Theme

Current trends on the libraries of the Islamic world

Presenter

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Topic

How Implementation of Knowledge Management can make a difference in Libraries:

A Case Study of KM practice in Astan Quds Library Organization

Knowledge Empowerment and Information Resources Enrichment

How Implementation of Knowledge Management can make a difference in Libraries:

A Case Study of KM practice in Astan Quds Library Organization

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In the knowledge economy, individuals and organizations have increasingly become dependent on knowledge management (KM) for competitive advantage. In line with other organizations, libraries have taken the importance and values of KM into consideration in recent years. Since Astan Quds Library Organization (AQLO)[3] has a long history and is one of the major public libraries in the Middle East and in the Islamic World, implementation of KM in that library can make outstanding changes. This hypothesis was tested through a case study. In this study, 4 knowledge conversion modes of Nonaka & Takeuchi, and KM factors and barriers, identified in the related literature, provided the necessary framework for the study. Three approaches, i.e., observation, checklist and questionnaire were used to collect data.

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Findings reveal that in terms of socialization, externalization and combination, knowledge management activities have provided an outstanding scenario in AQLO. Among the factors enhancing KM, interest in knowledge acquisition, communication, social status and trust were acknowledged as the most important factors. However, lack of time to share knowledge was identified as a major barrier to knowledge sharing and implementation of KM. Results also show that KM practices have turned AQLO into one of the leading public libraries in Iran.

Keywords: Knowledge management, Knowledge sharing, Astan Quds Library Organization, Iran, Public libraries,

In response to knowledge economy in the knowledge society (Toffler 1990), organizational knowledge is known as the main source of economy. The success of each organization, therefore, is based more on its intellectual property than on physical assets. While it is crucial for organizations to be aware of "what they know", it is also necessary to be knowledgeable about how to make benefit of the available knowledge. Knowledge management can enhance personal and organizational development. The process of creating knowledge as intellectual property, sharing, managing, disseminating and using it, is known as knowledge management (KM). Therefore, knowledge management is a set of practices for systematically adding value to the knowledge of individuals. Individual knowledge is personal and intangible. Knowledge sharing, which is at the core of KM, turns intangible and personal knowledge into tangible and public knowledge. This knowledge can be generated and shaped through interactions with others.

On the other hand, KM facilitates pathways for acknowledging intellectual property of an organization and shows the best possible solutions for enhancing and using individuals' knowledge and turning it into organizational knowledge. If this knowledge can be communicated and shared it can help enhancing organizational performance. With regard to the importance of organizational knowledge in the life of an organization, it is hypothesized that implementing KM can bring about critical changes in a library organization. Astaneh Quds Library Organization (AQLO) is one of the largest public libraries in the Middle East and has been established in 1457 A.D., when library was opened to the public. This organization is considered as one of the most important treasures of the recorded knowledge of Iran and the world of Islam. The location of the library has been changed many times over years. The construction of the present glorious building was completed in 1995, with a constructed area of 28800 square meters and was opened to the public in April, 1995. It has more than 1 million documents and a good number of professional staff. It provides different services to a wide variety of users. Since recently a lot of efforts has been devoted to this library, it seems worth studying its results from different aspect. In this study the state of the art of KM implementation in AQLO will be the main focus.

Background of the study

In this study, Nonaka and Takeuchi (1995) model for Knowledge conversion was chosen as the framework for investigating the KM practice in AQLO. A description of each process in the light of library practice can provide suitable understanding about the

appropriateness of this framework for library sectors. KM success factors ensure its implementation. These two aspects of KM practice are discussed in this part respectively.

According to Nonaka and Takeuchi (1995) model for Knowledge conversion, knowledge creation and sharing can be demonstrated through 4 modes of knowledge conversion. The related example in each mode will be provided in the library context.

Socialization: Interaction between two or more individuals for mutual understanding and benefits is called socialization. Since tacit knowledge is intangible, through interaction, it can be understood and can create new tacit knowledge. Examples of such knowledge conversion is chat rooms, tea rooms, professional discussion groups, round tables, brain storming and thinking sessions for discussing library issues and finding solutions to problems.

Externalization: This process deals with articulating non-documented tacit and unstructured knowledge into explicit, structured and codified knowledge. This kind of knowledge is tangible and can be used, reused and shared by everybody regardless of time and place. Library newsletters, journals and other publications, its weblogs and websites, the reports of lessons' learned, user studies and other research practices are some examples of knowledge conversion in this mode.

Combination: This process will happen when two or more explicit knowledge entities are combined to form new knowledge. That is, they are compared, edited or processed (Nonaka et al., 2000). In other words, explicit knowledge can be reorganized, recrystallized,

or recodified to create new structured knowledge. In this reengineering process, another light is shed on previous knowledge. Some examples of this kind of knowledge are cases such as statistical comparative tables, new databases which are based on previous ones, or combination of different information collected to conduct a research.

Internalization: Internalization is related to converting explicit knowledge within an environment into tacit knowledge. The explicit knowledge is accessible in an organization, and can be learnt by employees. The process of learning is the process of acquiring new knowledge and increasing tacit knowledge. Therefore, this mode is individualization of knowledge. This might happen when individuals read documents, watch some events or touch something. The findings of user behavior in libraries or reading research reports might turn up to new decisions and planning. Such tacit knowledge is critical to library development. They enhance organizational learning.

According to above mentioned discussion, , two modes of knowledge creation. i.e., socialization and internalization deal with the creation and increasing of tacit knowledge. This, according to Nonaka (1994, 16), is "deeply rooted in action, commitment and involvement in specific context". It deals with cognition and thinking skills. The two other modes, i.e., externalization and combination are more organizational. They increase explicit knowledge. It is important to note that in the library context all modes of knowledge conversion should be well recognized and enhanced. This enhancement should be supported by both individuals and organizations.

Because of critical effect of individuals and organizations on the successful implementation of KM, according to the literature (e.g., Yu, Wilkins & Ma, 2004), individual factors for encouraging knowledge sharing, which is at the core of KM, could be assigned to eagerness to communicate and capture knowledge, responsibility towards working place, trust and social status. On the other hand, organizational factors can be related to organizational atmosphere, trust, behavior of managers and time allocated to KM practice (e.g., Zhang &. Faermen, 2004) and reward system (e.g., Alavi & Leidner, 2001).

Libraries have a long history of dealing with KM activities. Recent research on library sector (e.g., Parirokh, Daneshgar and Fattahi 2008) proved that KM has been practiced in libraries. However, such research resulted in that there is still lack of awareness towards "how to do it" and "why". Therefore, KM practice in Libraries might not base on a theoretical framework. In other words, all aspects of KM might not be implemented. With regard to the different activities in the library, it is crucial to investigate how far knowledge is created and managed in AQLO.

Research design

This survey research is a case study which aimed firstly to acknowledge the extent of KM implementation in AQLO library context. Secondly, the aim focuses on acknowledging the encouraging factors for KM . Content analysis and observation has been used to collect information. Library documents, including guidelines, rules and regulations, meetings notes, the library journal, instructional materials, Intranet and some internal databases were reviewed and examined. Checklists were used as

the tools for collecting data in a content analysis approach. This approach aimed to collect data with regard to the extent to which KM is implemented in AQLO. The questionnaire was another tool for data collection and has been used to seek opinions about individual and organizational KM success factors . Questionnaires were distributed among 31 division and section managers and 129 librarians. All the managers and 109 librarians completed and returned the questionnaires. Since the number of managers and librarians are limited, all of them participated in this research. The opinions of librarians and managers were asked thorough two separate questionnaires. The underlying theoretical framework of the questionnaires was developed from the related literature on individual and organizational factors for implementing KM (e.g., Gao, 2004; Van den Hoof & De Ridder, 2004; Yu, Wilkins & Ma, 2004; Kim & Lee, 2005; Husted, et al., 2005; Lin, 2006). These approaches have added to the validity of checklists and questionnaire. The result of reliability test produced a coefficient of 0.94 aand 0.92 for librarians' and managers' questionnaires respectively. It shows a high agreement between subjects.

The data collected through two approaches are analyzed and discussed to address the following research questions:

1- With regard to Nonaka and Takeuchi mode of knowledge conversion, which kind of knowledge creation and KM implementation activities are available?

2- What encouraging factors are available in AQLO for implementing knowledge management?

3- In what aspects KM implementation has changed AQLO scenario?

Data analysis results

In this part, general information about the population of this information will be provided. Then, since data were collected from two perspectives, the results of the content analysis and managers' and librarians' ideas and opinions will be reported respectively. Concluding part is focused on answering the research questions and providing suggestions.

Library scenario

AQLO has 37 branch libraries all over Iran and one in India. This research is focused on the central library and 15 branch libraries located in Mashhad metropolitan city, in the North East of Iran. At the time when this research was conducted, i.e. 2007, there were 3 divisions in the Central Library entitled, Public Library, Library Services and Manuscripts. Eighty two librarians were working under the supervision of 16 managers and deputy managers of these divisions and their related sections. In branch libraries also 15 managers and 37 librarians were working. As a whole 109 librarians and 31 managers participated in this research.

The Population gender distribution is demonstrated in Table (1). According to this information, the number of male librarians (%60) are more than female librarians in AQOL. In terms of the managers, this fact is inline with the result of other research in Iran. Tahavory

(2004) also reported that managerial duties in central university libraries in Iran are more assigned to males.

Table 1 Gender distribution of librarians and managers

	Gender	Central Library		Branch libraries		Central & branch libraries	
		No.	%	No.	%	No.	%
Librarians (n=109)	Female	27	%37	17	47/2%	44	40/36%
	Male	46	%63	19	52/8%	65	59/63%
Managers (n=31)	Female	4	%25	1	%6.7	5	%16.1
	Male	12	%75	14	%93.3	26	%83.9

About %70 of librarians and %77 of managers have librarianship background. However, most of librarians as well as managers hold bachelor degree in library and information science. It seems, AQLO should either hire those who hold post graduate degrees or encourage the available staff and provide them facilities to continue their education. Most librarians (about %76) and managers (about %85) have more than 5 years of professional experience.

As mentioned earlier, in order to examine the extent to which KM is in practice in AQLO, Nonaka and Takeuchi model for knowledge conversion was used. The analysis of data is clustered within four modes of this model.

1. *Socialization:* With regard to facilitating tacit to tacit knowledge conversion, six approaches have been designed.

a. Establishing consulting committees; these are committees for decision making, planning and coordinating activities. Members of these committees are able to share their ideas with others and use others ideas and experiences. They are as follows:

   i. Communities of practice which aimed to solve the AQLO's problems. Guidelines for designing "thinking room" have been documented on February 2006. This room provides a place for communities of practice to share their ideas. The first such group is formed to work on designing electronic reference desk, the other deals with document delivery.

   ii. Problem solving sessions; they involve in solving those problems of the organization which are raised suddenly. This is an approach to capture the innovative ideas. It seems that there was not any documented policy with regard to this committee. The results of the analysis of the related question in the questionnaire for managers show that only %48 of them believe that they had a lot of such sessions. It seems that it is not common to all managers to arrange problem solving meetings.

   iii. Formal meetings; there is documented policy for arranging formal meetings. According to this policy, each manager must arrange such meetings at least once in every two weeks in

his/her division/section. This is an appropriate policy for disseminating information and sharing knowledge among employees within an organization.

b. Work experience for new librarians; According to the guidelines which has been devised by training section of AQLO, each new and inexperienced librarian must have on-the-job training by an experienced librarian. They can share knowledge through interaction, observation and imitation.

c. Internal discussion group;

d. Short courses and workshops; This knowledge sharing opportunity occurs during the interaction between tutor or instructor and learners. The observation and analysis of education database reveals that 74 short courses and workshops have been arranged in four years (i.e., 2002-2006). Seven of them were run by knowledgeable staff and others by university lecturers. According to this analysis, %8/3 of librarians have not the chance to attend any training session, %41/3 of them in one to 3 sessions, %44 of them in 3 to 5 and %6/4 of them attended in more than 5 sessions.

2. Externalization: Seven activities performed in AQLO can be assigned to this mode.

a. Internal newsletter is a suitable tool for knowledge sharing and documenting tacit knowledge in an organization. In AQLO, an internal newsletter,

"Daneshvarz", were published since 1999. That is, 46 issues of this bi-monthly newsletter have been published until 2006. The content of these issues were reviewed thoroughly. Results show that %85 of the contents is devoted to articles, research reports, interviews with librarians.

b. Conferences; this is another occasion for turning tacit to explicit knowledge and publish conference papers. The review of documents indicates that in AQLO, the importance of this opportunity has been taken into consideration. A written policy in 2006 shows that internal seminars must be held regularly. Ten in house conferences have been arranged. Moreover, one national conference on 2002 and 2 regional conferences were held before 2004.

c. Intranet; Information technology is known as a relevant facilitator for knowledge management and knowledge sharing. The Central Library and some branch libraries are wired. Intranet was designed in 2006 for AQLO. Some of its facilities such as electronic council, chat room, bulletin board and electronic journal are suitable tools for socialization. The Electronic journal by AQOL, on the other hand, has been used for publishing research reports, meetings news, and news in regard to professional activities.

d. AQLO publications; internal newsletter, electronic journal, bibliographies and indexes and more than 70 instructional brochures and guidelines, and information

sheets have been published by the library. Although, the main aim of these publications is to bridge the gap between the library services and users' needs, they can fit in the externalization mode. They are manifestations of librarians' tacit knowledge and experiences.

It should be added that a workshop on how to write a research paper, which was run in 2007, made librarians familiar with the skills of converting their tacit knowledge into explicit knowledge such as writing an article.

3. *Combination:* This mode is related to reorganization and repackaging of explicit knowledge. In AQLO, production of different bibliographies and indexes is a common activity. For example, the Manuscript Section has been preparing regularly index of manuscripts since four decades ago. A number of research activities of librarians are devoted to preparing bibliographies. An analysis of the content of the library newsletter shows that 43 issues have sections with regard to description of rare books, manuscripts of Quran, new titles and introducing useful Websites. Similar reviews and descriptions have been published through the Intranet. Moreover, several databases, e.g., most frequently used books, rare books, and periodicals database have been designed to introduce such collections.

4. *Internalization:* Since this part has some overlap with other parts, it is not intended to repeat the existing opportunities. In each learning opportunities, librarians have the chance to internalize available information, analyze it and compare it with the existing knowledge in their mind and create new knowledge.

This activity deals with thinking skills and increases tacit knowledge. It should be noted that through a workshop on how to do research, librarians were trained to be able to increase their ability in the internalization mode.

The above mentioned evidences show that AQLO have a lot of opportunities for knowledge sharing. Based on the existing practices, it can be said that KM has been implemented to some extent in that organization. This has changed AQLO to a leading and outstanding public library in Iran. However, since libraries are dynamic organizations, KM practice must be dynamic. Some factors ensure KM practice to have a continuous process.

Knowledge Management Success Factors

As mentioned earlier, KM success factors have been studied in this research from individual and organizational perspectives. Based on the literature individual factors have focused on interests in knowledge acquisition, willing to communicate, social status (e.g., Yu, Wilkins & Ma,2004; Yun & Allyn, 2005), responsibility towards the work place and trust (e.g., Kim & Lee, 2005). Organizational factors based on organizational atmosphere, organizational trust, time (e.g., Reige, 2005; Wong, 2005), reward system and behavior of managers (e.g., Zhang, Faerman & Cresswell, 2006 & Han & Anantatmula, 2007). Theses factors constitute the structure of this part of the report. The analysis will pay attention not only to the ideas but also to the behaviors of respondents.

Individual factors

1. Knowledge acquisition

Individuals are normally communicating with each other if they realize that communication and knowledge sharing have benefit for them. (Brown, Dennis & Gant, 2006). The ideas of librarians and managers in regard to this concept is shown in the following table.

Table 2.Librarians & managers` opinions regarding knowledge acquisition (n=140)

Items		Mean	Standard Deviation
1.When librarians exchange their knowledge, new knowledge and ideas will be generated.	Managers	4.38	0.76
	Librarians	4.07	0.83
2. When librarians explain knowledge to others, they will have a better perceptions of their knowledge and also their knowledge will be evaluated.	Managers	4.30	0.59
	Librarians	4.39	0.74
3. When librarians share their knowledge, learning and training will occur simultaneously.	Managers	4.28	0.77
	Librarians	4.28	0.77

The scores of means and standard deviation in table (2) indicate that both librarians and managers with high agreement believe that

knowledge sharing in the acquisition of knowledge is beneficial to them.

2.Communication and Social Status

This concept is one of the other benefits of KM. Some writers in this field (e.g., Short et al., 197 and Dutton et al., 1998 in Yu et al., 2004) believe that knowledge sharing brings about respect and increase communication. This idea is tested by the population of this research. The responses are shown in Table 3

Table 3. Librarians & managers` opinions in regard to communication and social statues (n=140)

Items		Mean	Standard Deviation
1. When librarians participate in knowledge sharing activities, they have more opportunities to cooperate with each other.	Managers	4.29	0.69
	Librarians	4.29	0.71
2. When librarians participate in knowledge sharing activities, they can expand their interpersonal relationship.	Managers	4.29	0.79
	Librarians	4.36	0.69
3. When librarians participate in knowledge sharing activities, they will become aware of their abilities & skills.	Managers	4.25	0.77
	Librarians	4.10	0.90
4. When librarians participate in knowledge sharing activities, their reputation & social statues will be	Managers	4.38	0.61
	Librarians	3.65	1.02

improved in organization.			

According to table 2, there is agreement between the ideas and behavior of the population of this research about the impact of knowledge sharing on increasing communication and social status.

3.Responsibility

Responsibly towards the working environment, as an individual factor which enhances knowledge management is also discussed in the literature (such as, Putti et al., 1990; Williams & Hazer 1986 in Vera-Munoz, et al., 2006). Those who value their job more and feel responsible for the development of their working place are more willing to enhance the development of their organization through sharing their knowledge and experiences. This hypothesis was tested and proved to be true. According to collected ideas with regard to item 1, in Table (3), almost all participants with strong agreement believe that knowledge sharing is an important factor in the improvement of library activities including library services. The responses to item 2 to 4 support the validity of their ideas, because it seems that they follow their ideas in their behaviors.

Table 4. Librarians & managers` opinions concerning work responsibility (n=140)

Items		Mean	Standard Deviation
1. I believe that sharing knowledge is essential to working achievement & developing services.	Managers	4.38	0.61
	Librarians	4.39	0.72

2. I try to share my knowledge & working experiences with colleagues regarding better performance of group projects.	Managers	4.35	0.55
	Librarians	4.17	0.79
3. I am willing to share knowledge in order to work better.	Managers	4.51	0.50
	Librarians	4.36	0.71
4. I try to share my knowledge & working experiences in order to improve work process in organization.	Managers	4.38	0.71
	Librarians	4.32	0.68

4. Trust between librarians

Trust between employees increase communication and knowledge sharing (Kanter, et al., 1992 in Kim & Lee, 2005; Daneshgar & Ho 2008). This concept is examined from the point of view of librarians. The first item in Table 3 seeked to acknowledge their ideas and item 2 and 3, aimed to collected ideas about related behaviors.

Table 4. Item analysis of librarians` opinions concerning trust among librarians (n=109)

Items		Mean	Standard Deviation
1. To what extent do you believe the help you provide to your colleagues will be returned in the future?	Librarians	3.9	1.03
2. To what extent do you share knowledge with colleagues without	Librarians	3.9	0.93

fearing of your knowledge being misused by them?			
3. When you have problems in your work, to what extent your colleagues give you solutions?	Librarians	3.68	0.89

The information provided in the above table shows that in terms of trust among librarians for sharing knowledge, nearly more than half of them believe that they can trust others. Although the standard deviation do not show high agreement between librarians in this regard. Moreover, there is more agreements in their ideas rather than in their opinions towards their behavior, however, it seems that there is a suitable environment for improvement in AQLO.

Organizational Factors

1- Organizational atmosphere has been acknowledged as an important factor impacting knowledge management (Gao, 2004; Van den Hoof et al., 2004). The collected information with regard to this concept is shown in the following tables.

Table 5. Librarians & managers` opinions regarding organizational atmosphere (n=140)

Items		Mean	Standard Deviation
1. To what extent in the section you work, do you believe colleagues collaborate with each other on	Managers	3.76	0.50
	Librarians	3.6	0.82

working issues.?			
2. To what extent do people do you work with accept criticism without becoming defensive?	Managers	3.35	0.70
	Librarians	3.21	0.86
3. To what extent in the section you work, do you believe learning & training is common?	Managers	3.64	0.66
	Librarians	3.43	0.98
4. To what extent in your section, do you believe people are rewarded primarily on the basis of individual performance?	Managers	2.66	1.26
	Librarians	2.24	1.15
5. To what extent in the section you work, do you believe decisions are mainly taken by the head of the unit?.	Managers	3.41	0.50
	Librarians	3.86	0.89
6. To what extent in the section you work, do you believe collaboration with colleagues is encouraged?	Managers	3.45	0.76
	Librarians	2.7	1.00
7. To what extent in the section you work, do you believe managers inform their employees of organizational meeting results?	Managers	3.96	0.71
	Librarians	2.71	1.05
8. When have you working problems, to what extent does your manager share his/her knowledge with you?	Managers	4.45	0.56
	Librarians	3.43	1.07
9. To what extent does your manager share his/her knowledge & working experiences with their employees?	Managers	4.25	0.57
	Librarians	3.11	1.11

10. To what extent does your manager provide opportunities for collaboration in the section you work?	Managers	3.77	0.71
	Librarians	2.60	1.11
11. When employees attend conferences, seminars, etc., to what extent does the manager ask them to prepare a report?	Managers	3.16	0.86
	Librarians	3.01	1.17
12. When you have some working problems, to what extent does your managers share his/her knowledge with you?	Managers	4.45	0.56

In most cases the scores in Table (5) are about the average, particularly wherever librarians express their ideas about their managers' behavior. In case 4, most librarians and managers, with nearly the same degree of agreement, do not believe that individual performance is rewarded. In terms of items 6, 7, 8, 9 and 10 it can be realized that there is difference between the ideas of librarians and managers. It means that, according to librarians' ideas, it seems that the behavior of managers does not support their ideas. Since most of the items in this part are with regard to collecting data about the opinions about behaviors and since the scores are not promising, it seems that organizational atmosphere should be changed. It is clear that the behavior of managers is different. Since the results of content analysis do not show any policy with regard to training of managers for their management practice, this difference can be related to their personal characteristics.

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2. Organizational trust

Managers' behavior and organizational policy have affect on organizational trust are important factors for increasing enthusiasm for KM activities (Lind & Tyler, 1988; Kim & Mauborgne, 1997 in Vera-Munoz et al., 2006; Daneshgar & Ho 2008). The results of the managers's ideas about this concept are demonstrated in Table 6.

Table 6. Managers` opinions regarding organizational trust (n=31)

Items		Mean	Standard Deviation
1. To what extent suggestions and/or comments made by librarians to the organization are usually respected?	Managers	3.89	0.85
2. To what extent do librarians participate in decision-making?	Managers	4	0.63
3. To what extent do librarians participate in activities concerning organizational strategic programs?	Managers	2.58	1.05
4. To what extent is it essential for managers to report after attending conferences, seminars, meeting, etc.?	Managers	3.62	0.55

It seems that most managers, with high agreement, believe that they have good communication with librarians and put value on their ideas. The analysis of responses and examples provided by respondents for 3 open-ended questions in this regard, show that managers involve librarians in decision making situations and put value on their suggestions. However, it seems that they do not trust

them to assign specific duties more than those which are specified in their job description. If managers could trust employees and count on them in doing different activities, they would achieve more confidence in self development, sharing their knowledge and experience and provide opportunities for others to share their ideas.

3. Time

Time is considered as another factor for participating in knowledge management activities (e.g., Reige, 2005; Wong, 2005). Even if suitable organizational repositories, procedures and atmosphere are provided and individuals are willing to share knowledge, they must have appropriate time for knowledge management activities. Because of the critical effect of this factor the opinions of librarians and managers were asked. Table 7, demonstrates the results.

Table 7. Opinions of librarians & managers regarding the time allocated to KM

	Librarians (n=109)		Managers (n=31)	
	Frequency	Frequency Distribution	Frequency	Frequency Distribution
Very much	2	1.8%	1	3.2%
Much	11	10.1%	13	41.9%
To certain extent	44	40.4%	10	32.3%
Little	24	22%	5	16.1%
Never	26	23.9%	2	6.5%

According to Table 7, only about %12 of librarians believe that they have good amount of time for KM activities. But, %45 of managers expressed that librarians have good time for KM related programs. This difference show lack of awareness of managers about time requirements of KM activities. Since time is a micro factor and has effect on other factors, it seems that AQLO must pay close attention to it and through re-planning programs and re-engineering activities, provide more time for librarians for KM activities.

4. Reward system

Reward system is an institutionalized system which encourages KM activities. In such a system, all policies and procedures with regard to encouraging KM will be documented. Therefore, such institutionalization can support the implementation of those policies and benefit from such procedures.

The results of the content analysis and observation of reward database show that a reward system has been designed in AQLO. This analysis also proved that, in practice some KM activities by librarians are taken into consideration such as, in the forms of annual assessment of librarians' activities, there are some indicators with regard to knowledge sharing. Publications of librarians, participation in conferences, etc. are other KM activities are taken into consideration by Research Council of the Library when they are selecting the best librarian each year. Moreover, if a librarian provides any useful suggestions, he/she is rewarded through suggestion system.

However, there is difference between the responses of librarians and managers to the questions that seeked their ideas about

receiving reward and rewarding KM activities. Responses of about %48 of librarians who claimed that they have not received any reward might be related to those who do not have any activities or suggestions. But, since according to Table 8, only about %50 of managers stated that they reward such activities, this might be related to lack of suitable policy and leadership.

Table 8. Librarians & managers` opinions concerning reward system

Items	Librarians (n=109)		Managers (n=31)	
	Frequency	Frequency Distribution	Frequency	Frequency Distribution
Yes	26	23.9%	15	48.4%
No	52	47.7%	15	48.4%
No response	17	15.6%	1	3.2%

Conclusion and discussion

This part is devoted to answering research questions, summarizing findings and providing suggestions.

In order to answer the first question, i.e. find out how far KM is implemented, Nonaka and Takeuchi's model provides suitable tool for analysis. Knowledge conversion model has been the bases for acknowledging KM activities in AQLO. All KM related activities, discussed earlier, have been classified in 4 modes of knowledge conversion in the following figure.

		Socialization	**Externalization**	
Tacit to tacit		- committees and councils - communities of practice - problem-solving sessions - formal meetings - On the job training for new employees - Library internal discussion group	- Newsletter of the organization - Suggestions system - In-house seminars - Intranet, including (electronic newsletter, reports about observations, surveys, visits to other organizations, and informal discussions)	**Tacit to explicit**

Explicit to tacit	**Internalization** All available facilities and opportunities which help knowledge acquisition, including seminars, courses, readings, etc.	**Combination** - Newsletter of the organization (sections related to the rare books, invaluable manuscripts, reference sources, new books and resources, websites, - All types of indexes, catalogues and bibliographies,	Explicit to explicit

Although policies for implementing all aspects of Knowledge management have not been documented at AQLO, according to the above figure, there are a lot of opportunities for knowledge creation and KM implementation. Appropriate environment for change have been provided, or as Nonaka and others (2000) mentioned from "being into becoming". Knowledge has changing nature and is developing continuously. Since library organizations are knowledge intensive organizations they have to cope with these changes. To respond to this need knowledge creation must be an on going and dynamic process. In AQLO, Information technology facilities, and KM tools provides a dynamic process for KM implementation. For example, based on above figure several activities (e.g., committees, meetings, communities of practice, training of new librarians, Intranet and discussion group) provided suitable opportunities in socialization . Externalization practice is

also possible through internal newsletter and electronic journal, suggestion system, in house seminars, Intranet, report of observations, library publications etc. In combination mode also several activities and the related products ensure KM practice in this mode, e.g., production of bibliographies, indexes and databases. In terms of internalization, it can be stated that organizational procedure have been prepared, but since it needs high level of thinking skills and academic abilities, it is hard to be investigated in this research. However, since most librarians hold bachelor degree it might be hard for most of them to be able to learn by internalization and create new knowledge. It seems AQLO is aware toward this need and two workshops on how to right a paper and how to do research have been arranged to enhance these skills in librarians. These procedures and the related infrastructure facilities, help continuous knowledge creation and management in AQLO.

The second research question focused on factors which encourage KM and ensure its success. The data gathered in this regard is summarized in the following table.

Table.9 Librarians & Managers` opinions (mean) concerning individual and organizational factors

Factors influencing knowledge sharing		Mean			
		Librarians (n=109)		Managers (n=31)	
Individual Factors		Opini on	performan ce	Opini on	performan ce
	Knowledge	4.24	-	4.27	-

	Acquisition				
	Relationship & Social Status	4.10	-	4.22	-
	Work Responsibility	4.30	4.32	4.41	4.38
	Trust between librarians	3.79	3.9	-	-
Organizational Factors	Working environment	3.13	-	3.37	3.68
	Attitude of Management	3.12	-	-	3.90
	Organizational trust	-	-	3.1	3.94
Extraneous Variable	Time	2.42	-	3.19	-

Based on the above table, it seems individual factors such as willing to capture knowledge through communication and knowledge sharing, social status, and responsibility can be considered as success factors. But, it seems trust is not as strong as the other individual factors. In terms of organizational factors, the result is not promising. Since the mean scores in this table is about the average, they cannot be considered as barriers.

However, time is not only an encouraging factor in AQLO for implementing KM, but, lack of time can be considered as a barrier. The result shows that a lot of efforts has been devoted to the implementation of KM. In this regards a lot of policies and strategies have been devised, the needed infrastructure have been provided. Therefore, AQLO has turned to a dynamic library. These policies and activities make this library as the best modern practice in Iran among public libraries and one of the outstanding public libraries in the Muslim world. Therefore, in response to the third research question, it can be claimed that in light of the appropriate leadership academic consulting bodies and enthusiastic librarians, AQLO has a transition to a modern, active and useful public library. However, for enhancing this situation and overcoming shortcomings, several following suggestions are provided.

1. increasing the awareness and knowledge of managers towards the benefit of KM for their own development and the development of the Library,
2. establishing a KM section in the Library,
3. appointing one of the professional librarians as KM officer,
4. running appropriate KM classes;
5. documenting all KM related policies,
6. hiring librarians with MLS degree, or facilitating continuing education for existing librarian.

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