

“Expert Finding” in an Organizational Context: A Case Study within an Industry Association

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Abstract: The term *knowledge management* (KM) has lost most of its magic during the past few years: While *knowledge* has been identified as an important resource and key factor for productivity gains and innovation in organizations, there seems to be no generally applicable way to utilize this resource. One central problem is that knowledge – in contrast to *information* – must be seen as an internal resource that is often implicit and bound to human actors. This makes it hard to identify, localize and evaluate knowledge, and even harder to share or transfer it. Another problem is the question of willingness: Are actors in organizations willing to share their knowledge? And why should they? In this paper we present results of a field study that was conducted within a major national industrial association. The study focused on knowledge intense processes among the association and its member companies.

Keywords: Expert Finding, Knowledge Management, organization, case study

Categories: H.4.1, H.4.3, K.4.3, K.6.1

1 Introduction

[Cohen, Prusak, 2001] predict that there is a high potential for companies to increase productivity and speed of innovation cycles by enabling the actors to build *social and human capital*. These terms refer to human resources like abilities, social networks or explicit or implicit knowledge of employees in organizations. One basic assumption is that the utilization of these resources would be the next step in the empowerment of companies in technical or engineering sectors by enhancing knowledge intensive processes after 'dimensions of productivity' had reached their limits. The research field of KM aims at utilizing and handling these resources by the development of IT systems like yellow pages- or recommender systems [Reichling et al., 2004].

As mentioned above, there are several problems in applying these technologies in practice, i.e. in a native organizational environment, where a large amount of actors is expected to use a common system. Actors often have different skills, goals or cultural backgrounds which can lead to the failure of IT systems [Grudin, 1988]. Even the successful application of new technologies can have unexpected individual or organizational outcomes that are contrary to the initial goals [Wulf, Pipek, 1999], [Orlikowski, 1996]. As we still know little about the practice in such knowledge intensive processes, we claim that sufficient pre-studies within the application field

are highly important for a successful application of KM strategies. In this paper we present the results of a field study that is part of a three year lasting project aiming at the application of KM strategies in a major national industry association (NIA¹).

2 Setting

The association NIA has almost 3000 member companies from technical sectors in the broadest sense. Thus, NIA is divided horizontally into 37 sections, each dedicated to a certain sector and vertically into "general departments" responsible for domains that are not related to certain branches (like business administration, law or taxes). Additionally, there are several spin offs and other organizational units like forums, projects and regional offices. The sections can be seen as NIA's main constituents as these were separate organizations in the past. Thus NIA came to life by the fusion of these separate associations forming one large governing body. It is still observable, that the sections are highly self-determined which often makes it difficult to apply a common strategy or to define common goals.

NIA's core competencies are *networking* among its member companies, technical or professional *support* and *representation* at governmental (or other important) institutions. In the main department of NIA about 450 employees are working in one or more sections of the organization. We worked with one of NIA's sectoral organizations, the *agricultural section* and one of its member companies (AGRAR²) that represents a "typical" member company. AGRAR has about 280 employees. Its core competencies are municipal equipment and seeding technology.

The main goals of the KM project, in which our study took place, were (a little abstractly) defined as "improving the quality of services that NIA offers to its members". In a way the project can be seen as a response to an observed trend that members start to doubt about the meaning of their membership, which used to be 'natural' in the past decades. Nowadays – seemingly more than in the past – managers are expected to justify expenses by giving some well defined 'return of investment' (ROI). This certainly is hard to calculate for the membership in an organization 'dealing' with *support*, *network* and *representation*. So one of the project goals is to better define and present its services to the members and to make NIA and its members 'move closer to each other'. This shall be done by technologically improving the mutual awareness of each other: The awareness of NIA's services on the members' side and the awareness of the members needs on NIA's side.

An illustrative example should sharpen the vision. In short: When developing a new agricultural tractor, one member company fell into trouble as this machine – when the design phase was long ago – appeared not to be conform to certain regulations concerning its dimensions. This was very painful since the error could have been avoided by turning to the NIA who was in possession of this specific information. In turn NIA was not aware of the company's intention of developing this kind of agricultural machine, and thus was unable to warn the company. KM strategies are now expected to connect both more efficiently, NIA and its members, to each other and may avoid situations like the one described. Though the KM project

¹ "NIA" is not the real name

² "AGRAR" is not the real name

also covers the interfaces between NIA's agricultural section and AGRAR as those are expected to be a highly interesting and crucial spot, our goal was to explore potentials and problems within the organization of NIA (in the agricultural section, exemplarily).

3 Methods

The methodological approach we rely on follows the theoretical framework of Integrated Organization and Technology Development (OTD). [Wulf, Rohde, 1995] describe OTD as an evolutionary concept that considers technological, organizational, as well as human factors in working environments. The introduction and establishment of novel technology can affect particular work processes and even organizational structures and human habits in a way that can't be anticipated by managers. With regard to these findings, human and organizational needs have to be considered when novel IT systems (as in the underlying field) are brought in to support working processes. Actually we apply the OTD guidelines by employing the ethno methodological concept of "Studies of Work" to set personal and interpersonal stresses into focus [Flick, 2002: 39ff], [Bergmann, 2003: 129ff].

The main body of our studies is represented by 16 semi structured interviews with employees and managers of NIA. The majority of the interviewees were employees of the agricultural section; the others work in the staff-, IT- and standardization departments respectively. The two managers come from the agricultural and the IT section. The members of general departments were asked to take part of the interviews intentionally to get an insight of the overall organizational culture and to explore the interfaces between the agricultural sector and the departments. As IT is a central (but not dominating) topic in terms of KM and to evaluate the status quo of IT equipment within NIA, three members of the IT department took part at the interview sessions.

The interviews were carried out within three separate cycles which allowed us to evolutionarily modify the guidelines according to the experiences we gained during the interviews that we had done so far. Our guidelines included questions concerned with domains that can be outlined as "everyday life on the job", "working history in NIA", "communication and cooperation among colleagues, clients, and other actors" (to be the most prominent part of the interviews) and "knowledge management and expertise sharing" (aiming at currently used tools, visions, and goals).

In the open-styled interviews we focussed on stimulating narrative responses offering the interviewees to answer in a relatively open, free, and talkative manner. We mainly were interested in the people's reflections rather than in "rights" or "wrongs". Therefore – as much as possible - we avoided guiding the interviews. Instead interviewees were welcome to address topics that they felt as being important – and hence probably were important. In order to guarantee solid and valid results we used a tape recorder to avoid note taking during the interviews.

The interviews lasted from 60 to 150 minutes, mainly depending on the person's "enthusiasm to respond". This gave us a lot of tape recording to be listened to, transcribed, and analyzed to achieve an in-depth study of communication, work, and organization processes within NIA. In order to manage this appropriately and not too time-intensive, we decided to split the analysis into five specific steps [Schmidt,

2003]. Additionally we can observe parallels to the concept of action research [Mills, 2003] in the cyclic application of these steps:

1. Orientated towards our transcripts we built up certain categories of transcript segments for the analysis. The top-level categorization followed the three important OTD supporting pillars (technology, organization, and human factors / communication culture). By "tagging" segments using a set of well-defined keywords subcategories emerged.
2. We joined together those segments that appeared to belong to the same (sub) categories. As a result some kind of clustering emerged that consists of meaningful units. Each unit built its own focus on a specific problem.
3. We encoded the material in order to depersonalize and generalize the data.
4. We built up nodes of correlating units which provided a quantitative overview of the material. This also gave us a clue of which questions and problems might be most prominent and urgent, and had to be reconsidered in any case in later steps of the project.
5. Finally, we adjusted the interview guideline according to the findings we gained during the previous cycles: topics that turned out to be important (and maybe controversy) were given more attention. In turn topics that didn't prove to lead to interesting responses were cut or "decreased".

We employed these five steps for each cycle. By doing so, we believe we have gained a true image of the actual situation in our field of application. Besides the interviews two workshops and two workplace observations within the field were conducted. For several methodological reasons it appeared, that the results that can exclusively be assigned to the latter events are little compared to those that were achieved by the interviews. However in the next section results of all the events are presented.

4 Results

The analysis of the interviews in the way described above offered a view of domains that evidently appear to be central in terms of KM. These domains do not necessarily have to be sound with the domains that were addressed within the guidelines. In the following we will have a closer look at the results in the central domains. In this paper we will focus on those results that we find most important in more detail rather than giving a vague overview of all our findings.

4.1 Organizational transparency

When asked to describe their starting time at NIA, several interviewees stated that they were overwhelmed by the organizations complexity. The association was judged to be very complex even by its own employees. As interviewees stated in accordance to each other it took them at least two years to understand "how NIA works" and to roughly learn who is responsible for certain topics. Only one of the interviewees was introduced into his work by his predecessor during a short orientation period. This person was aware of this being quite unusual and he counted himself lucky (see

below) for that. The others told us they "leaped into the dark" when starting their work at NIA.

Some of the interviewees stated that NIAs employees knew little about their colleagues' activities, competencies, responsibilities or abilities particularly about those of different sections or general departments. This was seen as very painful particularly in situations where requests of member companies were to be answered urgently. So it was stated during the interviews that it was very useful to have a more transparent organization and thus to be able to find responsible and/or competent persons quickly which was difficult - at least with remarkable effort - to achieve. As one of the interviewees called it, some "Google for NIA" was needed. This missing transparency is not painful for employees only. It even has led to (isolated) cases - participants reported - where requests of member companies were given from one colleague to the next several times as no one knew - or could find out - who was responsible for that request (or at least had appropriate skills, knowledge or experience to handle it).

Yet, there is some kind of catalogue in written form, which lists contacts for specific topics. In response to the question whether this booklet eases the search for experts appropriately, some interviewees uttered that very often it was pure chance to find an expert with support of the "Key". One participant was missing the opportunity to seek for experts by 'outlining his/her skills', as there is no such feature in the booklet. "The key is too arbitrary" as each expert is allowed to "write whatever s/he likes to be in the key". However, as we see below ('Knowledge Management') there is evidence for 'expertise finding' to be very important in particular situations.

4.2 Organizational coherence

Another problem related to the 'missing organizational transparency' was reported by some of the interviewees. We can outline this problem as an improvable organizational coherence that itself is likely to be another result of the grown organization. Some of the participants feel that there were no uniform goals and directions by which NIA as a whole would be defined and can be identified. Instead in a subtle way several sectors have an own attitude according to the branch they serve for. For example the attitude NIA as a whole stands for is to 'avoid subsidizations by the state at all' while this is not very useful with regard to the agricultural section as the economy in this sector is one of the major receivers of subsidizations. So according to the assessment of one participant the sections are "highly self-determined" which sometimes leads to "effects of friction".

One participant gave some interesting reasoning for NIA having a 'lack of coherence': She assumed that after the break down of the USSR in the early 90s a "vacuum of strategies and right-to-exist" came up, as one of NIA's major tasks was to build up and keep alive connections with the eastern economy. She felt that there was no leading direction for NIA as a whole, which would be very important.

Although the majority of interviewees stated that colleagues of different sections "of course" would cooperate well, some of them conceded that there was a subtle competition between those sections that serve for similar or related branches. This subtle competition is likely to additionally increase the loss of transparency and the willingness to cooperate and even makes it more difficult, to set up common guidelines for interaction with members.

4.3 Work and social network

The colleagues' work at NIA (especially those of the agricultural section) is dominated by managing customer services (technical support, lobbying), preparing for certain events (exhibitions, standards committee meetings) and projects that are peripherally done. As exhibitions mean a lot of work in advance and customer requests cannot be foreseen, the workload of the colleagues varies highly according to these events.

Operating on projects is seen as highly innovative within NIA. Therefore, working in project teams appears to be a challenge for employees. Additionally, there is no standardized and integrated organizational concept for the initiation of projects. Our empirical findings clearly show that several attempts to standardize project work have been conducted, but have always been declined and prevented by particular decision-makers – seemingly for reasons of keeping power and influence. "This hampers innovation" is the observation of one of our participants. The organization hinders itself in further development and assimilation to market conditions.

The colleagues' social network is an integral part of their work: It is essential for their successful work to have good contacts to persons in influential positions like ministries or standard committees but to member companies, too. The interviewees reported situations in which a good relation led to success when drafts of laws or standards were to be adjusted to better fit some member's interests or if some delicate information was needed. Building up one's social network was reported to take years. As social networks cannot be simply transferred to another person, it is very painful for NIA when colleagues leave the organization – either when they retire or are wooed away. This is another issue concerned with knowledge transfer (see below).

Actually for many of NIA's employees Social Networking indeed is a major part of their job.

4.4 Knowledge transfer and KM

The problem of knowledge transfer was also addressed in the interviews. As we saw, there is usually no orientation period when new people are employed to NIA's agricultural section. This means that there is no well-defined and dedicated process for the leaving person to share her/his knowledge with his successor and to 'link' his successor with his network. Hence, knowledge and network of leaving colleagues completely get lost. Losses coming up this way might be smaller by having some kind of orientation period, as one interviewee who was working in the staff department told us.

There was one basic idea of KM that was brought in by several of the interviewees in different ways during the interview sessions: The most illustrative expression was given by one of them as "Google for NIA" (see above). This person had a vision of a system that supports finding people in NIA (rather than *contents*) in terms of several interesting attributes like "activities", "knowledge" or "responsibilities". Focussing on the colleagues' heavy timetable, cooperation among colleagues should be fostered by some kind of "account for internal services", as one other interviewee called it. Such an account should make it easier to legitimate the amount of time spent to help or cooperate with colleagues which otherwise might have been labelled as "lost time".

A very simple requirement was stated by two of the interviewees from the agricultural section: KM should make it possible to offer frequently requested information to members via the internet. This should decrease the effort of answering to the same (or similar) requests several times and would additionally enable members – as these desire – to independently seek for information instead of “bothering” NIA employees.

4.5 Expertise sharing

When discussing KM strategies during the interview sessions, we primarily focussed on the management of human resources rather than contents. The concepts of “Google for NIA” certainly require the employees to actively take part, i.e. *share their knowledge/ expertise* – which they must be willing to and ready for. At this point the statements of different interviewees fell apart. Several of our interviewees found it perfectly natural to share their knowledge with others and expected others to do so. Others however uttered good reasons for themselves – and others – not to do so. Additionally some participants assessed that the ‘potential of knowledge sharing’ was highly overestimated.

As one participant assumed, KM was required only by the younger employees having little experience as these could profit the most by ‘sharing’ knowledge. In contrast older personnel was rejecting KM as it would endanger their status by ‘making their unique knowledge accessible for others’. So he suggested that as a good idea to create incentives for sharing knowledge in the sense of monetary or similar rewards.

Another question gained meaning when discussing KM strategies: Is there really as much potential of sharing knowledge as we believe? One of the interviewees was doubtful about that. In his opinion NIA’s sections were that different that there was no ‘common ground’ to share knowledge among employees of different sections. This seems to be true at least for sections that primarily stand for *representation* rather than *support* or *networking* (see above).

5 Conclusions

The image of NIA we gained by accomplishing our studies uncovers several problems that appear as ‘typical’ for the domain of KM. Certainly NIA as a grown organization consisting of highly self-determined sections (each very successful within its dedicated branch) must be seen as being unique compared to other organizations, particularly business organizations that are much more affected by the pressure of market conditions and competition. However several of the discovered problems can surely be found in many organizations. For instance missing organizational transparency is reported in [Ackerman et al., 2003]. The employee’s willingness to cooperate and to share their knowledge [Hinds, Pfeffer, 2003] is another issue that is highly dependant on the organizational culture and thus cannot be generally relied on. The idea of “Google for NIA” seems to be a key concept to have better access to human resources within the organization and to improve the organization’s transparency. The application of this concept should be accompanied by some organizational adjustments: First, to grant a liable way of usage and cooperation, the

system should be well introduced by the management of NIA. Second, to ensure that colleagues take the time to cooperate with each other, an account for internal services (as described above) should be applied.

The requirement of offering access to frequently requested information should be easily fulfilled by "ordinary" CMS technology which can be fitted into the website. Linking these contents to the authors offers a smart way to "link content with persons" and thus make it easier to find certain responsible persons at NIA. This concept is very similar to Ackerman's answer garden [Ackerman, 1998] which might then become a part of a large-scale KM strategy.

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