

# **Knowledge Sharing with Social Software - Wikis in Human Services**

**Klaus Bredl**

(University of Applied Sciences, Neubrandenburg, Germany  
bredl@hs-nb.de)

**Abstract:** The need for Knowledge Management (KM) in Human Services is growing. New “Social Software”-solutions which came along with the so-called “Web 2.0” enable advanced possibilities of implementing KM-strategies in smaller agencies in the domain of Social Work. In the field of human service-oriented knowledge sharing one case out of three projects showing the use of a wiki will be presented. The project deal with the introduction of a wiki in the area of Case Management in a job center.

**Keywords:** Social Software, Wiki, Web 2.0, Human Services, Knowledge Management, Open Source

**Categories:** H.1.1, M.5, M.6, L.1.0

## **1 Introduction**

The organization of knowledge is diverse in public Human Service Agencies confronted with private companies or domains. Knowledge Management is especially necessary in Social Work, since human service occupations inherently consist of knowledge-based work. Social Work comprises individually-related services in which the single social worker, with his/her knowledge is the key factor for value creation. [Cha et al 06]. A problem occurs when knowledge (e.g. generated in pilot projects) cannot be properly transferred into routine social work.

The utilization of knowledge in Human Services is for conceptual and instrumental purposes and is holistic and contextual rather than abstract, fixed and representative [Dustin 06]. In the practice of Social Work, some knowledge is canonical. This includes knowledge about available forms of help as well as legal services to provide clients with the assistance they are entitled to within their rights. Though regulations are modelled in the specialized Information Systems, practitioners “have problems when applications contain only information because knowledge is needed to support many worker decisions” [Schoech 99]. Because most expert knowledge is often tightly connected with know-how given that the subject of social work is often the support of everyday life, it is difficult to identify declarative knowledge that experts unanimously can agree upon. Empirical evidence suggests that the acquisition of experience-based knowledge might be different in social work compared to well-structured domains like medicine [Boshuizen & Schmidt 92b; Gruber 1999].

Tacit knowledge [Polanyi 66] is often stored in our minds and is not easily available. Tacit knowledge can be regarded as encapsulated expert knowledge [Boshuizen et al. 1992a] and is difficult therefore to pass on, particularly to novices.

If we regard the domain of Social Work and think about the various services for help, counseling and therapy, we could come to the assumption that the implicit part of the knowledge-iceberg which is under the water seems much bigger in this ill-defined domain as it is in well-defined other ones [Bredl 08]. In order to get an idea of this issue we should think about questions like: How to counsel? How to help? Comparable questions on economic or industrial services seem much more explicable or standardized like: How to produce? How to serve?

Around the dimensions in the HOT-model which is divided in the areas of Human, Organization and Technology based upon the TOH model of Bullinger, Wörner & Prieto [98] you can find many problems and barriers for Knowledge Sharing [Maier 07]. The problem in the area of human services is not only the overbalance of implicit knowledge but also that until now the management of social agencies do not care enough about knowledge management. Respectively, they think knowledge management is combined with an unaffordable complicated technical system. So until now, no major priority to this field of management has not been seen though it is obvious that combined with each social business process parallels a knowledge process [Remus & Maier 03]. But obviously there is a change in view. Because of the rising competition in the social field and the human service sector the focus is changing, consequently the need for knowledge will shift [Kreidenweis & Steincke, 06].

The classification of two main strategies of Knowledge Management, codification and personalization of knowledge [Hansen et al. 99] can be continued to the KM-Instruments. Therefore, interactive and integrative instruments can be differentiated. Integrative KM-Instruments regard knowledge as an object and offer functions to store and administrate explicit knowledge in systems. In contrast, interactive instruments support primarily the knowledge exchange between persons and are rather geared to implicit knowledge [Zack 99].

## **2 Social Software for Social Services**

### **2.1 The principles of Social Software**

Until now, high costs have prevented Human Services from the introduction of technology for Knowledge Management. A cheaper alternative choice is a Social Software solution which could be easily implemented and which is mostly based on Open Source [Hüttenegger 06].

What is Social Software? Do these kinds of applications, which are called “social”, have something to do with our social field, with the Human Services?

Social Software comprises web-based applications, which support the exchange of information and knowledge, the building of communities and the communication in a social context. Above all, Social Software, in contrast to traditional Knowledge Management Systems seems to require less investments. Firstly, this software installation is low-cost and secondly, due to the ease of use, there should be a reduction of laborious introduction and training efforts of the users. But Social

Software is also oriented on specific principles [Hippner 06; Schmidt 06]. The main management supporting functions of Social Software are covered by the Crystal-(Xtal-) Model [Bredl 07]. The support of four management dimensions focuses on: Communication Management; (Virtual-/Real-) Identity Management; Community Management; Information and Knowledge Management

The first and most important one is the support of communication processes which is technically realized through Web forums and Weblogs (Blogs). In a classic Information Management approach Groupware as a communication supporting instrument can be mentioned. The dimension of Communication Management is located in the strategy of personalization.

Identity Management, not to be mistaken with the term connected to IT-Security, focuses on dealing with the concept of one or more identities in Digital Social Networks and the expectable developing Virtual 3D-Worlds which will be used also in a professional corporate setting for the exchange of information and knowledge. So it is also a function of personalization.

More and more Digital Social Networks enable a powerful establishing of Communities of Practice. Therefore, the Management of Communities and Networks is necessary. This is also an important function within the strategy of personalization.

The fourth dimension is the Content and Information Management which aims at the single static parts of information in the Knowledge Management process and supports the strategy of codification.

We still have to do a lot of research on the use of these new “Social Software” solutions. The incentives for the social workers’ participation and the processes of implementation in the human services are of special interest.

Wikis provide many possibilities for teams that want to change their organization and processes and favour a participative and collaborative approach to their knowledge-based work and helping processes. For example, the requirements for an in-house training might be produced collaboratively on some versions of wiki pages [Ward 06].

## **2.2 Wikis as an Instrument for Knowledge Exchange in Human Services**

Wikis are adaptive systems which are determined by four notions: connectivity, adaptivity, self-organization and constructivism [Hippner 06]. Connectivity means links, cross references and interdependencies within the content of wikis. Adaptivity stands for flexibility, adaptation of information to the organizational change. Self-organization causes the development of patterns of information. The development of a common knowledge base is a constructivistic act by combining the different knowledge bases of the Wiki-Users. Wikis are extensible accumulations of text-based Web-Pages which are linked among each other. These web-based applications allow all users not only to observe but also to edit content of Wiki-Pages [Ebersbach et al. 05]. The founders of the first Wikis Bo Leuf and Ward Cunningham describe a Wiki as a communicative software tool, which supports and carries the discussion and the collaboration of several users [Leuf & Cunningham 01]. Wikis act as Knowledge Management instruments which could be regarded as open web-based Content Management Systems. Many of the various wiki-engines underlie the General Public License (GPL), whereby they are available as “free” software.

### **3 Case Study for the use of Wikis in Human Services**

#### **3.1 Motivation and Environment of the Case Study**

The case is chosen out of three corporate wikis in different developmental stages for supporting the knowledge exchange in an employment center, a Youth Welfare Agency which consists of 70 various locally independent welfare service units with 2600 employees and the "Socialpedia", which was meant to become a knowledge platform for interested practitioners, but also for teachers and researchers of Social Work in Germany. The case presented in this paper shows the adoption of a wiki in a job center to enable knowledge sharing in a formal work setting.

The infrastructure, processes, implementation and potential benefits as well as challenges will be contemplated.

#### **3.2 Case Study**

##### **Infrastructure and requirements**

The organization is a small institution with approximately 200 employees divided in five agencies. The five sites are connected by a WAN with a leased line. The servers are located at the headquarter based on Citrix-Server4. The sites frame with Local-Area-Networks (LAN) individual intranets. The workplaces are provided with Thin Clients and Desktop-Workstations. The internet access works via the headquarter. External IT-administration and projects have access over VPN. The Overall Operating System is Windows XP, the utilized software is Microsoft Office and the e-mail-exchange is operated by Microsoft Outlook.

The data filing storage is via drive G:// accessible for all members of the single site. It is possible to store files individually in the Operation Systems in "My Folders" or in Microsoft Outlook.

The used Information and Documentation System (IS) LÄMMkom was introduced in 2004 and since then partially fixed with patches. The IS supports integrative procedures of the modules Administration, Benefits/Payments, Case Management and endorse the placement of clients in the first and second job market. This Case-Management-System provides less KM functionality and is focused only on administrative processes.

The „JobNetzwerk“ is a web-based application for the employment service in the first labor market which is still at a test stage.

The Trouble Ticket System (TTS) is a software to handle the reception, confirmation, classification and processing of client requests (Trouble Tickets). The TTS runs on an Apache webserver. The corresponding Open Source software is ORTS. For security reasons the different access authorizations for the systems are not handled by Single Sign-On [Schrader 07].

##### **Previous Knowledge Sharing**

Despite of the existing technical systems the knowledge-exchange occurs mainly in discussion groups. The case managers regularly discuss their experiences with the cases and e.g. the implications of new legal situations. Protocols of the meetings' content are always prepared.

The structure of the sessions looks like:

In the Headquarter: Divisional head with agency heads; Meetings of team leaders division benefits; Meetings of team leaders division Case Management

Within the agencies: Staff Member benefits with Team Leader benefits; Case Manager with Team Leader Case Management

The need for knowledge dissemination was primarily in the field of the granting of supplementary benefits which are subject to individual interpretation of legal rules. The case manager also has to provide social work-based supporting measures and to find the right job offers for the client. The staff searches for generalized case reports and network information about the regional job market.

### **Implementation**

The described Wiki is called the “SozAgWiki” and should serve as an internal Wiki-Knowledge-Base and for the knowledge exchange of the Case-Manager in a job center about best practice cases and lessons learned by helping people to return to the labor market. Before the launch of the new wiki-based system for the support of Knowledge Management within the agencies, there was a discussion group to clarify how to work with the wiki. The question was whether by directive or by the Web 2.0 Wiki-voluntary principle. As no real decision was made, it went more or less to a voluntarily-based solution.

Motivation techniques were introduced by E-Mail to increase the staff’s use of the wiki:

1. Direct information of the staff by E-Mail about the functionality and the advantages of the new wiki.
2. Pointed action: E-Mail link to a gag combined with the wiki-page-link  
This little campaign caused a considerable increase of the wiki-access within six hours as 80 hits were counted.
3. Pointed information offer – menu of the canteen
4. Staff members were addressed directly by e-mail to put information in the wiki. The page had already been created before and the mail contained the page link.

“Good morning R., please put your information and comments about your course of instruction in our wiki. You find the page under <http://.....>  
Thank You!”

### **Lessons Learned**

The reactions were diverse. Especially the younger staff members worked actively with the wiki because they were very interested in it. But predominantly the staff only satisfied the demands for the collaboration with the wiki, in the long term the majority of the staff lacked a continuous support of the wiki-project.

A formative evaluation accomplished by interviews with two participants in the wiki-project is shown below:

**First interview****-Overview:**

*"In my opinion there is a lack of: Relevant court decisions, Examples of good assessment notices, Guidelines, work tools, Materials of further trainings"*

**-Structure**

*"I think we should reflect again on the structure of the wiki knowledge base. Moreover, the alphabetical index should contain folders. For me it is a big mixture. Names beside keywords, briefings next to manuals. From my point of view there should be more folders and subfolders: Agency x/Head/Staff Members; Service regulations with several subfolders; Assessment notices grouped by subjects: refusals, partially approved, approved"*

**Second Interview****-Overview:**

*Advantages: Correction and actualisation of text.*

**-Structure**

*"Initial problems concerning the orientation on the home page are secondary, whereas the retrieval of information is no problem. And the automatic index of content is very helpful. The function of editing is not so easy. Some colleagues do not have enough time for using the wiki actively.*

*The deposited documents are not refillable. The creation and editing of pages should only be possible for registered users. So the modifications could be traceable."*

**4 Conclusions**

The example presented above represent the possibility of implementing a knowledge base for social agencies with restricted resources. In the case, only a few members of the organization have to be involved with the development. Consequently, less effort is required and basic ICT infrastructure is sufficient supporting KM. The fact that the KM project in the human service agency started with a core group and one person who designed the wiki structure, positively contributed to the first success of that initiative. Fast advances could be shown in some selected knowledge-intensive help processes. Still, because the SozAGWiki is focused too strongly on codification, they neglect the potential benefits of interactive instruments, such as blogs and communities like a social network. A solution could be an integrative system with combined various Social software components.

The problem was, that the organization was too small for a significant growth of the wiki-knowledge-base. The attempt to interlink the SozAgWiki with the other 69 similarly organised job centers throughout Germany failed because of accessibility and technical reasons. But the SozAgWiki is still in use for special documentation tasks in the relevant agency.

To make the wiki available for the staff and to advise them to use it from now on as the most important source of information and knowledge could cause some problems. It seems difficult, that an unstructured wiki is able to serve as a tool for all required knowledge sharing purposes. So it is explicable that the organisational information of the clients might still be stored in a separate information system.

## 5 Future Work

Social Software for KM is the combination of human and technology-oriented KM instruments and systems. Moreover, an information system like a wiki is a bottom-up instrument and enables processes of the democratization of the organization. As we have seen, technology cannot by itself change organizational culture. The kind of participation on which wikis and other Social Software applications rely “depends upon an existing corporate culture in which individuals feel free from possible repercussions for the information they contribute“ [Tredinnick 06]. According to Ward [06], there are a variety of tips to succeed in the implementation of a wiki in human services organizations:

1. Start small and work with just one group which is enthusiastic and committed to monitoring their experience and giving feedback.
2. Identify, understand and involve key users as soon as possible to develop a sense of shared ownership.
3. Some initial categories of content should be provided beforehand. Members will often require encouragement to begin to utilize the site. In the early phase, it will be helpful to prompt people to respond to relevant discussions posted on the site.
5. Base the selection of software on dependency of the service needs and uses. A Wiki is not the solution for all the problems of Knowledge Management. Don't call it “Wiki-project”- call it “New Information System”.
6. Evaluation of the implementation of Social Software is important. The Measurement of use and acceptance of the applications are vital.

Successful implementation is connected with the steering and monitoring of a given project. To place a wiki only to the disposal of staff is not enough. In this case, McLuhan [64] was not right, i.e. “The Medium is [not] the message”.

## References

- [Boshuizen et al 92a] Boshuizen, H. P. A., Hobus, P. P. M., Custers, E. J. F. M. & Schmidt, H. G.: Cognitive Effects of Practical Experience, Berlin, Springer, 1992
- [Boshuizen and Schmidt 92b] Boshuizen, H. P. A. & Schmidt, H. G.: On the role of biomedical knowledge in clinical reasoning by experts, intermediates and novices, In Cognitive Science, 16, 153-184, 1992
- [Bredl 07] Bredl, K.: Knowledge Management with Web 2.0 applications in Human Services, Poster presented for the conference: “The 8th International Conference of Human Services Information Technology Applications HUSITA”, August 26th - 29<sup>th</sup>, Toronto, Canada, 2007
- [Bredl 08] Bredl, K.: Kompetenz von Beratern. Analyse des Kompetenzerwerbs bei Unternehmensberatern im Kontext der Expertiseforschung, Saarbrücken, vdm, 2008
- [Bullinger et al 98] Bullinger, H.-J., Wörner, K., & Prieto, J.: Wissensmanagement-Modelle und Strategien für die Praxis. In H. D. Bürgel (ed.). Wissensmanagement. Schritte zum intelligenten Unternehmen, 21-39, Berlin, Springer, 1998
- [Cha et al 06] Cha, T., Kuo, E., & March, J.: Useful Knowledge for Social Work Practice. Social Work & Society, 4 (1), 111-122, 2006

- [Ebersbach et al 05] Ebersbach, A., Glaser, M., & Heigl, R.: Wiki Tools, Berlin, Springer, 2005
- [Gruber 99] Gruber, H.: Erfahrung als Grundlage kompetenten Handelns, Bern, Huber, 1999
- [Hansen et al 99] Hansen, M. T., Noria, N., & Tierney, T.: What's your strategy for Managing Knowledge? Harvard Business Review, 77 (2), 106-116, 1999
- [Hippner 06] Hippner, H.: Bedeutung, Anwendungen und Einsatzpotentiale von Social Software, In K. Hildebrand & J. Hofmann (Eds.). Social Software, HMD Praxis der Wirtschaftsinformatik, 252, 6-16, Heidelberg, dpunkt.verlag, 2006
- [Hüttenegger 06] Hüttenegger, G.: Open Source Knowledge Management. Berlin, Springer, 2006
- [Kreidenweis & Steincke 06] Kreidenweis, H. & Steincke, W.: Wissensmanagement, Baden-Baden, Nomos, 2006
- [Leuf & Cunningham 01] Leuf, B. & Cunningham, W.: The Wiki Way: Quick Collaboration on the Web, Boston, Addison-Wesley, 2001
- [Dustin 06] Dustin, D.: Skills and Knowledge Needed to Practise as a Care Manager: Continuity and Change, In Journal of Social Work, 6 (3), 293-313, Retrieved April 28, 2008, from <http://jsw.sagepub.com/cgi/reprint/6/3/293>, 2006
- [Maier 07] Maier, R.: Knowledge Management Systems. Information and Communication Technologies for Knowledge Management (3rd ed.), Berlin, Springer, 2007
- [McLuhan 64] McLuhan, M.: Understanding Media: The Extensions of Man, New York, Mentor, 1964
- [Polanyi 66] Polanyi, M.: The Tacit Dimension. London, Routledge and Kegan Paul, 1966
- [Remus & Maier 03] Remus, U. & Maier, R. (2003): Implementing process-oriented knowledge management strategies, Journal of Knowledge Management, 7 (4), 62-74, 2003
- [Schmidt 06] Schmidt, J.: Weblogs. Eine kommunikationssoziologische Studie, Konstanz, UVK, 2006
- [Schoech 99] Schoech, D.: Human Services Technology: Understanding, Designing, and Implementing Computer and Internet Applications in the Social Services, New York: Haworth, 1999
- [Schrader 07] Schrader, A.: Möglichkeiten ausgewählter Open Source – Software zur Unterstützung des Wissensmanagement in einer Optionskommune nach dem Zweiten Sozialgesetzbuch SGB II, Diploma thesis, University of Applied Sciences Neubrandenburg, 2007
- [Tredinnick 06] Tredinnick, L.: Web 2.0 and Business: A pointer to the intranets of the future? In Business Information Review, 23 (4), 228–234, 2006
- [Ward 06] Ward, R.: Blogs and wikis: A personal journey. In Business Information Review, 23 (4), 235–240, 2006
- [Zack 99] Zack, M. H.: Developing a Knowledge Strategy. In California Management Review, 41 (3), 45-58, 1999