

Knowing Action
Activity Based Management of Knowledge

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Abstract

The paper is based on an activity based and relational conception of knowledge. We expose Activity Based Knowledge Management through two empirical cases from Norwegian Professional Service Firms. The cases illustrate two Knowledge Management initiatives aiming at enabling prioritised and ongoing activities within the organisations: The development and use of two ICT support systems. The design and content of the systems are based in the activities they are intended to enable.

We define Knowing actions as the as a skilful joint venture of acting agents, and expose how these actions can be enabled. Actions and activities are always performed within a context and in given circumstances, and we expose how the need of enabling the collective working patterns can be evaluated by these concepts. By the empirical exploration we show that Activity Based Knowledge Management enables Knowing Action and Knowing Activities through intrinsic motivation, mutual enabling, and distributed responsibility.

Key Words: Knowing Action, Enabling Activities, Mediators in Action.

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1. Introducing a perspective

Nonaka and Takeuchi's (1995) "The Knowledge Creating Company", staged an exploration of the conversion between tacit and explicit, individual and collective knowledge as the source of strategizing and knowledge creation in companies. Their distinctions were intuitively easy to grasp, and useful in order to establish knowledge as a multi-dimensional phenomenon on the agenda of organisational practice as well as theory.¹ "The Knowledge Creating Company" has inspired the creation of a wide range of Knowledge Management systems. Despite their descriptions of knowledge as multi-dimensional, the mainstream practical Knowledge Management attempts developed on the basis of these insights tend to treat knowledge as something that can belong to an individual or an organisation. The four processes of conversion pursued in their work (externalisation, internalisation, combination and socialisation) all maintain a rather rational, cognitive and linear scent when applied by practitioners. The process of innovation is one pursued through making explicit what is tacit, and making collective what is individual. Through our research cases² we have experienced how this understanding (in a majority of cases) results in systems designed to stack knowledge, or rather information, in controllable, surveyable entities so that one can "know what one knows."

Unfortunately, knowing that you know what a spade is brings you nowhere, unless you have a spade, and a hole to dig. Knowing what a spade is crucially involves knowing how to use it (Wittgenstein, 1953). The major task of Knowledge Management tools is to enable us to know where to find a spade when we need it, and to know when we need one, and possibly help us find another appropriate tool if no spade is available. In our research on the design and use of Knowledge Management systems and tools, we have worked with activities as our main perspective. That is the digging of a hole.

Most Professional Service Firms (PFS) (Løwendahl, 2000) have their income through projects and the knowledge workers use from 60-90 % of their time in projects. Through the projects, the actual choosing and executing strategist will to a large extent be the project participants. The choices made in projects are constitutive parts of the potential value creation and the overall future performance of the firm. In this paper the specific project activities as such is not our primary focus, it is rather the activities, or processes, which are performed in an iterative continuum across specific projects deliveries and across business units (Barth & Hylland-Eriksen, 2001). Activities such as creation and sharing of knowledge, realisation of strategic choices, socialising, resource allocation, economic reporting, contact with external partners and customers are undergone within the scope of the project activities (Skaret & Haugstad 2000). This involves that activity time is reoccurrent and cyclic (Engeström, 1993), and that the actual timeframe of such activities are parallel to that of the project activities. The economic margins are tight and the room for additional processual

¹ Nonaka and Takeuchi build on highly valuable contributions to the comprehension of knowledge creation in organizations, e.g. the early work of Polyani (1962) and Arrow (1962), and more recent perspectives, such as "Experimental Learning" (Kolb 1973), "Theory of Actions" (Argyris and Schön 1996) and "Communities of Practice" (Lave and Wenger, 1991). Nonaka and Takeuchi made an immediate appeal to practices outside the research stream of organisational learning.

² www.kunne.no

activities or separate research and development departments is next to nothing. Thus enabling these activities are crucial to value creation in PSF.

This paper will expose how we have identified the features of an activity in need of enabling based on an understanding of the context and the circumstances they are performed within. The context of an activity represents the perspectives from within, the ones always in need of interpretation; the relational, the emotional, the conceptual, symbolical, mythical and the cultural. The circumstances of an activity can be understood from an outer perspective; the circumstantial is the physical, the measurable and the countable. (Wilber, 1996). The circumstances and the context activities or actions are performed within are always inter-related, they are the inner and outer perspective of the same situation.

This paper investigates enabling of knowing actions as well as knowing activities. We do not investigate espoused theory of action or theories-in-use (Argyris & Schön, 1996), holding that the intention one has when entering interaction is of secondary importance with respect to the outcome and the knowing, in the sense of adequate or skilful (Polanyi, 1962), of the actions and activities performed. In a binary perspective the counterpart of actions would be behaviour. The first being intentional and knowing, the second being unintentional. We do not want to distinguish between behaviour and action, recognising that behavioural gesture or response can be as knowing as any intentional act. The agents' intentions do not determine whether actions or activities are adequate or knowing, the joint venture of the acting agents does.³

We enter the stage of actions from the point of view of Mead (1934), and say that the gesturer and the respondent jointly create the meaningfulness of communication in any dialog or other kind of communication with others or with the world. We use the concept of *knowing action* to emphasise those actions that are *mutually enabling* for the gesturer and the respondent. That an action is mutually enabling implies that it provides the actors with further possible choices for gesture and response, in this action or in future actions where they act as constituting parts.

This paper presents work in progress, and has a strong focus on our empirical material. We present two cases, the development and use of two ICT systems: "The Project Exchange" is developed as an attempt to enable circumstantial change, while "Scheherezade's Divan" is an enabler of contextual expansion. The two cases are presented and discussed separately. In the concluding remarks we compare the two cases. This to expose features of Activity Based Management of Knowledge that are independent of the initiating evaluation of the activity as mainly contextual or circumstantial.

³ By not distinguishing between action and behaviour we allow unintentional acts to be part of action. This implies that an interaction between a tool and an agent might qualify as action. In this paper we are not discussing the role of tools as actants (Latour, 1987). We concentrate on the tools' enabling role as mediators in action and activities.

2. Our Action in Practice

Our methodological background is action research. We aim at both improving practice in the participant firms and developing new concepts and theoretical insights. In our multidisciplinary research programme KUNNE⁴, we work with and within a wide range of Professional Service Firms (PSF), their customers, and their physical and virtual business networks, trying to understand, improve and enable their Knowledge Management efforts, the knowing activities and actions.

Action research as epistemological orientation (Greenwood & Levin, 1998) presupposes active involvement in the research area. The motif of our research is partially a contribution to change in organisations, in particularly the enabling of activities so that these become knowing. The bearing principle of action research is its contribution to knowledge creation as basis for (new) action for the practitioners being involved (Klev & Levin, 1998). The criterions of validity are closely tied to its use and function. That is, will the joint venture of theory and practice work? In the case of the research within KUNNE one of the most important validity criterions will thus be whether the Knowledge Management efforts collaboratively made by the organisations and the researchers contribute to value creation in the organisations.

One of the common features of our cases is our close work with practitioners in their “natural” activities. In KUNNE we preferably engage in an ongoing and prioritised activity within a company. This entails that there are resources and people allocated to the project and that the project itself is a result of a challenge identified by the company. The practitioners take active part, challenging us theoretically and in the practical process. This is due to factors such as high expertise and education among the knowledge workers we work with and the fact that the PFS finance great part of the action research projects (Skaret, Sen & Roberts, 2001). We operate as co-learners with the practitioners with respect to the actions and measures to undertake as well as the challenges they have identified.

In a majority of our research cases we enter organisations through their own identification of challenges. Challenges due to new (or old) organisational structuring, new tasks to be accomplished and development needed. We direct the attention to the activities in question, both to identify and enable conflicting circumstantial and contextual situations to be addressed, and in order to gather an understanding of the actual practices and actions within the company. This is how we enter the stage.

⁴ Our basis is KUNNE, a multi-disciplinary action research portfolio, involving more than 20 Norwegian Professional Service Firms. www.kunne.no

3. The Project Exchange

This section describes and discusses the introduction of an ICT system. This description will proceed through a short explanation of the company, an identification and evaluation of the activity in need of enabling, the tool designed, the anticipated behavioural response to the system and the knowing activities that it enabled.

In this case-description we explore the development and introduction of a “Project Exchange” in a large Norwegian group, which we will call Gospel. The entire group has reorganised from a functional unit organisation to a matrix organisation. The system is introduced in one of the business areas of Gospel, consisting of several business units, their services span from development of speech recognition technology, data, Internet, content and mobile services and e-commerce, employing over 1400 people. In order to stay competitive the business area has undergone big challenges moving from product oriented value-drivers with accompanying services to the sale of service through the Internet. Selling services implies custom-made solutions and project-based work.

The employees have traditionally worked within a strict line of command and their work assignments have depended on the tasks of their unit. In the business area, demanding and often innovative projects were traditionally assigned to external consultants only, despite the fact that the skills to perform these services were available in the internal resource-pool. The project leaders lacked the overview of and the information about the in-house expertise. Neither was there an understanding that they needed to assign these jobs to their own employees in order to keep the most qualified personnel.

The hiring of personnel for projects needed a change from the hiring of external consultants to the hiring of internal personnel. Starting in models and understandings of what knowledge is, “finding” this knowledge, or the knowing workers, often tends to be the task undertaken to solve this challenge. Thus, one constructs a register over qualified personnel in which the project leaders, or maybe even the unit leaders, can search to find the workers with the right qualifications. In addition, one has to have a register over the available capacity of these workers, in order to make sure that the ones you find are actually available. This reflects traditional resource allocation as more of a top-down approach to project staffing. Unfortunately there is no immediate relation between the one hiring and the one hired⁵.

We evaluated the enabling needed as mainly circumstantial, since it involved the actual introduction of people to each other and the need to cut the economic burden of external consultants in addition to keeping competence and experience in the company, responding to employees’ demands for challenges and expanding tasks. Given that the challenge is circumstantial, the system must address circumstantial change. Addressing the problem we discussed: Which activity is to be performed? It is staffing the projects (a resource allocation activity). How do we know who knows

⁵ The researchers from KUNNE operated primarily as dialogue partners to the project leader and the project team of the Project Exchange. Moreover, we organised a search conference to gather experiences from the Project. Dialogues with Karianne P. and Johanne M. have been most helpful.

what? How does one find the knowledge workers qualified for the project one has? How can available resources find interesting projects? The challenge was attempted solved by the introduction of the Project Exchange.

The very simple idea behind the system developed is that the knowledge worker knows what skills and expertise she possesses and that she is aware of whether she wants to be part of innovative and demanding projects or stay within the activities of the unit. At the same time the project leaders know what competence they need. The governing metaphor of the Project Exchange is that of a stock market. The employees are seen as the investors, investing their human capital (competence) expecting a return on their investment through increasing it. Likewise the stock market is one of the project leaders, who offers their projects on the Exchange, gets fresh capital to accomplish the projects, and by this attracts other projects as well as investors.

The Project Exchange is a software and seeking agent available on the company's Intranet. The user interface is such that project managers can insert projects and search for available or interesting resources. Employees within the organisation can register their profiles, and search and apply for interesting projects. The Project Exchange provides a meeting place between knowledge workers and managers, regarding interesting projects and future options. The system is designed to be a mediator between the employees and the project leaders, enhancing new action and new ways of completing the activity. Using the Project Exchange there is not one central "allocator" attempting to have an overview and the idea that the skills of the knowledge workers can be put into surveyable entities is abandoned.

We can view the system as part of an answer to a process of inquiry. Inquiry is here used as a phase where reflection on actual situation proceeds towards a resolution. Inquiry is in this sense "the intertwining of thought and action that proceeds from doubt to the resolution of doubt...doubt is construed as the experience of a "problematic situation", triggered by a mismatch between the expected results of action and the results actually achieved." (Argyris & Schön, 1996, p. 11) The outcome of this inquiry is the design of the system to change internal practices in such a way that the employees and the project leaders themselves are the initiators towards circumstantial change.

3.1 The Project Exchange as activity and action enabler

We will now discuss whether the activity support system, the Project Exchange, is a suitable enabler of the circumstantial demands identified. We will explore two main questions: Whether the tool gives rise to knowing activities and actions, and how the tool gives rise to new contextual and circumstantial changes.

The Project Exchange is an ICT system including channels of communication from bottom-up, the offer from the knowledge worker, and from middle-down, demands from the project manager. Viewing the system as a circumstantial enabler, it forms part of the organisational structure (Argyris & Schön, 1996). The content of the Project Exchange is very traditional. It contains descriptions of projects and the CV's and profiles of employees. Nevertheless it can be viewed as very different from traditional Knowledge Management systems, which are often designed for someone

to have an overview of the resources available. An employee has no formal requirement to insert her profile. The resource allocation is distributed and based on personal motivation. The inserting and updating of CV's is continuous and a necessary action for those who want to work in projects. There are no demands of additional actions or need of motivation beyond the activity itself. Thus there is no need to know who knows what prior to the project initiation. This way the circumstances and the activity can be viewed as mutual enablers, and the activity knowing.

The system provides the employees with the possibility of choosing exciting assignments available within the whole organisation, which should make their choices depend on their evaluation of own skills, not whether or not they belong to a specific unit. At the same time it provides possibilities of finding and assigning the best available in-house expertise to projects. This implies that the gesture (request for employees or insertion of profile) at the same time represents a response to the previous and similar gestures. The mediating tool enables the whole of the action (gesture – response).

Through the expected job-rotation one also intends to create new relations throughout the organisation, across the traditional organisational boundaries of units and departments, relations through the communities of practice growing within each project. There is an expectation of a good spiral of knowing activities. This positive side effect rises through the introduction of new constellations of co-workers, thus enabling new ways of (informal) knowledge sharing.

The Project Exchange can be viewed as a Knowledge Management system based on the philosophy of on-the-job, or in-activity training for the employees, through the challenges offered in projects. As an activity enabling system, it enables the resource allocation, with the positive side effect of enabling knowledge flow.

The Project Exchange is a tool designed for enabling knowing action and activity. In this case it involves distributing the responsibility for resource allocation and on-the-job training, through mediating an extended choice of available employees to the project leaders, and providing the employees with a choice at all. The questions remaining for the next section, are whether the anticipated behaviour coincides with the actions undertaken. In addition we will explore the impact the new actions and activities has on the circumstances and the context they are performed within.

3.2 Active use of the Project Exchange

Since the launch of the Project Exchange in February 2001, there have been 35 projects registered and 600 knowledge workers have inserted their profiles. Despite this number, only 20 employees have so far been matched with projects. One can question whether this qualifies as altered and enabled activity or only represents separate instances of knowing activity and action. However, it is clearly expressed in Gospel that every match represents necessary costs saved as well as in-house training and gained experience. Thus the matching which is performed can be characterised as knowing. The systems can be evaluated as enabling these knowing actions, since it alters the original circumstantial gap, and mediates the communication between the

employees and the project leaders. The system and the actions can be viewed as mutually enabling, since the motivation to use the tools is inherent to the actions undertaken.

The new activities in Gospel answers to and change the original circumstances. There was a mismatch between the demand for in-house training and cost reduction in the hiring of external consultants. Providing a possible solution for this introduces new circumstantial mismatches. The new practices enabled by the Project Exchange, the knowing action of inserting profiles and projects, and the resulting matching of people and projects, provoked a new conflicting dilemma.

The introduction and use of the Project Exchange had great support from the top management of the business area we collaborated with. However the unit managers of the business area have expressed dissatisfaction with the Project Exchange. A project might vary from 3 months to several years and giving up an employee to a project can create a vacuum in the business unit with respect to the tasks left behind when an employee leaves the unit to attend a project. The units have their own budgets, and the unit managers use their possibility to veto a knowledge worker to leave the unit for project work. The project leaders on the other hand express the opposite frustration. They experience that employees that they want on projects, and who wants to attend projects are withheld from the opportunity of participating and contributing by their unit leaders. These conflicting frameworks, unit versus project as a meaningful entity, expose dilemmas in the organisational structure. The conflicting circumstances are that of a project organisation versus that of a functional matrix organisation. Thus we get a conflict between the wish to staff projects with resources from across the units and the veto possibility of the unit managers to prevent resources from going into project activities. As an attempt to wield this dilemma the corporate management has decided to implement the Project Exchange to all the business areas, employing over 20 000 people and the introduction of incitements for the business units letting employees are being discussed.

Thus the system can also be viewed as an enabler for additional organisational inquiry. Through highlighting the conflicting circumstantial setting in the organisation, the demand for in-house expertise for innovative solutions and daily tasks within a unit, the Project Exchange enables further change. It provokes more knowing actions than the intended ones. The change in Gospel can be viewed as double loop learning. The first inquiry implied that the activity of staffing projects had to be changed. Consequently, the strategies and practices on how to match project and people were changed; a learning making improvements in the performance of organisational tasks. Furthermore, the system became an enabler to further inquiries since the practice of using the system proved a new mismatch between the needs of the units and those of projects (Argyris & Schön, 1996). To address these conflicting contexts and circumstances, the organisation will hence introduce the system throughout the entire company.

Since the launch of the Project Exchange, February 2001, Gospel has experienced market stagnation and hence a stronger focus on costs controls. These external circumstances have further altered the company situation. The resource allocation is through the system tied directly to several value-increasing activities in addition to the resource allocation itself. This includes keeping highly qualified personnel employed

within the entire company, even though several would leave not only units, but business areas, as well as enabling the project activities themselves by allocating highly motivated and qualified personnel. The corporate management evaluates the distributed matching of people and projects as knowing activity within the existing circumstances. Thus decision to introduce the Project Exchange throughout the entire company still stands.

Gospel has an articulated vision to be an innovative and attractive work place for skilful knowledge workers. The development of the Project Exchange was introduced partially as the means to give content to this vision (Næss & Ollendorff, 2001). It remains to be seen if these knowing activities make Gospel into a more attractive workplace. Likewise, how the metaphor of Gospel as an open market will affect the employees' contextual understanding of the company. How will the matching and lack of matching to projects change the employees' relations to each other, to the projects and to Gospel? How will the emotional context change for people feeling attractive or unattractive on the project market place? Which myths and relational patterns will be generated both internally and externally?

The Project Exchange is designed with the intention to enable a knowing activity, to mediate between the knowing actors involved. We have exposed how it has provided the employees and the project leaders with extended possibilities with respect to actions to undertake, and enabled the distribution of the responsibility for resource allocation. The system and the actions can be viewed as mutually enabling in that any responsive part of an action (inserting profile or project) is also at the same time a new gesture awaiting response. At the same time the Project Exchange has enabled unexpected knowing actions and activities through highlighting new contextual and circumstantial challenges

The challenge identified at Gospel was enabling the activity of allocating resources. The challenge is mainly circumstantial, it involves the actual project staffing. The Project Exchange was designed to be a circumstantial enabler. The system provided new ways of matching people. The enabled matching draw attention to a new circumstantial challenge, the conflict between functional unit organisation and project work, and towards a possible change in contextual framework, regarding the work place as an open marketplace.

4. Scheherezade's Divan

This section describes and discusses the introduction and use of an ICT system, Scheherezade's Divan. Scheherezade's Divan is a virtual story-portal developed and used in one of our collaborating firms. We start with a short description of the company, for the present purpose called Jazz. Then we continue through an identification and evaluation of the activity in need of enabling, and expose how the telling, retelling and use of the stories in the Divan are designed. We describe the stories of the Divan as enablers of knowing action through the mediation of contextual framework. In addition we present the knowing actions and activities rising from the use and reflections over the stories from Scheherezade's Divan.

Jazz has 170 employees, most being ICT consultants. Jazz organises their work on deliveries in projects, the entire company being process organised. Jazz delivers custom made information and knowledge support systems for routine based activities to other knowledge intensive organisations in private and public sectors. The project work at Jazz is characterised by a combination of contextual understanding of customers' needs, social antennas and technological skills. A project often demands improvisation as new challenges rise, and the best-practice projects often involve an understanding of the uniqueness of the customers' needs. This entails that projects are the arena where innovation occurs and the close interaction with the customer is a prerequisite for a successful implementation of a project. The customer as such is in most projects a co-producer (Normann, 2001).

Jazz has a number of well-functioning systems and tools to support parts of their own work. Jazz's Intranet has several active discussion groups, small hints on how to solve specific questions, valuable technical experiences, templates, resource allocation and project activities. The company culture is explicit and mature with respect to their emphasis, both practically and theoretically, on knowledge sharing. However, the organisation is distributed, the day to day work-life in projects involves that the consultants are placed within customers' facilities. Sharing experiences that were highly contextual and not fitting to any project-recipe, experiences that could enable the knowledge workers to improvise over a given setting, and see possibilities on the background of previous projects that they hadn't necessarily attained, were identified as a major challenge⁶.

Valuable experiences are seldom finite. They are impossible to put into spreadsheets and summarise once and for all. Evaluating the challenge as a highly contextual challenge allowed us to pose the question, what are the characteristics of informal sharing of experiences? How do we naturally extend our contextual frameworks? We share experiences by retelling them. A good story represents a well of knowledge and knowing, its extended room of meaning gives room for interpretation, symbolic interaction and emotional responses, it influences the context of the teller as well as the re-teller and the listener (Bruner, 1986). Contextual wealth enables contextual association. Based on our natural storytelling activity we chose to develop a system that mediates context through stories. We wanted to provide possibilities for people to tell and listen to stories without actually meeting. Through the possibility of enriched

⁶ Jazz and the Divan are extensively described in "Fortellingens fortrylling", Hatling, M. (Ed.), 2001.

contextual associations provided by the Divan, we hoped to expand the potential actions to improvise over.

Distributed organisations often lack the natural “campfires” for telling and retelling of stories. In Jazz extended efforts had been put forward in order to create such natural “campfires.” Great investments are put into the company cafeteria and a long lunch is applauded, Friday afternoon dart is a regular happening and once a week the company is gathered for “*State of the Art*”. The idea of a virtual story-telling portal rose as we asked; how can we, across spatial and temporal boundaries, enable the activities of informal sharing of experience that storytelling represents? How can we make the experienced storyteller and the potential listeners meet? The answer was; we will try to do it virtually. Scheherezade is the storyteller of 1001 nights. Like Scheherezade Jazz needs the stories to stay alive, at least to stay vitally in front, thus Scheherezade’s Divan was created (Barth & Bang, 2001).

Any narrative provides the reader or listener with a rich representation of an experience. In addition they are able to open fields of intuitive and associative experiences as their lack of finite answer call for interpretation through the listeners own experiences and contextual framework. As a (virtual) storyteller The Divan offers these rich representation of experiences, in different formats. Video sequences, cartoons, hyper linked and written stories. The Divan is of course only a mediator of stories; the employees themselves have to create them. In addition, the potential and actual associative patterns have to be implemented. The stories are first tagged according to situations and phases of a project, then tagged in relation to anticipated uses. This means that one story can be tagged both as usable for project implementation, customer-consultant problem solving, and for methodology courses. In addition any reader can add tags, according to his or her interpretation of the story, which allows a “retelling” of the story in new contexts and circumstances. It is not a pool of information divided into customer group, sector, type of delivery, person in charge, etc. Rather a flow of shared experiences from projects. If not as immediate as associative patterns, these patterns of tagging are based on a model of it.

Let us introduce the structure of one of the stories: One of these narratives “Broken coffee cup or golden prize” is a hyperlink story with different possible outcomes, dependent on which path the reader chose to read the story by. The content and experiences are taken from real-life experiences in project work, while the characters are invented and show archetypes of roles in projects including the demanding customer. The nature of the story contains different options regarding a project delivery and implementation as well as different dialogues with the customer. The “Broken coffee cup or golden prize” is a story of how the delivery of a support system does not meet the customer’s expectations. The story is structured as to expose several different possibilities to this lack of satisfaction, and several possibilities of solving it. Ambiguous communication between different project team members and between team members and the customer are both exposed as possible explanations. In addition to the incorporated possible readings, the narrative as narrative allows unexpected interpretations depending on the readers’ context.

In short, Scheherezade’s Divan can be viewed as a toolbox, where the stories are the tools presented. Scheherezade provides guidance for possible use of the tools, but poses no limitations to creativity “*Creativity is essentially to expand the contextual*

*understanding of a given tool, so one is able to extend its use to new circumstances.*⁷ The interpretations of Scheherezade's stories can be viewed as creative recollection of others past experiences on top of one's own. As such the interpretations from within a new situation may provide a basis for knowing actions, since they provide extended options of acts to undertake.

The first task to overcome was having a critical mass of stories to open the Divan with. Without stories for Scheherezade to tell, there are no listeners either. Jazz, like any other company, live and tell stories all the time, but how do we catch them? In March 2001, Jazz gathered the whole company on a mountain trip for two days for their annual strategy session. Researchers from KUNNE were allowed to design the content of the session, and it was designed to collect stories. We introduced Fable Forum (Mæhle & Røyrvik, 2001)⁸. The employees and the leaders were put in teams, discussing project experiences, and assigned to retell the stories using different media. These stories were later inserted into the Divan. The Fable Forum was very successful, not only in gathering stories, but also as means to put the importance of Jazz's living stories on the agenda. This probably eased the future tasks of formalising more stories, as well as making people use the divan as a tool to be introduced to other peoples' experiences. At present, the Divan contains about 40 stories in different formats.

Any ICT system is in itself a circumstantial system. By this we mean that whatever you insert, or extract, is information. The patterns of use with respect to the system can be measured and counted over time. Nevertheless we have presented the Divan as a contextual enabler. This is because the Divan provides tools, the stories, which can enable the contextual framework in completely different circumstances. As such it is a highly contextual tool. In opposition to a "just-in-time" Knowledge Management system, The Divan is designed as a "when-in-time" system. This means that you can read the stories when you have time to do so, and act knowing on the bases of them as the associative power in a new context and new circumstances makes you remember it.

4.1 Scheherezade as mediator, providing remembering tools

The associations created in an encounter with a story, the situation that makes you remember it, and the new associations while remembering it are all dependent on the situation you met the story in as well as the situation you remember it in. All of these aspects are attempted allowed for in the stories of the Divan, in order to make the encounter with the stories as close to natural storytelling as possible.

The Divan is designed to overtake activities that were previously either neglected or done by people in real time interaction (Coffee break discussions), to be a mediator of stories. Mediators assume a relation between something that can be mediated and that, which mediates. The mediated representation itself can be called static; it is only in a relation to a receiver that the representation has potential to be activated. We use potential since the amount of information, or knowledge representations, we are

⁷ An understanding of creativity introduced by Art Director Svein Petter during an interview about use of methods and tools in practice.

⁸ Fable Forum as method was introduced and developed by Emil Røyrvik and Theo Barth, SINTEF Industrial Management.

exposed to is exhausting, thus huge amounts of information is mediated without actually being met. The representational form (how the content is represented), the relation one has to it (to the sender, in which circumstances we are placed, and within which context), are crucial for our attitude in the encounter with the representation, and thus the reaction or the lack of reaction created. The Divan is an attempt to represent exformation instead of information. That is, instead of loading an ICT system with any information you could possibly need, thus getting close to eliminate the possibility to find what you need, stories are created to be remembered as what you need when you need them.

In the Divan most of the stories clearly expresses their original context and circumstances. An example is a narrated video sequence concerning a highly complex solution for the Supreme Court. The video sequence is shot within the Court Hall while the project team members discuss the project. The relation a reader or listener has to the mediated story is as important as the content of the story itself with respect to the reaction in the encounter. A text has less value if the writer is known for being untrustworthy, or if the material is presented in an intrusive manner. The richness of the lived stories' circumstances is believed to create a firmer relation to the contextual content of a mediated situation. The lively knowing of the other and their situation has a greater possibility of creating a trust-worthy relation to the reader.

As opposed to templates, checklists, and standardised methods narratives are rich representations of experiences. Stories as rich representations have a potential to trigger a richer and deeper involvement in the material presented. This allows a reader to join the story, interpret it with respect to own experiences, and reinterpret on the basis of more stories and new experiences. Any such interpretation is part of the day to day sense-making of everyday (work-) life. As such the stories on the Divan constitutes a common pool of sense, or a shared contextual framework within Comp, and the stories of Scheherazade can be said to expand the possibilities of actions to undertake, in extended responses as gestures in new situations.

The circumstance in which the mediated story is encountered is of equal importance. This does not imply that there is one right situation for stories to be told or heard, but it does imply that stories told in association to the situation the reader finds herself in is important. The structures in the listening of the stories are adjusted to possible user situations. Entering the Divan you will find stories related to the initiation of a project in one cluster and stories related to break downs in another cluster. A story from one cluster might very well be retrieved in another cluster because of the width any story entails. This allows the story to be direct input to the context a person is within.

We claim that the strength of the Divan as a contextual mediator lies in the stories' reflection of circumstances, which creates trustworthiness. Furthermore, the lack of given answers, which creates reflection, and the stories associative connotations to the situation the user is in, which enrich the contextual framework of the situation. The enabled mediation of a story provides the possibility of more frequent encounters between a gesturer (teller) and respondents (listeners) than temporal and spatial boundaries allows. In addition the stories are retold and reused in new contextual setting. The employees are given access to more experiences than their own. Believing that chance favours the prepared mind, this is a potential preparation for the unexpected, with the hidden subtext that there is always several paths to choose.

4.2 Active use of Scheherezade's Divan

In the description of the initial challenge at Jazz, informal storytelling across spatial and temporal barriers, we posed the question whether the Divan would work as means to enable knowing actions. In this section we will describe actual use of stories, and highlight the resulting actions and activities.

In an ongoing project there had been sever difficulties with the solution provided by the project team. The communication with the customer was cornered, the design did not meet the expectations from the customer and the project team was frustrated with the customer's lack of understanding of what could possible be accomplished within the frame of the project. The project team introduced one of the stories from Scheherezade called "The frozen meeting" to the customer team during a seminar. The story tells of a similar situation. The seminar and the presentation constituted the turning point in this project. The contextual framework of the project changed. The story has metaphorical qualities providing a distinctive mode of perception. Individuals grounded in different contexts and with different experiences can understand the situation intuitively (Nonaka, 1991). The tense situation was relieved by the story, since it exposed that the situation was a common critical phase in such deliveries. The destructive tension of blame distribution was replaced with a constructive tension of conflicting interests towards a common goal, an adequate common understanding, or contextual framework, for the task undertaken.

Introducing new stories are crucial for Scheherezade to stay alive. Do people want a virtual storyteller? How can a Virtual Portal ever meet the expectations you have to stories of everyday life? Stories are often told in extended association to a particular situation, adjusted to the listener(s). They are alive in the sense that they are never the same, while launching stories on the Divan necessarily means formalising them. The Divan is intended to contain the lived stories of the consultants written by them. Will the consultants trust their own storytelling capabilities? Formalising stories yet keeping the possible web of meanings is time-consuming and demands creativity, and we wondered if the consultants would be motivated to create the stories to be implemented.

Since the launch of the Divan there has been a constant drip of stories into it. Employees at Jazz credit this to the contextual framework initiated by the Fable Forum's focus on the importance of stories, and to the stories of stories in use that has circulated both on the Divan and in the natural summing and humming of Jazz. A relevant question is whether the activity of collecting stories can be characterised as knowing, in the sense of being self-motivated and intrinsic to the project activities. So far it might seem like a knowing activity, but we are reluctant to propose the creation of stories as an activity at this point. The amount of stories is not large enough for this purpose, and the insertion of stories may rather be evaluated as acts of action.

Unexpected ways of utilising the Divan have risen as it has developed. New employees are introduced to the organisation and to different project practices through the stories on the Divan and some of the stories have been used as basis for discussions in methodology courses. These new responses to the mediated stories introduce new meaningful aspects in the telling and inserting of stories.

In addition the Divan has caused heated discussions of “who we are”: An engineer inserted a story about an ongoing project and the team situation. The story could be interpreted in a variety of ways. The project was, at the point the story was written, a difficult project with internal problems in the project team. The story identified project members and some readers perceived the story as ridiculing individuals. The story was withdrawn from the Divan. This explicit censorship created even stronger reactions in Jazz than the story itself, and made the story as story spread as wild fire. The ten mentors of the organisation had a heated meeting to discuss the story and the implications of censorship. The formal outcome of the mentors’ meeting was that the story should either be reinserted with comments, or be used in a suitable context. A suitable context was agreed to be for instance a course for project leaders. The informal outcome was more attention to the Divan, a discussion in the headroom of the organisation as well as the difficulties in being a democratised organisation. The mentors expressed that this has risen the consciousness of the possible tensions in being a process-oriented organisation with project based work. The stories of the Divan can be viewed as enabling knowing activities since the continuous reflection on action in Jazz responds to the mediated stories (Schön, 1987).

The intended user situation was to use the different project experiences while working on a project. Neither the system, nor the evaluation of the system and its use is final, however, it is clear that the ICT system is not used throughout the whole organisation in everyday work. On the other hand: Most people in the organisation know every story. They have become part of the organisational context. The storytelling activity among the employees is richer in that they have a pool of common stories. The stories are no longer someone’s, but part of a shared context. Stories of the stories, when and how they were used, are created and they live despite the formalisation of the original stories.

The challenge identified at Jazz was informal sharing of experiences across temporal and spatial boundaries. Whereas the Project Exchange was designed as a circumstantial enabler, the Divan was designed to expand a contextual framework. The Divan is a mediator of stories. As we have seen the Divan has altered project activities and actions through expanding contextual frameworks. In addition it has visualised possible circumstantial challenges regarding process organising versus project based work.

5. Practical implications of Activity Based Knowledge Management

We have exposed the development and function of two ICT systems developed from the perspective of Activity Based Knowledge Management. In this section we will highlight the common features of the Divan and the Project Exchange as mediators in action. Thereafter we will draw a sketch of the main practical difference between Activity Based and resource based Knowledge Management from our point of view.

Both the systems exposed are designed as mediators between gestures and responses. The employees in both companies have the option to insert their profiles or stories, but it is not obligatory. The employees at Gospel have further the option to seek for interesting projects and the project leaders have options to find relevant expertise. Likewise, everybody at Jazz can choose whether they want to read and eventually retell and use stories. As a response to their choices they can be assigned to new tasks (The Project Exchange) or have fun (reading the stories) and get introduced to new practices and old experiences (Scheherezade's Divan). This implies that the *motivation* to use the enabler, and the *knowing* of the enabled action or activity is *inherent in the activity or action itself*. The constant dialectic union between the gesture and the response is that which creates meaningful, or knowing, action.

Since the use of the enabling systems are intrinsically motivated, there are no demands of additional actions, need of motivation, or incentives beyond the enabler itself. When more profiles and projects are inserted this cries out for even more projects and profiles. The more stories are inserted, the more stories of stories circulate, and the interest to insert more stories rises. This way the enabler and the activity can be viewed as *mutually enabling*.

The new activities and actions entail that the employees are provided with a choice. In the Project Exchange a *choice must be made*, to insert a profile, in order to gain the extended possibilities of attending projects, or to insert the project, in order to get the most qualified and motivated personnel. In Jazz, the stories, which are reading, listening or viewing *provides the employees* with extended choices for action. Enabling people to take a choice of action or providing extended choices implies *distributed responsibility* for future actions.

As far as our research goes at this point, we view these features; mutual enabling of system and action, inherent motivation, and distributed responsibility through choice as practical implications rising from Activity Based Management of Knowledge.

Practical implementation of a Resource Based view on Knowledge Management tends to start in an inquiry of what the knowledge workers know and focus on how other people can come to know the same. We have experiences how practitioners from this point of departure tend to treat knowledge as if it was material, passive and predefined. In the academic life of Knowledge Management and Organisational Learning valuable contributions have been made to alter this understanding. These attempts circle on giving a more adequate understanding of knowledge from which to start the process of managing it. The common feature of these academic responses is that they involve saying that knowledge is always already contextual and cultural (Gadamer, 1975), situated (Lave & Wenger, 1991), a co-creation of social subjects in

interaction (Stacey, 2001), or narrated (Crites, 1971). Despite these efforts, the commonsensical understanding of knowledge, and thus the immediate practitioners' view as well as our own when we take our academic hats off, are much less sophisticated. We know what we know and a spade is a spade. "I know this." Thus the practical connotations of knowledge is of "something" that "someone possesses". The practical implementation of a Knowledge Management system based in epistemology tends to be the same whichever epistemology it is based in, due to the rigidity in our conception of what it is to know something.

We have experienced that the epistemological stance is secondary with respect to the primary entrance to the activity in need of support. We start by identifying; what are the practitioners doing? And further; from which perspective is the activity in question mostly in need of enabling? What kind of tool is apt to provide the desired change? As we have exposed; entering Knowledge Management this way enables management of the individual within the collective, since the motivation to and meaningfulness of the activities are intrinsic. In addition, contextual tools like the stories provided on the Divan enables management of the tacit within the explicit.

The possible difficulties in a Resource Based entrance to Knowledge Management, which is the falling into stacking and counting of individuals and their skills, is also present in the case of activities. Activities can very well be understood as each individual's actions, which will put you right back to the stacking of individual experiences. Luckily, the practical differentiation of different levels of activities has proven more fruitful than the entrance through knowledge. In an organisational framework value-increasing activities exist as an already constituted level of analysis, which implies that you haven't got to fight windmills of embodied knowledge on knowledge to talk the same language. The level of value creative activities already exists as half-worked boundary objects between the organisations and the researchers, enabling us to enter the same contextual framework (Skaret, Sen & Roberts, 2001).

The systems (Project Exchange and the Divan) are presented as enablers for future possibilities and extended choices of action, and the choice of using the systems is based on motivation. This shows that the systems meet the users on their own premises, in their performed activities and actions. The distributed responsibility for future actions and activities has great implications for leadership. Providing someone with choice implies that they must be allowed to choose. In the case of Professional Service Firms this may be a question of recognising that they already are choosing. As by now quite firmly established, you cannot *manage* knowledge in the sense you manage other kinds of resources (von Krogh, Ichijo & Nonaka, 2000). The hard nut in management might not be to control the resources but to enable the knowledge workers to choose well.

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