



## Managing Knowledge in Academic Libraries Are we? Should we?

**Hilde Daland**

Agder University Library

[hilde.daland@uia.no](mailto:hilde.daland@uia.no)

### Abstract

This article gives an overview of the field of knowledge management and suggests how this can be applied to academic libraries. A literature review has been conducted and has been subject to a critical analysis of comparison to IFLA's standard for "Continuing Professional Development: Principles and Best Practices" (IFLA, 2015). Here IFLA has identified 10 points of best practice. These 10 points will be measured against the literature in the field of knowledge management to ascertain if academic libraries would benefit from a stronger relation to knowledge management.

**Key words:** knowledge management; academic libraries; library science; innovation; knowledge development; library

### 1. Introduction

This article aims to give an overview of how the field of knowledge management may be applied to academic libraries. In an article published 15 years ago by Charles T. Townley, *Knowledge Management and Academic Libraries* (Townley, 2001), the author states that libraries do not manage knowledge as well as they manage information. Librarians are information workers, and it is therefore likely that knowledge management could and should be applied in academic libraries. IFLA has identified 10 points of best practice in regards to continuing professional development. This article aims to give a review of

relevant literature and investigate if academic libraries are managing their knowledge in a different way in 2016, or, if they are not, should they be doing this?

## 2. Methodology

This is a hermeneutic literature review. The aim is to map out whether academic libraries are now focusing on knowledge management and/or if they should be. From the literature on knowledge management some links will be drawn to academic libraries and their core functions. This will be linked up to IFLA's standard for "Continuing Professional Development: Principles and Best Practices" (IFLA, 2015). Of course there may be more knowledge management than what is documented in research literature, but it will still provide an insight to what impact knowledge management has in library and information science.

## 3. What is Knowledge?

Knowledge is difficult to grasp and define, but it is undoubtedly the most important asset in the knowledge economy. As information is becoming more and more available, translating it into knowledge is both more demanding and important. As information and knowledge workers, librarians must be aware of this. It can be said that while *data* is essentially numbers and letters without meaning, data presented in a context that makes sense is information. Knowledge is further developed when information is combined with experience, context, interpretation and reflection (Gottschalk, 2004, p. 16). Knowledge has also been defined as the ability to discriminate within and across contexts. Knowledge as a field of study denotes the ways in which actors in particular social situations understand and make sense of what they are doing (Swan, 2008, p. 750). "As Michael Polanyi pointed out, knowledge, unlike information, is personal—that is, it involves a knowing subject. It follows that knowledge tends to be embedded within the social contexts of individual action" (Scarbrough, 2008, p. 761). Knowledge can be that of individuals or organisations, tacit or explicit. However, knowledge cannot be made without people. A community of practice is an important part of knowledge building and knowledge sharing. "In a nutshell, a community of

practice is a group of people who share an interest in a domain of human endeavour and engage in a process of collective learning that creates bonds between them: a tribe, a garage band, a group of engineers working on similar problems” (Wenger, 2001). Knowledge management is important because it seeks to support communities of practice in creating and using knowledge (Townley, 2001).

### **3.1. Tacit and Explicit Knowledge**

Knowledge can be understood as individual knowledge and organisation knowledge. Personal knowledge is unique for each person and a great deal of this knowledge is tacit. Organizational knowledge is the knowledge of all employees in an organization, and some of this knowledge is also tacit. Organizational knowledge is usually described as a spiral of explicit and tacit knowledge.

Tacit knowledge was first identified by Polanyi (1962) as a phenomenon. Tacit knowledge is difficult to make explicit, but not impossible. Nonaka and Takeuchi’s knowledge spiral has been described by Dalkir (2011, p. 70):

“Knowledge creation is not a sequential process, but depends on a continuous and dynamic interaction between tacit and explicit knowledge throughout the four quadrants. Organizations articulate, organize, and systematize individual tacit knowledge, produce and develop tools, structures, and models to accumulate and share it to create new knowledge through the knowledge spiral as illustrated in figure 3.2. The knowledge spiral is a continuous activity of knowledge flow, sharing, and conversion by individuals, communities, and the organization itself”.

Sharing knowledge in an organization is dependent on the shift between tacit and explicit knowledge. Explicit knowledge is articulated and can be the subject of conversation. Through conversations and observations, tacit knowledge can also be observed and passed on. Further “The distinction between tacit and explicit knowledge is often equated with the difference between “know-how” and “know-what” (Scarborough, 2008). Simply being able to do something can be intuitive and difficult to explain, whereas actually having an explicit knowledge and knowing what is known can be more easily transferrable to others. It can be archived in knowledge management systems and described as routines

and procedures. Further, the epistemological dimension to organizational knowledge creation embraces a continual dialogue between tacit and explicit knowledge that drives the creation of new ideas (Nonaka, 1994, p. 15).

Another distinction between tacit and explicit knowledge is that “Knowledge that is uttered, formulated in sentences, and captured in drawings and writing is explicit. Explicit knowledge is accessible through consciousness. Knowledge tied to the senses, tactile experiences, movement skill, intuition, unarticulated mental models, or implicit rules of thumb is ‘tacit’” (Nonaka & von Krogh, 2009, p. 636). As knowledge is a personal phenomenon, it cannot be reduced to only explicit and written information. It must be considered as part of a larger context where the whole human being, or employee is part of the present knowledge.

### **3.2. Strategies for Knowledge Transfer**

As knowledge is emerging as the most important “product” it is vital that employee knowledge can be transferred to other employees so that the organization can benefit from the collective knowledge available. To do so, different strategies and approaches can be applied. “Personal channels, such as apprenticeships or personnel transfers, may be more effective for distributing highly context specific knowledge whereas impersonal channels, such as knowledge repositories, may be most effective for knowledge that can be readily generalised to other contexts” (Alavi & Leidner, 2001, p. 121). Different knowledge must be presented in different ways. Also, people learn and observe differently. Different approaches may appeal to different people. Therefore, a variety of ways to share and facilitate organisation learning is important. It is important not to just store and pass on information and expecting knowledge to follow. Communities of practice and social learning can function as an important catalyst for knowledge creation (Alavi & Leidner, 2001, p. 126). According to Wiig (1993, p. 86) cognitive science has come to combine elements of several areas including primarily psychology, philosophy, linguistics, artificial intelligence and computer science in order to better understand what happens when we observe and analyse how our co-workers acquire, hold and use knowledge and what their individual strengths and weaknesses are. A community of practice where observation and communication is made possible is a good way of displaying tacit knowledge and learning from each other.

### **3.3. Learning in Professional Life**

A socio-cultural view on learning would state that all professionals must be socialised into a work environment to meet the required expectations. "Information literacy is a collective practice, one which not only connects people to rational and instrumental aspects of their performance but also to the embodied and affective aspects that shape identity and situate people within that social context" (Lloyd, 2012, p. 775). Lloyd calls this a "people-in-practice" perspective that focuses on the complexity of how people get acquainted with the information and practices around them (p. 780). Motivation for learning is also higher when one sees the relevance. Working in communities with others gives the opportunity of asking when a problem arises and solving the problem in collaboration with a more experienced colleague.

### **3.4. Learning on Demand (LOD)**

Professional life will sometimes require that one learn on demand. A new program or other will require staff to acquire new knowledge and know-how. There are several approaches to this, but "Employees who learn by doing typically are better able to use memory cues to link information and skills to on-the-job experiences and develop greater confidence in applying their knowledge and skills and are less dependent on text to learn. Through LOD, employees receive instant feedback and reinforcement and have reduced anxiety and fear of failure. They can pace themselves and zero in on the information most likely to help their job performance at the moment" (Trondsen & Vickery, 1997, p. 172). Through a practical approach in a community where employees are able to learn from each other, learning outcomes seem to be high. Moreover, it has been noted that "Mastering skills, not memorizing facts, improves performance" (Trondsen & Vickery, 1997, p. 176).

### **3.5. Managing Knowledge?**

Knowledge management is a fairly new area that has developed in the last 20 years. There are many definitions, with Dalkir pointing out that "An informal

survey they conducted had identified over a hundred published definitions of knowledge management and of these, at least seventy-two could be considered to be very good!" (Dalkir, 2011 p. 5). One definition that stands out is "The creation and subsequent management of an environment which encourages knowledge to be created, shared, learnt, enhanced, and organized for the benefit of the organization and its customers" (Sarrafzadeh, Martin, & Hazeri, 2006, p. 624). The organization's collective and individual knowledge is important for the end users and must be brought forward by the organization's employees. Also, it is noted that "The term knowledge management (KM) denotes the explicit strategies, tools, and practices applied by management that seek to make knowledge a resource for the organization" (Scarborough, 2008). It seems clear that all organizations should have a strategy for knowledge management. Another common application of knowledge management is the creation of corporate directories, also referred to as the mapping of internal expertise (Alavi & Leidner, 2001, p. 114).

Wiig's (1993) model of KM stresses the need for *building*, *holding*, *pooling* and *using knowledge*. Building knowledge is described as "[...] activities include obtaining, analyzing, reconstructing (synthesizing), codifying, and organizing knowledge" (Evans, Dalkir, & Bidian, 2014, p. 88). It may also be described as the activities where employees create products or services. *Holding* knowledge "[...] involves remembering, accumulating and embedding knowledge in repositories, and archiving knowledge. In other words, knowledge is internalized in the employees' minds or held in more tangible forms, such as documents and archives. Computer-based repositories or scientific libraries can also be used to accumulate new and archive old knowledge" (Evans et al., 2014, p. 88). Intranets or other written material stored electronically can be a way of sharing this knowledge and passing it on. "The third phase, pool, relates to the collective or group level of the organization and refers to coordinating, assembling, accessing, and retrieving knowledge" (Evans et al., 2014, p. 88). This can be facilitated through such aids as intranet or colleague learning through observation. The pooling of knowledge and information makes way for a more social learning process that also is better for obtaining and passing on tacit knowledge. The using part of Wiig's KM model refers to "knowledge being used in order to generate benefits" (Evans et al., 2014, p. 88). This is pretty straightforward, and it is the goal of the knowledge management process. It will also benefit the organisations end users.

### **3.6. Knowledge Management Systems (KMS)**

Most organizations have a system for digital storing of information. "Knowledge management systems (KMS) refer to a class of information systems applied to managing organizational knowledge. That is, they are IT-based systems developed to support and enhance the organizational processes of knowledge creation, storage/retrieval, transfer, and application" (Alavi & Leidner, 2001, p. 114). These systems should provide easy access to information that can be translated into knowledge. However, a KMS system alone will not be able to give new employees everything they need. The importance of communities of practice should not be underestimated. Nevertheless a well-functioning KMS will save time for employees needing to refresh their memory. They should also have a lesser need to ask their co-workers.

## **4. Discussion**

The library is a complex web of data, information and knowledge. Books and journals must be catalogued and organized in a way that is logical to our users. The users should further be given instruction on how to use databases and reference sources. Also, as the information landscape is changing, the use of library services is changing and the librarians' role is changing. We need to adjust our services in order to stay current and stay relevant. Innovation cannot be forced, but grows where it is allowed. Innovation has always been important in library science, as we need to stay ahead of our users to anticipate their needs. This has also been confirmed in relevant studies (Jain, 2009; Pantry & Griffiths, 2003).

Knowledge management is important not only to library management and their employees, but it also benefits library users. A well-functioning team of librarians with the right competencies and skills will naturally provide a better service for the library's users.

Much of the literature on KM and libraries focus on the management of information and knowledge towards library users, and less on the library employee's own knowledge and skills. "KM is usually misinterpreted as information management or content management activities of a library. For this lack of understanding of KM, library authorities or decision-makers often do not show any interest in KM" (Roknuzzaman & Umemoto, 2009, p. 653).

IFLA's *Continuing Professional Development: Principles and Best Practices* (IFLA, 2015) highlights the importance of development of skills and competencies which should be prioritised to facilitate KM. This is formulated in the 10 points that make up what best practice requires:

1. Regular learning needs assessment

Assessment of learning needs will correlate with Wiig's point of *building knowledge* where obtaining, analysing and organising knowledge is the goal. Building knowledge consists of five major activities: 1. Obtain knowledge, 2. Analyse knowledge, 3. Reconstruct/synthesize knowledge, 4. Codify and model knowledge, 5. Organize knowledge (Dalkir, 2011, p. 48). The analysing of knowledge is clear in this first point. In order for library staff to be up to date on new skills and knowledge, it is important that library management has a clear understanding of what knowledge is needed.

2. Broad range of learning opportunities, both formal and informal; formal offerings in a choice of formats, designed to meet identified needs, in modules structured to cover topics from introductory through advanced.

This point can be associated with the *pooling* of information where learning is planned for groups and individuals where knowledge is coordinated and accessed in a social learning process. It can also be understood as the need for professional communities of practice where socio-cultural learning takes place.

3. Organizational commitment and leadership from staff development and continuing education administrators with expertise in adult continuing education.

4. Widely disseminated information about continuing education and resources, accurately described.

Both point 3 and 4 are closely connected to *building* knowledge, where staff development is an important factor for obtaining and codifying and modelling knowledge.

5. CE activities design that includes learning objectives aligned with identified needs; follows principles of instructional design and learning theory; selects course instructors on the basis of both subject

knowledge and teaching ability; attends to transfer of training and feedback.

Transfer of training and feedback can be understood as both *holding and pooling* of knowledge where knowledge is archived in KMS and used in a social setting for learning and accessing knowledge. "Holding knowledge consists of remembering, cumulating knowledge in repositories, embedding knowledge in repositories, and archiving knowledge" (Dalkir, 2011, p. 48). Further "Knowledge pooling consists of coordinating knowledge, assembling knowledge, and accessing and retrieving knowledge" (Dalkir, 2011, p. 49).

6. Consistent documentation of individuals' participation in learning and recognition of continuing learning in hiring and promotion decisions.

Documenting the knowledge in an organization can be thought of as *holding* knowledge where the knowledge is archived and internalized in the employees' minds or held in more tangible forms.

7. A minimum of 0.5–1.0% of institutional budget earmarked for staff development, as stated in the IFLA Public Library Service Guidelines.
8. About 10% of work hours provided for attendance at workshops, conferences, in-service training, and other educational activities, and for informal learning projects.
9. Evaluation of continuing education and staff development offerings and program.
10. Research that assesses the state of CPD and examines the efficacy and outcomes of continuing education and staff development programs.

Points 7–10 all focus on evaluating and assessing the opportunities for staff development and identify library management's responsibility to prioritise and make it happen. This can be understood as *building* knowledge in Wiig's KM model. Analysing and organising knowledge, reconstructing, codifying and obtaining new knowledge are the steps that constitute the building of knowledge.

It is clear that these 10 points all have a very close link to KM. KM methods could and should be applied in order to manage and develop academic

libraries. We can apply this by using Wiig's model of knowledge management cycle (Wiig, 2003). "The cycle focuses on identifying and relating the functions and activities that we engage in to make products and services as knowledge workers" (Dalkir, 2011, p. 47). Knowledge must be built, held, pooled and used. To build knowledge it is important to map out what knowledge is needed and how this can be obtained. A study from 2015 describes how liaison librarians were asked to complete a survey that rendered their competencies and self-esteem connected to different desired skills visible, and further how a socio-cultural environment and community of practice had a positive effect on their self-confidence (Daland, 2015). Another study on libraries and knowledge management concludes that "[...] information professionals constantly need to upgrade the variety and depth of their subject" and further that "To provide a service that continues to play an irreplaceable part in supporting the organisation's progress the library and information professional must maintain an awareness of both subject and professional developments (Pantry & Griffiths, 2003, p. 107). This is also confirmed in Jain (2009).

One study from Romania maps 5 libraries and how they have implemented knowledge management. "Their responses show that 70% of the participants in this study perceived the priority for their institution as part of organizational development being one orientated towards continuous professional development" (Porumbeanu, 2010, p. 551).

Libraries need to focus on future assignments and develop a strategy for how and what competencies the employees need. When asked, most executives will state that their greatest asset is the knowledge held by their employees. "When employees walk out the door, they take valuable organizational knowledge with them" (Lesser & Prusak, 2001). Therefore it is vital that library management knows what knowledge and competencies their employees have, and what they are lacking. This way employment policy and planning can be made better. Studies suggest that this is not the case. According to Townley libraries do not manage knowledge as well as they manage information. "Librarians do not manage knowledge about their organizations as they manage their other resources. They do not structure their organizations to use organizational knowledge. They do not apply organizational knowledge to improve services or the transmission of scholarly information" (Townley, 2001, p. 44). He further suggests, "Librarians are learning to be proactive in their delivery of scholarly knowledge and will need to use many of the same

techniques to share operational knowledge within the library” (Townley, 2001, p. 48).

Much of the knowledge management literature regarding libraries focus on how information can be brought to library users and translated into knowledge. Townley also focuses on the importance of this. “Organization of knowledge also is critical for improving library operations. Knowledge must be structured in ways that are intuitive for the intended community of practice. Knowledge that is intuitive for cataloguers may not be immediately intuitive for an archivist or reference librarian, and vice versa. Implicit knowledge must be divided into broad groups of similar knowledge with excellent transferal capability”(Townley, 2001, p. 48). It is clear, however, that communities of practice and sharing of knowledge is important among colleagues in order for them to use the knowledge in the best possible way, further offering library users the best possible services.

#### **4.1. Knowledge Management Obstacles**

Although KM is a useful tool, there are some potential obstacles to implementing this in academic libraries. The challenge of tacit knowledge has been discussed earlier, but also the challenge of motivating employees must be considered. Mapping of competencies will often also map out lack of competencies. This could, in some cases, even demotivate employees. Also, knowledge is difficult to measure. “The choice of which KM strategy to pursue is typically based on other strategic thrusts and the value discipline that the enterprise pursues, challenges it faces, and opportunities it wishes to act upon” (Wiig, 1997, p. 9). One size does not fit all, and knowledge management must be adjusted to its settings in order to be of use. This being said, elements of knowledge management will, in all likelihood, be of value when working with knowledge and information enterprises, including academic libraries.

## **5. Conclusions**

There is little literature on KM for librarians as knowledge workers. It appears that the focus of librarians has been mainly on information management and

how information can be provided to library users in order for them to translate it into knowledge. It seems clear that a focus on library staff's knowledge and skills and the management of this would be a fruitful way to face future library challenges. As librarians are becoming increasingly knowledge workers, a focus shift must be made to facilitate this. The IFLA's 10 points of "Continuing Professional Development: Principles and Best Practices" have a clear link to knowledge management. KM methods could and should be applied in order to manage and develop academic libraries and their staff. This article has demonstrated the correlation to Wiig's knowledge management circle of *building*, *holding*, *pooling* and *using knowledge* and IFLA's 10 points of "Continuing Professional Development". Still, obstacles of KM must also be considered before choosing a strategy and implementing this. More research would be of interest to map the challenges and benefits of KM when it comes to library staff competencies and skills.

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