



## “At least we have something to discuss during lunch...” Learning on Demand in a Learning Institution when Implementing a New Library Management System

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### Abstract

This article investigates how staff and management in Norwegian academic libraries have experienced the implementation of the new library management system *Alma*. As a new library management system is introduced, the need for learning on demand emerges. An anonymous survey was sent to all academic libraries in Norway, resulting in a total of 626 responses. This article presents the findings from this survey and provides some reflections on how a firm grip on knowledge management could have helped make such a transition easier.

**Key Words:** library; organisational learning; knowledge management

### 1. Introduction

Organisational learning is undoubtedly a challenge. However, it has always been a necessity for knowledge organisations, perhaps now more than ever. Knowledge management (KM) is a relatively new field of research, but it is important for obtaining an overview of existing knowledge and the need for new knowledge in businesses and organisations. In many cases *learning on demand* is essential in order to handle new programs and services. Previous

research suggests that academic libraries do not have a strong focus on knowledge management and that it could be fruitful to change this (Daland, 2016; Islam, Agarwal, & Ikeda, 2014; Townley, 2001).

In 2015 a new library management system, Alma, was implemented in Norwegian academic libraries. The previous library management system, Bibsys, had been used from the seventies and felt familiar and secure for experienced library staff. The implementation of a new library management system entailed a need for learning on demand and on schedule in order to master and use Alma. This article aims to investigate how the implementation of the new library management system was experienced in Norwegian academic libraries through the following three questions:

1. Did the implementation of the new library management system cause stress?
2. What factors seem to effect the experienced level of stress?
3. How do the librarians describe their experience?

Further, this study will give some reflections on how a stronger focus on knowledge management could have affected the learning process.

## 2. Methodology

This article is based on a quantitative study on how the implementation of the new library management system was experienced by Norwegian librarians. An anonymous survey was issued to staff and management in Norwegian academic libraries. The responses were collected and analysed using the survey programme SurveyXact. The questions were mainly closed, but some open ended questions were included to gain access to other comments or reactions the respondents may have had. The goal was to explore how library staff experienced the implementation process and transition to a new library management system.

Staff in Norwegian academic libraries count for 1637 full-time equivalent positions (Statistics Norway, 2016). The answer rate was 499 respondents who completed the whole survey, and 127 who gave some answers, but did not complete the entire survey. This will be reflected in the N value in the

*"At least we have something to discuss during lunch..."*

graphs. The response of 626 library professionals makes for a response rate of 38%.

A quantitative survey issued to a number of academic libraries of different sizes and work cultures presents challenges. Some of the libraries have been part of the "test group" and may have experienced more stress related to the implementation of Alma. The library management system was implemented in different heats (BIBSYS, [n.d.]), making the libraries in the first heats "pilot libraries." Stress levels could of course have been affected by this.

To keep the survey anonymous, a link to the questionnaire was issued without linking the respondents to their answers. This may mean that some respondents have answered the questionnaire several times. Also, one must take into consideration that the librarians who chose to respond are the ones with strong opinions, being positive or negative.

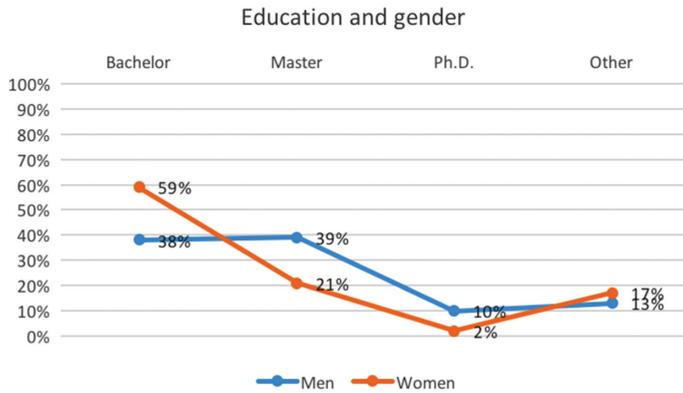
Some of the open ended questions have also been analysed in order to gain a deeper understanding of the closed questions and the responses in general. It must be stressed that this article does not aim to give a solution as to how knowledge management should be carried out in academic libraries, but rather how the implementation of a new library management system has been experienced and if a firmer approach to knowledge management could have made a difference.

### **3. Background Information**

The respondents were 18% men and 79% women. To a large extent, the men have a higher level of education than their female colleagues (Figure 1). While 10% of the men have a Ph.D. degree, only 2% of the women do. However, the number of people with a Ph.D. in total is basically the same.

Ninety four percent of the respondents had participated in Alma training. The questionnaire listed training as online training resources, face-to-face workshops and courses, and one-on-one guidance with a colleague. Others had familiarized themselves with the system on their own. Over half of the respondents (60%) stated that so much time had been spent learning the new library management system that they felt it had had a negative effect on services for library users.

Fig. 1: Education and gender N=603.



#### 4. Knowledge Management as a Theoretical Framework

Knowledge management has been discussed in a library context, but often with a direction towards *information management* and how librarians can help increase library users' competencies and knowledge. It seems that libraries could and should focus more on knowledge management as libraries are, in fact, knowledge companies. Knowledge management is therefore an important task for library management. It is vital to be aware of staff's knowledge and skills in order to know what services the library can and cannot offer. In addition, it is significant for developing a strategic hiring policy, as it maps out what knowledge and expertise is missing from the organisation. Townley (2001) stated that libraries do not manage knowledge as well as they manage information. In the emerging knowledge economy, libraries should have a firm grasp of the available knowledge among their staff members.

Knowledge can be described as both explicit and tacit, and organizational learning usually consists of a spiral of the two. "The distinction between tacit and explicit knowledge is often equated with the difference between 'know-how' and 'know-what'" (Scarbrough, 2008) and 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). Learning on demand (LOD) is often required in the professional life of knowledge workers such as librarians.

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Wiig describes four important aspects of knowledge management, namely *building, holding, pooling and using knowledge* (Wiig, 1993, p. 88). Building knowledge can be described as “[...] activities that include obtaining, analyzing, reconstructing (synthesizing), codifying, and organizing knowledge” (Evans, 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, 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, 2014, p. 88). This can be facilitated through aids such as intranet or colleague learning through observation. The pooling of knowledge and information makes way for a more social learning process which is also 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, 2014, p. 88).

Wiig’s book from 1993 is one of the classics in knowledge management and describes seven basic learning strategies. These strategies can be of use to describe and analyse how learning was planned and carried out in the implementation process of the new library management system. It is important to note that learning seldom fits into one design, but rather combines different elements of several strategies. Wiig (1993) presents the following learning strategies:

1. Rote learning or direct implanting of knowledge  
This is an extreme case where the learner accepts the knowledge supplied without examination, judgement or questioning. Knowledge is in other words adopted and memorized directly by the learner.
2. Learning by instruction  
This is the traditional method of training and it is used to train more than to educate.
3. Learning by deduction  
This is a more complex process where the communicated material contains the subject implicitly. That is, the learner deduces knowledge from the presented material.

4. Learning by induction  
This is where the learner acquires knowledge by drawing inductive inferences from the supplied material.
5. Learning by analogy  
This method makes the learner create new knowledge by modifying specifics of a previously known concept to match the presented material. This is considered to be a combination of deductive and inductive learning.
6. Learning from examples  
This is the case when a learner induces a new concept by generalizing from the provided examples and possibly counterexamples. In particular, it often involves application of case-based reasoning.
7. Learning by observation and discovery (unsupervised learning)  
When a learner analyses observed or presented entities to the provided material and determines that some can be classified into a pre-existing or new organizational or representational structure that can characterize or even explain the material. Learning by observation and discovery is another kind of learning by induction.

The need for a quick learning process was essential because Alma needed to be implemented and learnt at the same time. While there was a training possibility beforehand there is a big difference between training and performing real work tasks using the new library management system. Consequently, Wiig's learning strategies 1 and 2 were applied in order to spread knowledge the fastest way possible. These two learning strategies are not ideal. This is reflected in the survey responses, which will be discussed in what follows.

## 5. Knowledge Management in Academic Libraries

Knowledge management can be defined as "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). In libraries however, "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"

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(Roknuzzaman & Umamoto, 2009, p. 653). As previously mentioned, Wiig's (1993) model of KM stresses the need for *building, holding, pooling* and *using knowledge*. As a new library management system is implemented, the building of knowledge is essential. *Building knowledge* means to obtain and organize knowledge. This presupposes that strategies for organizational learning must be made. This can be referred to as *learning on demand*. Learning on demand is best done in communities of practice where the social aspect is an important one. “In an age when information technology can transmit a trillion bits of data per second, old learning paradigms – ‘I teach, you learn’ – no longer suffice. Increasingly, companies need the capability to bring knowledge, skill training and education directly to employees at the moment they have the greatest need to know and are in the best position to apply their knowledge” (Trondsen & Vickery, 1997, p. 169).

The *holding* of knowledge is that of remembering and embedding knowledge into repositories and archiving the knowledge for later use. This is a core function of libraries.

*Pooling* knowledge is perhaps the most complex part of Wiig's model of knowledge management. It entails assembling, accessing and retrieving knowledge. This means that an overview of the organisation's total knowledge should be gathered and further analysed to map out what knowledge is needed. As the new library management system was implemented, the pooling of knowledge needed to be done continuously.

The fourth part, *using* knowledge, is the goal of knowledge management where the organisation's knowledge is put to use to reach goals and more efficient ways of working. This is quite self-explanatory and is the goal for all organisational learning. Wiig's model of knowledge management is a circular one where the different parts are repeated.

The socio-cultural approach to information literacy and learning stresses the importance of social interaction and processes. When building knowledge, a social aspect is important in order to promote learning. The goal of KM is that knowledge and information is used and shared within an organisation to ensure information flow and more effective ways of working. To do so, it is important to know what is known and what should be learnt. This is also an important part of building a community of practice.

“A knowledge audit service identifies the core information and knowledge needs and uses in an organization. It identifies gaps, duplications, flows, and how they contribute to business goals. A knowledge inventory (sometimes called an information audit or a knowledge map) is a practical way of coming to grips with “knowing what you know” by applying the principles of information resources management (IRM). A knowledge audit identifies owners, users, uses, and key attributes of core knowledge assets” (Dalkir, 2011, p. 318).

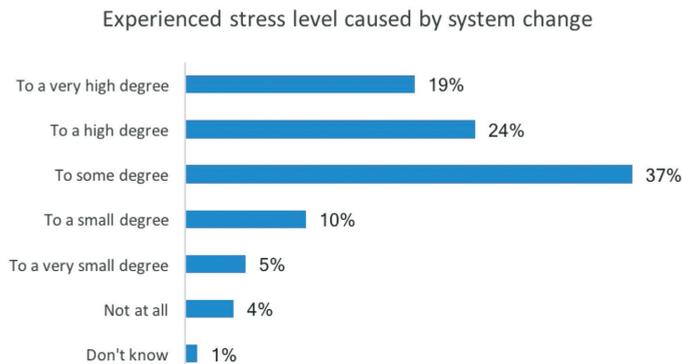
Awareness of organisational knowledge and staff learning abilities and skills with regards to the handling of technical programs will help making implementations of new utilities easier. It could also help delegate responsibilities so that a good learning environment could be established.

## 6. Results

### 6.1. Statistical Data

There are few significant differences as to who experienced the most stress in the implementation process, and there is little difference between staff and management’s feelings towards how the implementation of Alma has been carried out. Management seems to have a slightly higher satisfaction with this. In general, the survey showed a high level of experienced stress related to the implementation of the new library management system (Figures 2 and 3). The

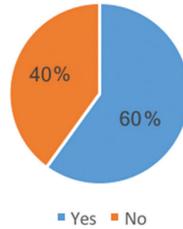
Fig. 2: Is the implementation of the new library management system contributing to stress? (N=531).



*“At least we have something to discuss during lunch...”*

Fig. 3: Time spent learning the new library management system (N=562).

Is your experience that so much time has been spent learning Alma that user services have suffered?

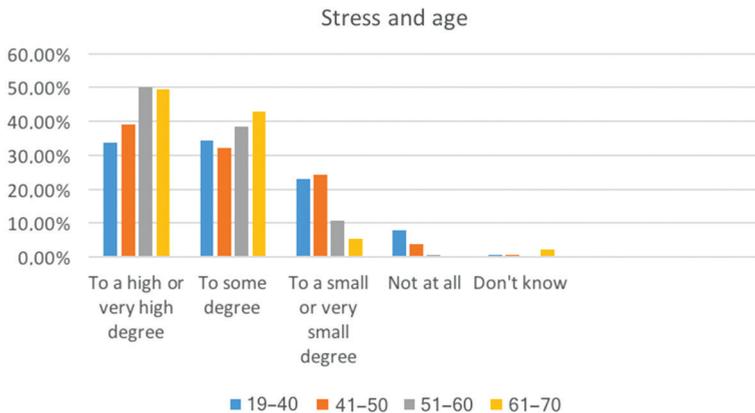


survey shows that 80% of the respondents, both management and staff, experienced some stress due to the implementation of Alma.

It is difficult to see a clear correlation of who are experiencing more stress, or what affects the level of stress for employees. Age is the only factor that seemed to have had a significant correlation to stress, with a Pearson's correlation of 0,223. This indicates that there is a higher occurrence of experienced stress among the older respondents (see Figure 4).

It seems that the employees between the ages of 51 and 70 experienced the highest levels of stress related to the library management system change and

Fig. 4: Age and stress level (N=543).



the older they are, the higher the reported level of stress is. However, even 34% of the youngest report a high level of stress due to the library management system change. It would have been useful to know if the older respondents had had the same position in their library for a long time, as this could explain if the stress level was caused by the change of a familiar work routine or simply because of age. Women also reported a higher level of experienced stress than their male co-workers, but the differences were marginal.

It seems that it is not the respondents as such that could give the explanation to why the stress levels were so high, as they seem to have the same experience regardless of age, education level and gender. This suggests that the implementation process has been difficult to all. To understand why, the open comments in the questionnaire could offer some insight.

## 6.2. Some Comments made by the Respondents

The possibility of giving an open answer in the comments section was used by a lot of the respondents. Most responses were characterised by frustration and negative feedback regarding Alma. One interesting find is that the word "frustration" is mentioned close to 40 times in the responses. The word is used 31 times by staff and 8 times by management. The library management system as such did receive harsher criticism than the implementation process. A large number of the respondents were unhappy with the training programme, but they also felt that Alma was not finished and contained a lot of technical flaws. The respondents would have preferred courses and face-to-face meetings and workshops around the country arranged by a group of experts. Still, some respondents were optimistic towards Alma and indicated that a library management system change was long overdue. Some examples of the most typical comments are given below (author's translation).

*"An unfinished product with a lot of flaws creates frustrations"*

*"Characterised by a lot of frustration. Especially due to the way we are meant to learn Alma. I have a poor experience of learning online, and have experienced that some guidelines do not coincide with reality. There was no one to ask as everybody had enough doing their own things and were not familiar with the library management system. I think the learning programme has been immensely bad. Should have gone for face-to-face training with good instructors like we had at the transition to Bibsys. Much more efficient!"*

*"At least we have something to discuss during lunch..."*

*"Spent a lot of time finding out stuff, no one can tell you how things are done, a lot of trying and failing. One can get immensely frustrated, but all in all a new library management system is exciting and fun. It was about time!"*

*"You always have something to discuss during lunch"*

It seems that the respondents feel that the learning programme was not good enough and that they were missing a more personal approach with traditional training. This suggests that a community of practice would have been a fruitful approach to promote organisational learning.

## **7. Discussion**

Alma has more possibilities than the previous library management system, and is thereby more complex. Complexity is in many cases a necessity. However, it can be frustrating when one does not understand it. "The major issue is understanding: things we understand are no longer complicated, no longer confusing" (Norman, 2010, p. 5).

A high number of the respondents reported that they were unhappy with the training they received for learning the new library management system and that Alma was difficult and illogical. Townley (2001, p. 45) states that "[...] knowledge management seeks to support communities of practice in creating and using knowledge. Finally, it accepts the notion that knowledge transmission is primarily a human activity." Many of the respondents stated that they missed face-to-face training by BIBSYS at their institution or at gatherings. They wanted a physical learning space with people and a community of practice. Information literacy and knowledge management is undoubtedly connected in the workplace of knowledge organisations like libraries. "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).

From the comments it is clear that many of the respondents were missing a more social and formal education in learning Alma. Lloyd describes the three sources of information as textual, social and physical information. "[The] outcomes of the interplay among these three sites are the gradual development

of expertise in practice and a deeper understanding of the purposes of professional practice as the novice moves from a conceptual understanding to an embodied understanding of practice” (Lloyd, 2006, p. 576).

The main conclusion is that learning takes time and will in most cases contribute to stress and frustration. A new library management system will have implications for work methods and work flow. Habits stemming from years of professional life are hard to turn around. Strategies for maintaining existing knowledge and prioritising time are of importance here.

Wiig’s learning strategies can be used as a framework to analyse how the training of the new library management system was carried out and experienced by the librarians. As Alma was quite different from BIBSYS, a strategy of learning by analogy would create more frustration than help. The training was available to the librarians about one year ahead of implementation. The librarians were provided with online learning material and testing modules. However, some of the comments stated that the respondents were reluctant to learn the theory of a library management system they did not use at that point. This may be explained by the fact that people tend to avoid difficult tasks that involve thinking and challenging oneself (Hattie & Yates, 2014) and that learning is often preferred “just in time” and not “just in case” (Daland, 2015). After Alma had been launched, the learning process went on to Wiig’s strategy number 7: learning by observation and discovery. The library management system is the librarian’s most important work tool. Thus, the experience of facing a new, unfamiliar system will create stress and uncertainty.

Relating to Wiig (1993), learning strategy 1 (rote learning or direct implanting of knowledge) and 2 (learning by instruction) were applied in order to spread knowledge the fastest way possible during the implementation of Alma. These are strategies that encourage quick learning without questioning or reflection. Knowing that “Mastering skills, not memorizing facts, improves performance” (Trondsen & Vickery, 1997, p. 176), will suggest that these strategies are not ideal. However, the need for a quick learning process was essential because the library management system needed to be implemented and learnt at the same time. While a training possibility was offered beforehand, there is a big difference between training and performing real work tasks using the new library management system.

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Consequently, Wiig’s learning strategy 1 and 2 were applied in order to spread knowledge the fastest way possible, while the strategy of unsupervised learning in Wiig’s point 7 (learning by observation and discovery) would probably promote and ensure learning in a better way. Still, when faced with the necessity to learn on demand and with a time limit, certain adjustments must be made.

## 8. Conclusions

Staff and management in Norwegian academic libraries report that they have experienced stress due to the change of library management system. A new technological library management system will undoubtedly create both new possibilities and limitations for professional tasks and assignments. Tasks that have been carried out in a certain way for years are forced to change. Organisational learning, or learning in general, is seldom painless and stress-free. There are few factors that seem to have had a great impact on how staff experienced the level of stress. However, the age of the respondents seems to affect the level of stress. The respondents describe their experience as stressful and frustrating. They also seem to prefer a socio-cultural approach to learning with a strong community of practice.

The librarians described their experience as frustrating and time-consuming. They felt that the library management system was not yet finished and ready to be launched when it was, and they would have preferred training in a more socio-cultural tradition.

Learning on demand is a challenge. However, a firm grasp of knowledge management and a plan for organisational learning could help make a smoother transition because it maps the existing knowledge and the organisation’s stronger learners. Awareness of organisational knowledge and staff learning abilities and skills with regards to the handling of technical programs could have helped make the implementation easier. It could also have helped to delegate responsibilities so that a good learning environment could have been established.

**Research Data:** The full dataset of the survey will be made available in the LIBER Quarterly Dataverse, at <https://doi.org/10.7910/DVN/N4ZIQ6>

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