

KNOWLEDGE MANAGEMENT APPROACH TO UNIVERSITY LIBRARIES: LESSONS LEARNED FROM THE MANAGEMENT OF FERDOWSI UNIVERSITY LIBRARIES

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Abstract - As libraries at Ferdowsi University of Mashhad in Iran experienced the transition from traditional libraries to modern electronic libraries, knowledge management (KM) was employed as an approach in managing these libraries from 1999-2004. This approach is explained under four headings: organizational knowledge, knowledge presentation, knowledge dissemination, and knowledge application and the outcomes are described from the perspective of the development of a KM culture, organizational learning and a learning organization. The experience shows that this framework is a suitable model for practice. It also proves that although this approach is a workable approach, some administrative obstacles may prevent it from achieving the same results in all libraries.

Keywords - Ferdowsi University of Mashhad, Academic Libraries, Change Management, Knowledge Management, Learning Organization, Organizational Learning.

INTRODUCTION

In this complicated new world, survival depends on coping with change. Information and information technology are two phenomena causing this change. Libraries are places for storing information and developing platforms for information technology. Libraries, therefore, are places that have to constantly cope with changes. Managers of libraries in the 21st century are often expected to initiate change which is not an easy task. But, since change in organizations is inevitable, library managers require new approaches to cope with and direct change. Knowledge management (KM) can be a tool or an approach to make this challenging task easy.

This article explores the application of KM in the management of the Central Library of Ferdowsi University of Mashhad (FUM) in Iran. After an introductory section on KM, a picture of the situation of the libraries at FUM, which includes 14 faculty libraries and a central library, is given. A description of the successes and failures of incorporating KM in the management of libraries is the last section.

WHAT IS KNOWLEDGE MANAGEMENT?

Although knowledge management seems to have been defined differently by different authors, these definitions are basically similar. Bailey and Clarke, lecturers in management development, point to KM as a managerial task and believe that KM shows how managers can generate, communicate and exploit knowledge (usable ideas) for personal and organizational benefits [1]. The definition by St. Clair in the Encyclopedia of Library and Information Science also takes into consideration the organizational benefit. He acknowledges KM as a management practice that uses an organization's intellectual capital to enable the enterprise to achieve its organizational mission [16]. Similarly, Malhotra, from the School of Management, Syracuse University, emphasizes KM more as a process [7]. He pointed out to the definition published in Oracle Magazine, 1998*, which refers to KM as a task which promotes an integrated approach to identifying, capturing, retrieving, sharing, and evaluating an enterprise's information assets. This paper emphasizes the application of KM for the benefit of the organization.

HOW KNOWLEDGE MANAGEMENT WORKS

According to the definitions mentioned above, the basic concept in KM is how to deal with information in an organization. In management practice, internal information (that is, information about mission, vision, policies, facilities, opportunities and shortcomings in an organization) and external information (that is, the society's needs, expectations and environmental changes) must be identified, retrieved, evaluated and analyzed. The result will reveal whether the mission and activities of an organization are aligned with society's expectation. The outcome in this process is the acquisition of knowledge. This knowledge results in the "organization's management philosophy" [16].

This philosophy underpins the direction of the organization's policies, approaches and plans. The KM approach in management turns the philosophy into practice. That is, it is a source of information for decisions; it shows the direction for planning and dictates how to implement the plans. It identifies challenges and how to overcome them. Since KM takes into consideration external needs and the expectations of an organization, the management that incorporates KM into its practice strengthens organizational development. In this practice, as all of the staff and the manager face with challenges in order to cope with and to respond to the society's expectations, personal growth will be another outcome. According to St. Clair's idea, innovation, collaboration, enthusiasm, and insight into the value of information are some of the attributes of KM practice.

WHY MANAGERS NEED TO EMPLOY

As mentioned earlier, KM work in libraries is integrated with information and information technology, which from quantitative and qualitative points of view change rapidly. Library

management, therefore, is the management of change. Since KM can facilitate change, it is reasonable to make use of it in management practice [10]. The incorporation of knowledge management is crucial for those managers who are supposed to manage change.

HOW KM WORKS IN FUM CONTEXT: AN ANALYSIS OF THE FUM EXPERIENCE

In regard to the value of KM in management practice, its usefulness in the management of FUM libraries was examined. This paper attempts to explore the usefulness of KM for personal and organizational benefit. Personal benefit refers to how the managers as well as the staff can form their beliefs and values and develop their knowledge and skills.

In 1997, when the author was appointed to work as the University Librarian at FUM, the faculty libraries were very traditional. Because of environmental changes, it seemed obvious that the libraries were not able to perform their role as an information resource at this university. To change this situation and to adjust the goals and practices of the FUM libraries to the University's expectations, strategic management and strategic planning seemed to be the best method for the management of such libraries. Strategic management is long term planning which studies the state of the organization, focuses on its future goals and objectives, takes into consideration problems and shortcomings and tries to solve them in the light of opportunities. Using KM as a tool or process, strategic planning can be designed and implemented as a suitable platform for incorporating KM into the management of libraries and supporting change. The following discussion illustrates what has happened in the light of this kind of management, i.e., translating theories into practice. The organization of the discussion, which has been extracted from [2], is as follows:

- *Organizational knowledge (internal and external information)*
- *Creation of knowledge*
- *Knowledge presentation*
- *Knowledge dissemination*
- *Knowledge application*
- *Cultivation of KM culture*
- *Organizational learning and learning organization (the outcome)*

ORGANIZATIONAL KNOWLEDGE

Before being able to make any-decision or plan of action, knowledge about FUM had to be collected. This knowledge was based on the information gathered about the past, present and future goals and activities of the university and its libraries. This is called organizational learning [2,6]. As a manager, my knowledge about the university and its libraries was neither based on the history of my organization, nor on its future vision. However, as pointed out by [2], it was based on the Symbiotic relationship between foreground and

background knowledge that forms the core competencies of the organization and offers sustainable advantages to the company [organization]. Organizational knowledge, then, covers the analysis, interpretation and interaction between internal and external information.

Internal information: internal information refers to the present situation of the university and its libraries. Ferdowsi University of Mashhad (FUM) is one of the oldest universities in Iran with more than 50 years of activities. It has 14 research and faculty libraries plus the central library. FUM offers courses in different areas including Science, Engineering, Agriculture and Humanities. A research center and a computer center are also available. About 15,000 students study in different disciplines and at different levels and about 2,000 are postgraduate students. About 650 lecturers are teaching and doing research at this university.

The mission of FUM is to educate students for the fulfillment of the society's needs. According to this mission it seems that all disciplines and levels of studies at this university have been designed according to the needs of the society. The teaching at the undergraduate level is mainly based on reading a single textbook or journal articles. Postgraduate courses are more research-based. Students, who are completing a Master degree, have to submit a thesis for four credits and those at the doctoral level a thesis for twenty credits. At the thesis stage, in which students need more information, they deserve to receive services relevant to their needs. A research study performed in 2000 at this university concluded that such services were not offered by the libraries [9]. The picture of teaching and learning at FUM has not been changed dramatically in the last five years, i.e. 1998-2003.

Twelve libraries were located on the FUM campus in 1998. In the next three years, three others, including one of the biggest faculty libraries with a collection of more than 120,000 books, moved to the campus. In terms of administrative affairs, libraries have been semi-independent, i.e. the employment, administration, library services, the policies and strategies were formed and controlled by the faculties. The Central Library carried out technical services such as cataloging and acquisitions. The head of each faculty library was one of the academic staff of the related faculty. A traditional scenario was seen in all libraries, including the Central Library, that is, most library services focused on circulation. Cataloging, acquisitions and circulations were manual; interlibrary loan was not the main emphasis; electronic communication among libraries was not common and library materials mainly focused on printed sources.

In terms of library staff, most of the librarians were not graduates of library schools. In comparison, the number of undergraduate librarians was quite high (63 out of 188). Although most experienced librarians had attended short term library training courses, since these courses focused on traditional librarianship and were offered only once, it seemed that some of the librarians were not well trained, and nearly all of them were not familiar with the new information technology. In 1998 only one librarian with a Master degree worked in a faculty library.

The analysis of information gathered from internal sources provided knowledge about problems, shortcomings and opportunities. However, in order to discover where I was, where I should go and how, I also needed external information

External information: The study of external environment and information collected provided the following external knowledge:

- a) The gradual domination of technology has made personal and professional life complicated. Overcoming this problem was a big challenge for the university graduates.
- b) Toward the end of the 20th century and at the beginning of the 21st century, humanitarian ideas have attracted a lot of attention. In their theories, the ability to acquire information and knowledge independently can ensure individual freedom and democracy. It is expected that enhancing an individual's abilities can empower him and help in the development of society. The educational system was acknowledged as one of the responsible organizations for the enhancement of individual abilities. Smith, a professor of philosophy, believes that education should help students to learn how to think empirically as well as formally, and also would enable them to distinguish definitions from hypotheses and to know how to work with analogies and around dilemmas [15]. Education in general and higher education in particular are then responsible to help students develop thinking abilities and skills needed for the development of the society. These expectations portray knowledge as the source of insight and values, and this help makes the direction of our activities clear. For example, with this knowledge, we expected FUM to pay careful attention to the enhancement of students' personal skills, such as thinking skills, communication skills or independent learning skills. This knowledge also supported the libraries' mission, goals and objectives.
- c) Research activities were and still are the critical concern of most organizations in Iran. Each organization attempts to motivate its members to do research. Most of them have been carried out with the collaboration of universities including FUM. This increased the need for information in any format and available in any place.
- d) The rapid increase in the production of information and the domination of technology in acquisition, storage and retrieval of information was another feature of the external environment.

As mentioned earlier and according to Bhatt [2], neither internal nor external information can help to create new knowledge for enhancing FUM libraries' performance. Rather, the interaction between them helps us explore the direction of activities and create knowledge.

CREATION OF KNOWLEDGE

According to Marakas (1999, p.440) quoted in [2], knowledge creation deals with novel

and useful ideas and solutions. Novel ideas depend on information, the knowledge base and a creative mind. In other words, creating knowledge depends on: internal and external knowledge. Analyzing internal information, ended up with internal knowledge. As the university librarian, the internal knowledge acquired about FUM libraries, highlighted vision, mission, problems, shortcomings, opportunities and possibilities about these libraries. Some of them are listed below:

- *Shortage of space.*
- *Shortage of information resources.*
- *Shortage of relevant insight and collaboration by faculties.*
- *Shortage of appropriate budget.*
- *Shortage of appropriate services.*
- *Domination of the concept of information ownership vs. information accessibility.*
- *Domination of the sense of deciding and acting independently by the faculty administrators and some librarians.*
- *Lack of willingness for consultation in management affairs even in professional areas.*
- *Reluctance in some staff to change.*

The analysis of external information formed my external knowledge. This includes the following components:

- The advantage of information technology in terms of saving money, increasing access to information and dissemination of information.
- The increase in the production of information mainly in electronic formats.

So far, as mentioned above, two components of knowledge creation, that is, external and internal knowledge were acquired. Previous experiences as a reference librarian, cataloguer and the director of a faculty library in FUM, which made me familiar with users' needs and administrative affairs, provided the third component. I should add the professional knowledge base to this component.

The knowledge about professional theories and philosophies and also information technology gained during doctoral studies enriched my knowledge base. These helped to form ambitious ideas for redesigning libraries at FUM. The fourth attribute for knowledge creation is specified as chance. Chance in the FUM context, I think, was the opportunity of working with **administration** authorities at FUM who were open-minded, cooperative and loved development. The university administration provided strong support for the innovative ideas that enhance teaching and learning at the university.

Another element of chance was the collaboration of the staff at the Computer Center, specifically, the head of this centre whose novel ideas were aligned with my dreams in regard to turning the libraries into an integrated electronic organization.

The Central Library consultant, who was a professor from the Department of Library and Information Science, was a good support for professional decision making and launching the journal of the Central Library entitled Journal of Information Skills and Services. It is obvious that if the enthusiastic, energetic and supportive staff in the Central Library had not supported these innovations, there would not have been any hope for success.

This scene, that is, innovation, collaboration and knowledge development/ knowledge sharing, provided the information necessary for the creation of the following kinds of knowledge needed to guarantee change:

1. *How to turn the traditional libraries into modern electronic libraries?*
2. *How to empower librarians to be able to cope with change?*
3. *How to try to incorporate theories and philosophies into library activities?*
4. *How to upgrade the academic libraries* and librarians' status in the university?*
5. *How to develop informed university members? and*
6. *How to contribute to the creation of critical thinkers and independent users?*

This list of challenges became the basis in my mind for all strategies, planning and activities.

KNOWLEDGE PRESENTATION

The above list was converted into action and implemented step by step. The creation of knowledge for libraries and its implementation is an endless task. However, along with the progress with these tasks, the related activities and their usefulness for information seekers should be presented. Libraries, like other service-based businesses, should market their services and available information. Then, they will find their customers and their value can be acknowledged. Presentation of knowledge is a kind of marketing the goods in libraries. Among the different channels for presentation of knowledge, we used the following: The new version of an electronic library system, which was purchased and installed in the Central Library in 1992, was purchased for all faculty libraries. This new version was a distributed client/server system which changed libraries to an integrated whole. This integrated electronic library system has been a means for knowledge presentation at the university. All printed materials (including books, journals, dissertations,) available in 15 libraries as well as available electronic materials in the Central Library have become accessible through this integrated system. Through a new web-based version, the user can perform an integrated search in all the libraries in Iran that have the same system. The Central Library web site is another platform for presentation of knowledge. The first version of this site was designed in 1999. The second version was made accessible in 2001.^[1] Although this site is a means for introducing the Central Library and its services

and for providing access to the available information in FUM libraries, it has also worked as a gateway to the information available on the Internet. It is, therefore, a means for the library to market its goal, activities and services and provide a gateway to the needed information.

KNOWLEDGE DISSEMINATION

If the knowledge created and listed in knowledge creation section can be shared with librarians, library managers, students and even with the university administrative board, these groups will be better able to cooperate, collaborate and use the services provided by the libraries. Moreover, when knowledge is distributed it can be analyzed and evaluated against its usefulness by others. In the distribution of knowledge, all the above-mentioned university members are the main focus. Since they have diverse backgrounds, different needs and interests, several channels were used for this task. According to this diversity, they are categorized and described briefly here:

Library users and university administrators:

- a) An irregular electronic newsletter disseminated information about library events, including subscription to new electronic journals and databases. It also provided instructions to use these information sources.
- b) A bimonthly journal, Information seeking skills and information services^[2] was published by the Central Library beginning from 1999. Its aim was to integrate information into the activities of academic staff, researchers and post-graduate students by demonstrating the role of information in teaching, learning and research. Up to 2004, 16 issues of this journal have been published. This journal is also accessible electronically through the Central Library website.
- c) Some articles and news about library services and events at FUM have been regularly published and disseminated in an internal newsletter of the university entitled, Peyk-e Daneshgah [FUM Courier].
- d) Each summer several workshops were arranged for the academic staff. These teaching/learning occasions have been a fruitful opportunity for transferring our understanding and knowledge to academic staff and also an opportunity to receive information from them to see if it is necessary to modify our knowledge. More information about these workshops will come in the application section.
- e) Several presentations were arranged for the faculty administrators and the administrative board of the university. They focused on the value of information, the available information and the channels for accessing information. These endeavors helped libraries demonstrate their role at the university.

Librarians:

Sharing our knowledge with librarians helped them form their values and insights

about library users and services. When they were equipped with this knowledge, they had scientific reasons for their practice. The shared beliefs with regards to professional issues provided an environment in which the manager was able to make decisions, to plan and to ensure that the programs could be implemented. Moreover, dissemination of knowledge among librarians helped them share the same knowledge and consequently, communication among them would be easy and meaningful. Different means were used for distribution of knowledge among 118 librarians in 15 libraries. These were as follows:

a) The above mentioned bimonthly journal was sent also to all libraries at FUM. In meetings, librarians were encouraged to read it, to practice , instructions provided and to introduce it to library users.

b) The Council for the Development of FUM Libraries, which was established in 1983 but was not active for several years, was reestablished in 1998 and had regular meetings. The members of this Council consisted of Vice-Chancellor for Research Affairs, as head of the Council, Director of the Central Library, and the academic faculty director and the manager of each faculty library. With regard to the subject of discussions in each meeting, the related librarians were also invited. All the decisions, policies and guidelines were discussed in these meetings and then were suggested to the libraries for implementation. This Council was particularly an appropriate means for sharing knowledge with the academic faculty directors of libraries, library managers and some of the librarians. This Council is still active.

c) Training and education of librarians.

On the job training courses and workshops were designed and presented each summer and whenever seemed necessary. These classes and workshops were a place for interaction between theory and practice, exchange of knowledge and, as a whole, distribution of knowledge.

d) Special committees:

Since it was realized that the Council for the Development of the Libraries is not sometimes a good means for distribution of information to the librarians, seven special committees for 7 different activities of the libraries were established. Each librarian had the chance to participate in at least one committee. Each professional decision and policy was first discussed in those committees. Asking library staff, who are on the frontlines of the library, about their points of view about each professional policy can help form better policies and at the same time encourage them to cooperate and support changes. It was proved that the committees were an appropriate place for transferring knowledge and sharing values and insights.

e) Annual conferences of the librarians at FUM were another platform for sharing ideas and knowledge.

KNOWLEDGE APPLICATION

Knowledge application deals with the employing of knowledge and converting it into practice. According to [2] it means making knowledge more active and relevant for the firm in creating values.

Discussions in this section are based on the knowledge extracted from the analysis of internal and external knowledge, and are mentioned in knowledge creation section.

1) *Turning traditional libraries into electronic ones.* FUM was the first large university in Iran in which a university LAN was designed and implemented. Although the LANs in the Central Library and some of the faculty libraries were designed and took shape earlier than the university LAN, the latter made the communication and integration of FUM libraries possible.

From 1999 to 2002 a lot of energy and budget were devoted to the automation of FUM libraries. These are shown in the following table:

Table 1: Demonstrating the transition of traditional libraries at FUM to electronic libraries.

1999	2000	2001	2002	2003
changing the CL LAN from BUS to STAR	purchasing hard tower and the related software for integrated search on available bib databases	purchasing the upgraded library system	upgrading the Hard Tower server	subscribing to about 8,000 electronic journals
purchasing CD Tower	bar-coding all available books at the FUM libraries	upgrading the library network facilities	upgrading the library system server	
connecting to the Uni LAN via RDSL	connecting to the FUM LAN via optical fiber	subscribing to about 8,000 electronic journal	purchasing the upgraded version of the library system	
purchasing Client server Library system	purchasing the upgraded Web version of the library system		purchasing and subscribing to multiuser version of Iranian National Bibliography	
purchasing new version of circulation sub system	subscribing to about 6,000 electronic journals		subscribing to about 10,000 electronic journals	
purchasing and/or subscribing to 40 different bibliographic and full text databases, reference materials and cataloging and indexing tools				

The electronic platform in FUM libraries has provided appropriate facilities such as extending services to visible and invisible users; saving time in acquisitions and cataloging; disseminating easily and quickly the values and knowledge of information in research and education.

2) Empowering librarians to be able to cope with change:

It is common that in a time of transition, librarians who have been working in traditional libraries are reluctant to change their work methods. The following endeavors helped FUM librarians to cope with change:

- *Annual conferences of the librarians at FUM.*
- *Special committees.*
- *Regular training courses and education.*
- *The encouragement of librarians to publish, to market their services, to organize educational programs, to prepare research tools (e.g., subject bibliographies), etc.*
- *The employment of nineteen librarians. Three of them must have a Master degree.*

These activities help librarians to improve their abilities in order to cope with information technology, to learn to share their ideas by writing and publishing, to enhance the related abilities and to be able to communicate with others. In 2003, according to a national employee's assessment plan, the capabilities of FUM librarians were measured. Compared to other professionals at the same rank in FUM, librarians had achieved the highest scores^[3]. Among the main criteria in this assessment were the so-called seven skills, (i.e. abilities in working with Word, Excel, Access, and PowerPoint,). The number of publications, innovative suggestions and projects, and the level of cooperation and collaboration are some other measures for excellence in this assessment.

3) Trying to incorporate theories and philosophies into libraries' practice:

According to the Oxford English Dictionary philosophy means "the love, study, or pursuit of wisdom, or knowledge of things and their causes, whether theoretical or practical." Regular monthly general meetings at the Central Library, the meeting arranged in each section, annual conferences and the meetings of the special committees were the suitable places for transferring knowledge about theories and philosophies in librarianship and how to employ them in practice. According to the definition provided above, philosophy gives enough reason for judgment and for practice. In other words, it provides knowledge about the How's and Why's. Discussions, brainstorming and sometimes lectures were the methods used in those meetings in order to make the How's and Why's understandable. The main underlying philosophies, which were under consideration, were Ranganathan's laws. Some methods which seemed useful in translating these laws into practice are mentioned below:

Books are for use: The dominant theory in most libraries was the collecting of books not providing access. This law helps us focus on access. Suggestions which ensure access were discussed in the meetings of the libraries, in the Council for Library Development, Library Committees, and Annual Conferences. These included cooperation between libraries, providing interlibrary loan, opening closed stacks, and valuing the user and his/her needs.

Every reader his or her book: This means that each user with any cognitive background, interest or experience should have access to his/her needed information source. In order to convert this law into practice, several suggestions such as: designing several guides e.g., the library map and shelving guidelines (in sheets and/or poster formats) were implemented; In terms of library catalogues, cross-references in different bibliographic databases were added. These approaches help even the novice users find their way in the library and to find their needed books even if they use natural language in searching the catalogue. In order to encourage users to use the library OPAC, great effort was made to make it user friendly. Although it grew gradually and in the new versions, it has changed a great deal, it has not yet become what we hope it will be.

Every book its reader: This law was best used in cataloging and indexing. The importance of content analysis and representing the content by as many subjects as necessary were often discussed. The value of searching a specific work by any of its co-authors or through its uniform titles, subtitles, former titles, etc. was taken into consideration. The other approaches were designing and developing subject and name authority control databases that ensured standardization and accessibility of available books and information sources.

Save the time of the reader: A lot of energy and effort was also devoted to help librarians value users' time, respect their information needs and acknowledge their own role in enhancing teaching and learning at the university. These included designing library guides, information sheets, instructional sheets, a manual for using the library OPAC, Hard tower (for accessing and using available databases), etc. The librarians were also taught how to prepare these learning tools in order to make the library a familiar and welcoming place and make users independent in their search of knowledge. These information and instructional tools were also available electronically. Moreover, library tours and workshops on how to use the library OPAC or bibliographic and full text databases were organized for freshman students at the beginning of each semester. Although, printed guides and manuals had been sent to all libraries, workshops were mainly organized in the Central Library. In this library, two instructional classes were organized. One, for theoretical subjects or workshops that emphasized printed materials and the other was an electronic class with 16 computers and a video projector that emphasized using electronic materials.

The Library is a growing organism: This last law provides an umbrella philosophy for practice. A growing or dynamic library is a library that can cope with any changes in the environment and in its institution. It is not a mausoleum, but a growing, changing, responsive entity. One area where the attempt was made to convert this philosophy into practice was developed in collection management. Some of the collection management activities such as weeding and purchasing of materials were performed on a regular basis in each library from the time of its establishment. However, a policy that underlines the activities and ensures a dynamic collection was not formulated. In the Committee of Acquisitions and Collection Management, the policies and guidelines with regard to weeding and acquisitions were suggested and discussed. The results, which were approved by the Council for the Development of Libraries, were written and distributed among the faculty libraries. For example, according to the acquisitions policy, the collections in libraries must complete each other. Duplicate titles for English books and journals should not be purchased. The collection in the Central Library should focus on titles that are useful for general recreational needs and also on those titles that support the basic courses of the university. The collection of faculty libraries must take into consideration their specialized subjects.

With respect to budget cuts, it was very hard to keep the collection up-to-date and dynamic. Shared purchasing and shared access to electronic fulltext journals, in particular, was one of the solutions. This policy increased the number of accessible full text journals from 700 to 8000 titles.

In regard to helping librarians in FUM libraries to follow Ranganathan's laws, we must all share the same understanding of those philosophies that underpin our practices. Discussions in meetings and/or with each librarian were useful and created a collective mind among most librarians. However, policies and guidelines for each practice were also written down and then distributed to the libraries. These written guidelines were modified each year and provided measures for analyzing and evaluating the practice in all of the FUM libraries. They also provided appropriate logic and were good support for convincing the administrative authorities about our practice when it came time to ask for needed budget, staff and/or facilities.

4) Trying to upgrade the status of the academic libraries and librarians' in the university.

If we, as librarians, would like to receive appropriate support from academic staff and university authorities, the status of the library and librarians must be upgraded. Most libraries in Iran, irrespective of type, had not changed dramatically in those days. They still kept their traditional position or role as an archivist, book keeper or a book collector. The public impression about librarians also had not changed. They mostly believed that librarians were bookkeepers. While the first Iranian academic library was established in

1934 [12] and the first one in FUM in 1946 [11], in the decade of 2000, the scene in most of the country's libraries still remained traditional. To change the scene in FUM, we attempted to redesign library services, increase access to local, national and international information by establishing the library network and by designing the Central Library Website. Outreach services and interlibrary loan were other programs initiated in FUM libraries. The national Interlibrary loan program became a good support for this endeavor. Reference services and materials were also improved. One librarian with a Master degree in Librarianship was appointed in the Central Library to provide services for electronic materials. This librarian also played the role of a consultant for similar library activities in faculty libraries. She also established a virtual reference desk. A great deal of time was devoted in the Committee for Reference Services and in the meetings of the Council for the Development of Libraries to the discussions on the importance of reference services. Regular workshops for academic staff and librarians that revealed the teaching skills of librarians and demonstrated library services were effective in changing the academic staff and university leading authorities' perception of librarians. The number of librarians attended in summer workshops was 174, 126 and 151 in years 2000, 2001 and 2002, respectively. Their workshops focused on search retrieval skills, working skills in networked libraries, user education skills including teaching methods. The statistics of the academics participation in Central Library workshops is demonstrated in Table 2.

Table 2: Number of academic staff participating in the Central Library's instructional workshops.

	2000	2001	2002
Email and discussion groups		20	20
Searching the Internet (introductory)	40	25	29
Searching the Internet (advanced)	32	30	26
Bibliographic databases	25	27	26
Using the OPAC	14	7	7
Writing literature review			6
Library research			10
Information services in theory and practice (specifically for the directors of the Faculty Libraries)			12
Total	111	109	136

Another approach which seemed to have some positive impact on the perception of the academic staff towards the librarians was the research capabilities of the librarians. We were critical in our activities and evaluated most of our services. There were investigations, such as examining the ideas about the value and shortcoming of book fairs,

workshops, library services and so on. The results of these surveys were published in the newsletter of the university. These activities improved the status of librarians at the university. For the first time, the director of the Central Library became a member of the Publications Council at the university and also a member of the Council of the university, which is one of the highest councils of the university. The willingness of the academic staff in attending the Central Library workshops was another example. The increase in the questions by some of the academic staff about their information seeking problems, the increase in the willingness of academics in attending the library workshops and the request for arranging some presentations for academics and postgraduate students about how to access information or collaborating in running part of their research classes are all further evidence of the improved status of the librarians and why they valued libraries for solving their problems.

5) Developing informed university members:

According to Buckland [3], information deals with the process of getting informed. However in his book, *Information and information systems* [4], he also pointed to information as knowledge. This conversion of information into knowledge can happen if it becomes a part of our thinking process or influences our ideas and beliefs.

Making users informed about available information and information services is a part of library service. If this kind of service is provided on a regular basis, it not only fulfills information needs but it also increases the knowledge of the university members about information, knowledge and the library and their importance for their professional success. It also proves that the library is a dynamic institution and a support for teaching, learning and research at the FUM.

Several channels were used to inform users of FUM libraries and university authorities about the information resources, services and the value of information and libraries; for example, the electronic newsletter of the library, the journal of the library, different information sheets, manuals and instructional booklets, library workshops, news published in the internal newsletter of the university, book fairs, seminars^[4] and presentations.

6) Contributing to the creation of critical thinkers and independent users:

Survival in an information-based and ever-changing society depends on how far students are capable of learning independently and aligning their knowledge and skills with the changes in society.

Preparing independent learners must be the focus of educational systems [13,15]. Academic libraries as a part of the educational system can play their role in this regard. Parirokh in her doctoral thesis discussed this role and provided a model for practice in academic libraries [8].

This knowledge about the role of educational systems in general, higher education, in particular, and academic libraries help this philosophy shed some light on our practice. The focus of our user education classes and/or workshops was on helping users to help themselves. Based on this logic, in the Committee for Reference Services, librarians discussed whether to provide the answers or rather to show the way and help the users retrieve information by themselves. These meetings were, sometimes, like a class. The reference librarians were asked when they were performing a search for a user, while she/he is also there, not to type very quickly or change the search formula without explaining the reason for each procedure. Knowing the pros and cons about each step and discussing the reasons for failure or success in a search, make users critical and informed. Being informed and developing critical thinking skills are some of the characteristics of independent learners. The library tours, presentation of information and workshops were other library services to help users become independent in searching and using information. At the beginning of each year, at least 500 students attended the Central Library tours. The Central Library and a few faculty libraries prepared several brochures, manuals and guides for self-instruction of students. They were published in print and also in electronic format. These experiences in employing knowledge created changes in the libraries and at the university. The most important change was the creation of a new information culture.

CULTIVATION OF A KNOWLEDGE MANAGEMENT CULTURE

The most rewarding part in the process of knowledge management, I think, is the creation of a knowledge management culture in the organization. Bhatt calls it "collective knowledge" of an organization [2]. Weick and Roberts (1993) quoted in [2] refer to it as the "collective mind" of the organization. Knowledge management culture is like common belief or shared meaning about why we do, how to do, what to expect, and in what situation. The method employed for the management of FUM libraries and described at the beginning of this paper, i.e., strategic management, was a good tool to create knowledge and to employ it in practice. This process, which worked constantly for 5 years, keeps the library a growing organization. The evaluation of the activities proved that the librarians were successful in their endeavors. As mentioned before, in the assessment of their capabilities, most of them were rated high. This achievement helped them form beliefs, values and expectations. Accordingly, this librarian realized the value of thinking strategically, sharing knowledge, employing knowledge in practice, modifying and up-dating knowledge and distributing it. The emerging culture of creating knowledge and using it is the main attribute for supporting and cultivating change and preventing a return to the traditional way of thinking and acting. The process of KM also changed the academic staff and university authorities' attitude towards the library profession. They put value on the educational role of libraries

and believe that librarians can be a good support for teaching, learning and research. They value the library profession and the library professionals and realize that spending money on libraries and information resources is a good investment.

However, although these endeavors provided valuable experiences, we were not successful in some cases. This does not mean that KM was not a suitable tool for managing the libraries. Rather, the following conclusions show that some intervening elements did not let this process have positive effects on all the libraries and/or on all occasions.

WHAT WAS LEARNED?

The KM approach in the management of libraries has two kinds of added value. This can be discussed under two headings, i.e., organizational learning and learning organization, used by some authorities such as Malhotra [6] and St.Clair [16].

Organizational learning: According to McGill et al. (quoted in [6]), organizational learning is "the ability of an organization to gain insight and understanding from experience through experimentation, observation, analysis, and a willingness to examine both success and failures." From this point of view, the library community in FUM learned that if they increase their knowledge base and employ it in practice, their achievement will be higher. As some examples of these achievements it can be mentioned that all 15 libraries were equipped with electronic equipments, i.e., computers, printers and security systems. Those librarians who were more knowledgeable and tried to use their knowledge or value others' knowledge were more successful. For example, some of them, such as the managers^[5] of the Faculty Libraries were allowed to make decisions independently, to arrange instructional classes for students and academic staff and to receive sufficient budget. We also learned that in most faculty libraries, where the directors knew nothing about the libraries, they (the directors) often changed, were very busy and had not enough authority in terms of budget and employing the staff, KM practice was not successful. In other words, although similar equipment, electronic facilities, theories and strategies were formed centrally and injected to all libraries, those libraries which were under the control of different authorities (particularly unprofessional authorities), they did not experience change. In regards to library services, these libraries remain traditional libraries. This organizational structure in which faculty libraries remained under the control of faculties was one of the biggest barriers to success. Another obstacle seemed to be the traditional way of teaching. In this method, students were not encouraged to use information. The lecturers also did not need to access and use new information. They therefore do not value information and use library services.

LEARNING ORGANIZATION

Although organizational learning helps us increase our experience, insight and understanding

and realize the reasons for success and failure, learning organization is our ideal achievement. It is a kind of culture that should be created in an organization. When this culture takes roots, it can hardly be removed. Malhotra [6] defines learning organization as an “organization with an ingrained philosophy for anticipating, reacting and responding to change, complexity and uncertainty.”

An example can demonstrate how strongly the learning organization has been formed in FUM and its libraries. When for the first time in 1999, we organized the workshops for librarians, they hardly believed that they needed to learn new ideas and skills. In the second year, there was no doubt that they needed learning. In the third year, at first, some problems prevented us from arranging workshops, but constant contacts by the librarians and their interest in participating in workshops forced us to solve the problems and to arrange workshops. The same reaction was received from the academics about their workshops. We cultivated the culture in a bare land, where most people believed that librarians could not teach and do research. The libraries were expected to be expensive places for preserving books, to be study places for students who wanted to study their own books and/or to borrow some others. I think creating a learning organization has been the main reward that I gained from employing KM in five years working as a University Librarian. The strategic approach to the management of libraries provides a relevant context for employing KM. These approaches have provided an insight for most people in the university community about the role and capabilities of libraries in enhancing teaching, learning and research and about the value of information in their academic life.

I can conclude this report of my experience with the following words by Michael German, in his foreword to Buckland's book *Redesigning Library Services* [5]:

**here is where we are and where we have been;
here is the likely direction in which we are going;
here is the impact of the likely future on libraries,
library service, and library users; and,
here is how we should organize ourselves and run our
libraries to respond to the challenges of change.**

ENDNOTES

1. <http://c-library.um.ac.ir>
2. ISSN: 1684-7989
3. This is an annual assessment of employees. The related report is sent officially to the related department and the employec. The report is not normally published.
4. In five years working as the university librarian, two national book fairs, three seminars

for academics and four seminars for librarians were organized. The related reports were published (Parirokh 2002).

5. As mentioned earlier, in each faculty library, normally the director, who was one of the academics of that library and had no knowledge and experience about the libraries, was the decision maker for library affairs.

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