effects on the site and of site effects on the researcher (Miles/Hubermann, 1994), the interviewer made a special effort to avoid phrasing leading questions (Easterby-Smith, 1991).
- ¹⁸ The initial coding served less for the definition of themes, but represented a substantial element of the metaphor analysis.
- ¹⁹ The purpose of this phase was to develop and describe concepts that could serve as categories according to which the data could be indexed, constituting the basis of descriptive theory building.
- ²⁰ The underlying assumption of this approach is that organizational members have expertise about their organization and thus what is needed to improve it. Much of this knowledge is tacit and not easily accessible. A structured process of in-depth reflection and dialogue can surface this tacit knowledge that the organization needs to articulate to improve itself (Keating/Robinson/Clemson, 1996).
- ²¹ A similar study approach is well documented in Boyce (1995). In this application the researcher organized a so-called storytelling event where individual employees' stories of experiences in a particular organization were told. In a second phase participants identified the central themes of these stories and then jointly interpreted their meaning.
- ²² In this context the inherent danger of a joint narrative construction has to be addressed. Brown and Jones (1998) point out that the wish to produce a coherent narrative can lead to an unjustified simplification of events in order to avoid personal responsibility and to preserve self-esteem. In such a case, success is

attributed to own actions whereas failure is exclusively attributed to external forces (Brown/Jones, 1998). However, since the Telcotech interview process and the reflection workshop aimed at encompassing the entire spectrum of perspectives on the KN project, this risk was minimized. As the later analysis shows, the Telcotech case story retains the different versions of the same events and does not eliminate the inherent paradoxes of the KN project.

23 A procedure of sorting per paragraph was followed, after which the collected metaphors were sorted in coherent theme groups clustered around recurring main metaphors.

24 This analysis follows the methodology documented in Taylor's (1999) study on organizational change. Focusing on the question of what the differences are in the way in which people make sense of organizational change, Taylor (1999) reports different perceptions about an organizational transformation being apparent in various organizational narratives. Coding each story as to whether change was described as discontinuous or continuous, the author found the correlation between the perception of continuity level and level of management confirmed at a rate of 87%. While senior managers told stories of discontinuous change, individual employees merely told stories of incremental change.

25 However, this did not manifest in a top-down drive by management to implement KN as would otherwise have been the case in strategy implementation. Employees were therefore also not obliged to engage in the KN initiative.

26 Other descriptions, such as "facilitating the exchange of service-knowledge", or "leverage and re-deployment of the knowledge assets" fit into this economic discourse of knowledge as a valuable object that has to be exploited for Telcotech purposes.

27 A "speech act" is the use of a language statement in order to *do* something without explicitly saying so (Austin, 1962), e.g. by saying "It is raining" the other person is implicitly asked to take the umbrella. The meaning of speech acts depends on the actual context in which they are embedded (Brodsky/Lacour, 1992).

28 The lack of integration of the actual users into the design of the initiative was jointly defined as an important lessons learned in the reflection workshop.

29 This citation is drawn from one of the interview transcripts.

30 It may even seem to organizational members that statements such as "My knowledge pays for Telcotech" may primarily represent a "good message" for Telcotech, but much less for the individual Telcotech employee himself/herself.

31 As later pointed out as a lesson learned by the KN team, a major challenge of the successful KN implementation was the widening gap between the management's perception of the initiative and the KN team's perception in terms of the implementation approach.

32 As reflected in the previous statement of the KN team members, the change in the implementation approach was mainly due to the recognition that the standardized approach favored a large scope, but ignored the specific needs and expectations of individual organizational groups.

33 This, however, further implies that the "KN virus" could have been perceived as a threat by some organizational members, since it attacked established patterns of behavior and required a culture change in terms of treatment of knowledge.

34 The change of metaphors from non-aggressive to a rather high degree of violence, combined with a hostile connotation attributed to the rest of the organization, might also indicate an increasing degree of frustration felt by KN team members at this stage of the project.

35 The KN team retrospectively recognized this circumstance as a major weakness of the initiative.

36 The original version of the lessons learned as well as a description of the respective context can be found in the annex of this work.

37 See annexe

38 Boyce and Franklin (1996) describe this ability to change shared mental models through reflection and introspection as an important skill of organizational learning.

39 E.g. the labeling of the employees in the field as "duchies" changed to their being labelled "partners".