

## **Benchmarking the Knowledge Management Practices in Selected European Higher Education Libraries**

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**Abstract:** Knowledge Management (KM) in libraries refers to the systematic management and control of knowledge as an important resource when producing high quality library and information services. If one wishes to make the optimal use and dissemination of organizational and other work-life related knowledge, then one needs to acquire appropriate knowledge management tools and to adopt a systematic procedure for KM throughout the organization. This can exert an energizing effect on the lifelong learning of the libraries' staff which is essential in today's rapidly changing scientific information environment. This qualitative research conducted in three academic libraries – IZUS / Universitätsbibliothek Stuttgart, Germany, Universitat Autònoma de Barcelona Library (UAB) Barcelona, Spain and University of Eastern Finland Library (UEF), Finland – makes a comparison of the KM processes being implemented in each of the institutions to ensure the continuous learning of the libraries' staff.

**Keywords:** academic libraries, knowledge management, knowledge management tool, lifelong learning, staff development

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### **1. Knowledge management and libraries**

Knowledge management (KM) in libraries refers to the systematic management and the concept that control of knowledge needs to be viewed as an important resource in the provision of high quality library and information services. However the optimal use and dissemination of organizational and other work life related knowledge can be greatly assisted if the organization adopts a systematic procedure with appropriate tools for KM. In addition, this exerts a

positive effect on the lifelong learning of the library staff which is essential in today's rapidly changing scientific information environment.

The entire KM-process should be embedded into the library's strategy which should include strategic knowledge goals. Before one can set these goals, it is important to gather the knowledge that is available within the library. Subsequently it is important to determine which kinds of knowledge need to be expanded e.g. this can be arranged by provision of training courses, employing external consultants or new members of staff etc. However, it is equally crucial to evaluate the kinds of knowledge that are no longer relevant and which can be destroyed. Before one can embark on these tasks, it is crucial that an appropriate a knowledge management tool is implemented throughout the library to collect the knowledge of all members of staff. This tool can also help to make knowledge available for everyone working in the library and to ensure that no crucial knowledge is lost should a member of staff retire or leave the library (Düren 2015). There is an impressive array of web 2.0 tools that are being adopted by academic libraries to facilitate knowledge management (Islam et al. 2014).

## **2. Libraries involved in the research and methods used**

### **2.1. Short description of the libraries**

The IZUS / Universitätsbibliothek (UB) Stuttgart has 31,188 active users in two sites, to which 456,020 physical media have been lent in 2013. A total of 69.97 full time equivalents are working in this university library (hzb 2015). Since the beginning of 2006, a Wiki has been used as the university library's intranet and knowledge management tool; this is intended to make the internal organizational knowledge visible and more convenient for all members of staff (Malo 2006, 230-231). In the starting phase when the Wiki was being introduced, training courses were offered to allow the members of staff the opportunity to learn the functions and goals of the Wiki; there was an instructor present who also helped the member of staff to make their own web pages. Many members of the staff did publish content in the Wiki even without participating in the training courses (Malo 2006, 233). The goal was to ensure that there would be at least one person in each department or team responsible for publishing newsworthy information in the Wiki (Malo 2006, 234).

The Universitat Autònoma de Barcelona has its main campus in Bellaterra, located 20 km outside the city of Barcelona, Spain. The university community consists of 40,000 students, 4,400 teachers and researchers and 2,500 administrative and service staff. The UAB Library Service has eight libraries on the Bellaterra campus as well as four libraries located in the University's extension areas. There are 166 full time equivalent people working in the university libraries. The first systematic approach to knowledge management took place at the end of the nineties, when the ISO 9001 quality management system was introduced.

The University of Eastern Finland was established in 2010 as the result of the merger of the University of Joensuu and the University of Kuopio. With approximately 15,000 students and 2,800 members of staff, the University of Eastern Finland is one of the largest universities in Finland. The university's campuses are located in Joensuu, Kuopio and Savonlinna, about 100 km apart from each other. The library has three campus libraries and a joint library with the university hospital. It has 75 staff members. One of the main impetuses for introducing KM to the library was the fact that the services were to be implemented within a new type of university with the main aim being to provide services in a digital form between campuses (Muhonen & Nygrén & Saarti 2011, 197-198). Another goal one was to help in the continuing education of the staff (Saarti & Juntunen 2011a).

## **2.2 Methods**

This qualitative research conducted in three academic libraries – IZUS / Universitätsbibliothek Stuttgart, Germany, Universitat Autònoma de Barcelona Library (UAB) Barcelona, Spain and University of Eastern Finland Library (UEF), Finland made it possible to conduct a the comparison of the KM process implemented in each of the institutions. It will also be examined and discussed how creation of “new knowledge” is managed and how it is managed and incorporated into the working routines and strategic work of the libraries. In addition, the pros and cons of the different types of knowledge management systems in use were analyzed not only for the internal communication of knowledge and innovation, but also for the improving of the knowledge and expertise of the staff. We will also compare the incentive systems implemented to encourage the use of the knowledge management systems in each library. The aim of the study was to identify the best practices from each of the participating libraries so that other libraries can benefit from their experiences as they implement a KM system.

## **3. Knowledge management and its implementation in the selected libraries**

### **3.1 KM-tools used and KM-goals**

Since the beginning of 2006, IZUS / UB Stuttgart has been using a Media Wiki as their intranet and as a tool for knowledge management. There were five reasons for selecting this KM-tool:

- It should be easy for new members of staff to access information
- The information that was previously stored hidden in non-searchable folders should be made available to everyone
- There was information previously used as “secret knowledge”; the Wiki should allow all members of staff to have access to this knowledge
- The Wiki should allow an easy search for information

- The easy usability of the Wiki should be a stimulus for the staff to be able to put their own knowledge at the service of others

UAB Library Service is aware of the importance of having an effective knowledge management system to cope with the ever-increasing mass of data and information which has to be managed by the library's staff. It also needs to be able to provide the best support to the users for the achievement of their goals so it will be regarded as an effective and trusted partner. The range of services that libraries make available to users is growing and the procedures and knowledge needed to implement them always need to be updated but still remain comprehensible to staff members. There can be no good knowledge management without good communication, in a wide sense, mailings, phone calls, meetings, even informal coffee time chats are all elements that contribute at the creation and consolidation of knowledge management. The following tools were used to create and develop the KM approach: Intranet (run on Liferay), Project management (run on Dotproject), Quality management databases (in home design on PHP / MySQL) and Wiki (run on Redmine). All these tools have certain common goals:

- To guarantee the use of upgraded information
- To contribute to internal transparency
- To encourage all the staff to share information

In addition, each tool has more specific goals. For example, Intranet (run on Liferay) has been devised as a user friendly repository of procedures and other internal documentation, to make information available in a systematized manner, to be accessible to all of the staff and to avoid mistakes or lost information.

Project management software (Dotproject) was chosen to help plan and organize the development of projects and objectives within the library's strategic plan; it is intended to be user-friendly software which highlights to all of the staff the level of accomplishment of the Library's objectives.

The quality management database (in home design on PHP / MySQL) was designed to hold the quality management system data in a consistent manner and to encourage continuous improvement since this generates innovation. Finally, Wiki (run on Redmine) was adopted as an easy and flexible tool for work-team communication of multiple projects, to help the staff to become involved in different projects and to keep track of the evolution of activities being performed.

The UEF Library started to develop its KM-tools with the implementation of a quality management system (QMS) at the end of the 1990's (Saarti & Juntunen 2011b). The aim of the quality management system is to communicate between different actors involved in the production of services and at the same time to

increase the quality of the library's products and processes. Thus, the implementation of a working QMS needs tools for effective communication and knowledge management systems that support the life-long learning of the staff. Initially, the library had planned to purchase a commercial product, but due to University-wide policies, it was decided to utilize the tools provided by the University, i.e. open web-pages and especially the adoption of intranet pages. The web-pages were designed for the library's patrons with their aim being to provide easy access to the information patrons need in their daily use of the library, especially what information, and services were being provided. Thus the web-pages were re-designed using the basic library services/processes as the main frame. The library's intranet structure was built according to the library's services and teams. The documents included in this site include the minutes of the meetings, working papers and protocols for each team. In addition, discussion forums were included during the redesign of the software; these are compatible with modern social media tools. At the present, the library has added tools into the intranet that support projects and working procedures.

Furthermore, the library and university have implemented several messaging and time management tools. The calendar tool has been used in the library to provide routine information e.g. service desk job management and in helping to manage the information about persons not in the office. Perhaps, the greatest benefit has been reaped from the utilization of LYNC-software for videoconferencing: this has saved much time and energy since not only has it reduced the amount of time spent commuting between campuses but at the same time it has made the meetings more efficient. Quite recently the university and library jointly introduced human resource (HRM) management software; this is intended to monitor the development of each staff member's skills and knowledge. This tool also provides information about which courses are available at the library and more widely throughout the university for the staff members.

At UEF Library the aim for the KM has been three-fold:

- To increase the awareness of the services and specific knowledge of the library's staff to library patrons
- To manage information flows and knowledge building inside the library
- To help and motivate each staff member in managing and developing their job and professional-related personal knowledge and skills

### **3.2. Process of implementing and Usage of the KM and associated tools**

At IZUS / UB Stuttgart, the impetus was a spontaneous action by two members of staff to create a Wiki; the library management did not oppose this initiative. At the beginning, it was a parallel option to the group systems with folders but gradually the idea was conceived that in time the Wiki would replace the old

formats. At first, its contents were simply applications for leave and plans for temporary substitutions and then new content was added which was only accessible via the Wiki. Even today, the Wiki is only used for holding some special information, because “secret knowledge” is still important to some members of staff. One could say that the passive usage of the Wiki still predominates; at the moment only a few individuals or departments actively add information and knowledge to the Wiki.

In UAB, the first systematic approach took place at the end of the nineties, when the quality management system was set up. The intranet has evolved from being a mere repository of procedures to being a tool that merges together databases, wikis, calendars of events and other elements that promote the maintenance, protection and growth of the library’s know-how. In fact, the adoption of wiki occurred later, being first proposed as a way of easing communication between the personnel at the computer center and the university’s different libraries. It was soon recognized to be a very flexible way of communicating and controlling the projects and thus its use was extended to many other aspects where the library needed to communicate and monitor projects and tasks.

In the UEF Library, the KM-tools have been implemented in the development of the library’s strategies and services. The greatest challenge has been how to keep all of the staff members up-to-date with the sometimes very rapid changes. The library has initiated a program of staff training, especially focusing on the new KM-tools. However, it has always been felt important that all staff should be encouraged to participate in the planning and management of the KM-tools. For example, all staff members have permission to make changes and upload documents onto the intranet. There has been an on-going and vigorous discussion about the contents of the intranet and other tools incorporated into the KM management. This is very important due to the fact that the modern tools make it possible to produce and store huge amounts of data and data-files. The library has viewed this also as a professional challenge: if the library cannot manage its own data, how it can help others in undertaking this task? The library has also been aware that its intranet and web-pages have been and are continually benchmarked by other actors, especially within the university.

### **3.3. Reservations or resistance against KM**

In IZUS / UB Stuttgart, there were some reservations raised against the basic concept of a Wiki, to share knowledge that is easily editable by anyone and everyone – there was a fear of misuse (which has not occurred). There is still a prejudice held by some staff members who are unwilling to share everything over the Wiki, which they justify by the obsolete markup language and the complicated handling of the Media Wiki. There are no material incentives offered for sharing information and knowledge over the Wiki, as the Wiki’s principle of collaboration should encourage good passive as well as active usage of this tool.

In the UAB Libraries, a culture of pursuing quality and continuous improvement has been deeply rooted, and the values of innovation and excellence are achieved through teamwork. The intranet is used by all of the library's staff, but not all of them are using the Wiki, it depends on whether or not they are involved specific projects and thus some non-technical staff does not need to join it. It is not possible to state with confidence that all members of the staff feel comfortable with the KM approach but as there is a very high rate of willingness to learn, at present one can say that resistance against the KM does not appear to be a serious problem. Nonetheless, there are no formal incentives to share information.

In UEF Library, the main resistance has occurred against the need to master the new tools and to leave behind old modes of work. The concept of total openness has sometimes been challenging. Thus the library has stored some of the more sensitive and personal job-related information on the intranet. The greatest and also most relevant resistance has centered on information overload issues: this has led to the discussion that archive-like procedures should be incorporated into the KM i.e. what is worth preserving for whom and for how long a period? The new social media and project tools have raised issues about the personal information vs. organizational information and organizational memory. It is very likely that the group-working procedures will diminish the amount of the personal data and in the future, the data will have been produced more by teams and it will be concerned more with products and processes of the library.

### **3.4 Lifelong Learning of the staff**

The IZUS / UB Stuttgart has generous procedures for financing continuing education for all members of staff, irrespective of their position in the hierarchy; topics interesting for everyone (general topics) are often presented in round-table discussions after attending a training course. There are also internal training courses with external experts, e. g. "English for librarians" or "Conflict avoidance". Members of staff can also participate in courses related to their own special interests. There is no obligation to take part in any training course.

A staff training plan is prepared annually in the UAB Library Service (Balague and Fitó 2014). The assessment of training needs to take into account the objectives for the following year, new requirements and implementation of new services, changes in the task allocation, as well as the evaluation of the effectiveness of the training conducted in the previous year. The plan is validated by the university service staff training unit and then integrated into the training plans of the institution. The key objective is to have people with the right professional competence i.e. they will have the skills and abilities that allow them to successfully do their job. Participation in learning sessions is also a tool for organizational social well-being that helps strengthen the sense of belonging to an institution that performs a wide array of activities and provides many and diverse services. Training is a continuous line that encompasses both formal and informal activities, and learning activities should be always available

to the staff to help them to meet the professional challenges. The organizational learning is based on the need to transform their personal experience into knowledge accessible to the entire organization. Since 2005, the library has organized an annual workshop, "Sharing Knowledge at UAB Libraries"; this was conceived as a space for exchanging ideas and information with brief presentations given by staff from all areas of the Library Service to share experiences, best practices, to publicize innovative activities that can be useful to other libraries and to find solutions to common problems. This is a tool that promotes informal learning, and is based on solving problems which have arisen in the workplace. The emergence of informal learning complements formal learning and helps to respond to new professional challenges at a time when knowledge is the key factor in the innovation and development of the Library Service. However, it is necessary to mention some weaknesses. There are no positive tools to motivate attendance at training, or mechanisms to ensure active participation in these events. (Balagué and Fitó 2014).

In the UEF Library, the implementation of the KM has increased the extent of the staff education. It is anticipated that recent implementation of the HRM-software will most likely increase and emphasize this trend. The library and its services have undergone major restructuring during the past decade and this has been a motivating tool for the library's management: no doubt changes in the entire operational environment of the higher education will occur also in the future; the only way for the library and its staff to remain relevant (and thus employed) is to renew continuously update their knowledge base.

### **3.5 Gaining new knowledge: KM-Strategy and working routines**

In IZUS / UB Stuttgart, the acquisition of new knowledge is carried out non-systematically. Up to now, there has been no purchase of competences by seeking the help of external consultants for these kinds of projects. Thus, knowledge management is not specified in the library's strategy and at the moment one can also perceive some return to old routines and the hiding of personal knowledge. Currently, there is no intention to expand the internal knowledge management but there are plans to change the technical basis.

UAB Library's knowledge management approach is concerned not only with daily operations but it also is ready to handle new projects. In this sense, the Library Service's strategic planning is a key element, as it is necessary to handle the data appropriately before one can design and implement the projects and innovations contained in the plan. The first approach is taken when the annual training staff plan is prepared. Formal training is intended to guarantee that the team that will be involved in a new project can gain sufficient knowledge and skills to solve problems that may be encountered. The intention is to instill enough confidence that they can proceed and produce new internal knowledge. In this process, not only interactions inside the team, but also those with colleagues in other libraries, have a major importance. The staff has proven experience of teamwork and collaborative work, and this is beneficial when



working with the KM-tools. Today the staff is well prepared and remains interested in acquiring new knowledge and there are also a growing number of specialists ready to provide internal courses to other staff members. The library staff has incorporated informal learning into its culture, which often is superior to the “traditional” formal training. KM is seen as being a crucial component of the library’s strategy; however, there is clearly space for improvement. Since the new ISO 9001:2015 has incorporated the KM approach, the Library Service will be forced to review its KM protocols to detect weaknesses and to improve the present approaches.

In the UEF Library, the acquisition of new skills and knowledge has been planned and implemented in a systematic manner i.e. it is monitored and planned in the yearly performance appraisals. In addition, every staff member submits information about their attendance at courses into the university’s database. This has also been emphasized while planning the new ways of conducting library work.

#### **4. Concluding remarks – best practices in the KM**

This comparative study has revealed several key reasons and best practices for implementing KM procedures in university libraries:

- To provide information for new members of staff in an easy way
- To make “secret knowledge” available for everyone
- To motivate the staff to share personal knowledge with others
- To permit easy access to information
- To guarantee the use of upgraded information
- To contribute to internal transparency
- To encourage all of the staff to share information
- To increase the awareness to library patrons of the services and specific knowledge of the library’s staff
- To manage information flows and knowledge building inside the library
- To help and motivate each staff member in managing and developing her/his job and professional-related personal knowledge and skills
- To encourage the concept of continuous improvement as a way of generating innovation
- To have access to a simple and flexible tool for team-work communication of multiple projects
- To keep track of the evolution of activities being performed
- To help to plan and monitor the development of the library strategies
- To allow the maintenance, protection and growth of library expertise

KM-tools in libraries are affordable and should be implemented in every university library:

- There is no need to commit major financial resources when implementing KM, much of the existing technology already within the libraries when supplemented with free software will be sufficient to implement a KM system
- The library's KM can be benchmarked by other actors within the university
- KM can help libraries to meet their users' needs and expectations

KM-tools and their success rely on the library's staff:

- The staff should be able to engage proactively and be on the lookout for innovations; they should not consider themselves as mere passive recipients of knowledge
- The staff should be involved in understanding and exploitation of changes in the environment as routes to innovation
- There is a need to improve tools for assessing the impact of training provided to the staff and its transfer into the KM system
- The rotation rate of the library staff has been rather low so far; in the coming years, there will be a generation shift that will test how well knowledge management is working in transferring the organizational knowledge to the new staff members
- KM-tools can exert a motivating effect on the staff
- KM-tools make it easier to market what the staff members and the library does

As can be seen, the implementation of a KM-tool is neither expensive nor difficult, but it will only succeed when the library's staff is motivated and willing to share their knowledge.

In summary, one can conclude that a library's future will be based on KM; already one can detect this trend in almost every aspect of the library's work and activities.

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