Readiness of Omani Health Libraries to Participate in a Collaborative Resource Sharing and National Health Information Network

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Abstract

Purpose - *The study aims at identifying how far the health libraries in the Sultanate of Oman are ready to participate in health resource sharing and collaborative information network. Furthermore, the study intends to explore the current collaborative activities practiced by different health libraries, their equipments, staff preparation, and the basic restrictions and requirements to go behind the individual practices.*

Design/methodology/approach – *To investigate the readiness of Omani health libraries to participate in collaborative activities and be ready for national network, a questionnaire was developed and distributed to 32 health libraries in the Sultanate of Oman.*

Findings - *The results confirm that in spite of the limited collaborative activities and the absent of a well-defined policy for sharing and networking, the investigated libraries uttered their positive inspiration and willingness to be involved in a national consortia project regardless of their type, academic or hospital libraries. The absence of any clear and well-defined policy is due to the shortage of specialized health information professionals, 91% of the libraries' staff is nonprofessionals.*

Originality/value - *The research provides an inclusive and clear insight of the Omani health libraries readiness to share their resources and services. It also explores the reality that the increased cost of health information merged with the increased need of healthcare staff and the public as such to health knowledge resources. Services will enforce decision makers to recognize the importance of any type of consortia or collaborative project. The study, then, proposed that for the Sultanate of Oman, it is time for the better-equipped health libraries to initiate a collaborative project leading to a start point toward a national health information network.*

Keywords – Health information network, Resource sharing in Oman, Professional competencies, Oman, Omani health information

Introduction

In reality, no library or information center, no matter of its collection size and equipments is capable of assuring all of its patrons needs due to a range of limitations and constraints. From this phenomenon the initiation of a resource sharing concept has developed. The term started with actions as with shared cataloguing, library cooperation, interlibrary loan and union catalogue. Later on the concept gradually extended beyond, simply, the notion of mutual sharing of the available resources among the connected libraries to the exploitation and utilization of the resources of one library for the users' benefits of the other. The concept of resources does not merely cover the collection, but all of the other major sources of information including services, functions, equipment, and professional competences required to respond to a variety of consumers of information.

Within this sense Murthy defined library cooperation and resource sharing as being "a group of libraries that agree to pool their resources by allowing the users of each institution some type of access to the resources of all other institutions, either through inter-library loan or borrowing privileges" (Murthy, 2002). "sharing is a need-based activity framed around the age-old concept of give and take" (Mishra, 2000) The idea behind the value and strength of resource sharing among libraries and information centers seems to be excited and favorite. Still the application is complex and surrounded by many constraints starting from organizational and requirements facilities to managerial attitudes of decision makers. From health workforce side, whatever high quality equipments and resources will be available, they are useless unless better invested for good health. Therefore, in fact, there is a mutual thinking about the significance of reading and following up health knowledge wherever they reside in, online or offline.

The thing they care about is to have the information available on suitable time and place they are working in and this is another justification behind the urgent need for cooperation and resource sharing to exclusively consume the available information products that cost health libraries a lot. In addition to the constraints or willingness, several factors promote the concept of resource sharing to involve different activities as with consortia, networking, cooperation or even interlibrary loan and union catalog. Among these factors are:
- the massive expansion of information joined with the dramatic increase in use and value of information in a way that generate the demanded information society,
- the rapid growth of information technology that overwhelmed all aspects of life without leaving a path isolated from interfering in its performance or presentation,
- when speaking about health information, the idea of resource sharing leads to reduction of all around information cost, avoidance of any duplication in efforts or materials, and maximizing the accessibility, then the value of already accumulated information.

Health Information in Oman

In terms of healthcare services, Oman is considered as one of the countries that has watchfully realized the importance of health education, literacy, and treatment, within its strategic plans, to the Omani nation's comprehensive development. Much attention has been paid to health information services, as with healthcare services, so there is no health institution or hospital without a library or information center supporting their missions. There are 36 specialized health libraries among a variety of public and private institutions. They intend to offer different traditional (collection development, organization, and circulation) and online (databases and e-journals subscriptions) services to doctors, researchers, patients, and the public.The continuous technological development in Oman, however, led to more progression and commitments to providing online services such as the Oman Medical Specialty Board (OMSB) subscription to "Up-to-Date" database and the establishment of the Ministry of Health to a unique website for health and medical services. That is to help and directly communicate with patients and other different levels of users. _(Dr-Index .com)_. In case of health information, and because of the lack of health literature and information available in most of the health libraries to satisfy the needs of users especially outside the capital Muscat, the Ministry however proposed to put together all the hospitals at the sultanate on one linked network applying Al-shafa system.

To do so, the Ministry in coordination with the Board of Information Technology and Omantel agreed to apply MBLS technology for such network aiming at providing better services and sharing available expertise and facilities. The Ministry proposes to involve medical teaching and learning for upgrading the healthcare staff literacy and health services as well (Al-Lemki, 2008).Health library cooperation in Oman is not a new trend; in fact, there are several initiations towards collaborative activities but they are restricted to few libraries, only those having better conveniences such as the Medical Library at Sultan Qaboos University, The Royal Hospital, and The Military Hospital Library. Regardless of the willingness of these libraries to share and cooperate, the initiation lacks the comprehension, setting, and preparation of required facilities to develop. In addition, it is limited to few large libraries and separating those who are truly in urgent need for health information services but limited in their equipments and collections aside. Such limitation reflects the insight thinking of large libraries to become lender only rather than beneficial or even borrower of information resources. In other words, it will be a one-side promotion to small libraries, and consuming of sources and services to large libraries.

These two shortages, the lack of setting and well organization and the restricted cooperation involvement to only large libraries together with the increased need to information constitute a case that deserves to be investigated. The study then aims to:
1- Explore the insight vision of the Omani health libraries concerning their readiness to participate in a national collaborative information network.
2- Identify the most important issues -technical, organizational, and human resources- influencing the swiftness of the cooperation.
3- Discuss the basic needs required for establishment of a cooperative network.
4- Identify the major obstacles that hinder a integrated national health network in Oman.

The study, yet, proposed to test two research questions, these are:
1- Are there significant differences between the different types of health libraries in Oman (hospital and academic libraries) and their readiness to participate in resource sharing and networking in terms of: the technological and telecommunication requirements and human resources?

2- Are there significant differences between the different types of health libraries in Oman (hospital and academic libraries) and the type of restrictions (administrative and legislative) that hinder them from participating in resource sharing and networking?

Methodology and Data Collection

The descriptive method was applied to achieve the research's purposes and goals and a questionnaire was developed to collect data from the involved health libraries in Oman. According to their administrative liability and supervision, the 36 health libraries are classified into two categories, these are:

1- Hospitals and health institutions' libraries of the Ministry of Health.
2- Academic health libraries of both public and private universities, colleges, and institutions.

Table 1 illustrates the distribution of health libraries in Oman according to the supervising authority:

Table 1: Type of health libraries in Oman

Supervising Authority	#	Percentage
Governmental Hospital Libraries	14	39%
Academic Health Libraries –public and private	22	61%
Total	36	100%

Because of the limited number of libraries and professionals in Oman, the questionnaire was sent to all 36 libraries. Responses were collected from 35 libraries, one of them excluded for the incomplete data and two-two libraries share one library thus those two are considered as one library. The final number then becomes 32 responses.

Data Analysis and discussion
Descriptive Data Analysis

1- Fifty percent (16) of the responses were from hospital libraries and the other fifty percent (16) from academic health libraries. These 32 libraries host a variety of Arabic and English sources according to their size and potential. Table 2 illustrates the most sources available:

Table 2: Type of available information sources

Information resources	# of hosted libraries	Percentage
Arabic paper books	21	66%
English paper books	28	87%
Arabic e-books	1	03%
English e-books	6	19%
Arabic paper Journals	11	34%
English Paper Journal	27	84%
Arabic e-journals	1	03%
English e-journals	6	19%
Arabic audio-visual materials	5	16%
English audio-visual materials	18	56%

2- Sixty-two percent of the 32 libraries, mostly academic libraries, apply electronic classification systems. Participation to e-systems resulted from their being a part of the their mother organizations orientation toward electronic systems and because of the size of their collections and the number of beneficiaries from their services.

3- Regardless of the above point, only 6 libraries have designed a Web site, and only 3 of which allowed their catalogues on the Web.

4- According to work force, the results generally showed that only 38% of them are professionals with a certification in library and information science and 35% of the libraries' directors have professional experience on health libraries for more than 8 years while 42% of them have 1-3 years of experience and the rest (23%) worked for 4-7 years in health libraries.

5- For the electronic equipments, 91% of the libraries have computers while the number of computers varies from two to 24 based on the size of the library collection and users. What is unusual is that the users accessing health information from hospital libraries are very limited to only few doctors.

Inferential Data Analysis
First: Current readiness of health libraries in Oman towards resource sharing

1- For the available collaborative activities, the results showed that 69% (22) of the libraries have already started some kind of traditional collaborative activities. These activities are shown in Table 3.

Table 3: Current available collaborative activities

Current collaborative activity	# of libraries involved (from the 22 libraries)	Percentage
Exchanging personal experiences	17	53%
Interlibrary loan	15	47%
Technical (indexing, classification, and cataloging)	7	22%
Collaborative acquisition	5	16%
Electronic (internet, online catalog, and Web site)	4	12%

2- For the required collaborative activities, the 32 libraries expressed their needs to more and other collaborative areas including:

Table 4: Areas where collaborative activities are required

Collaborative activity	# of Libraries	Percentage
Training	30	94%
Technical (acquisition, classification, and cataloging)	26	81%
Personal ideas and expertise	24	75%
Resource sharing	22	69%
Exchange of information media	22	69%
Interlibrary loan	18	56%
Bibliographic services	17	53%

Second: Availability of Resource Sharing Equipments

Technological and Telecommunication Requirements: Table 5 shows the results behind the available technical and telecommunication facilities in Omani health libraries:

Table 5: Available Technological and Telecommunication Equipments

Equipments	Very Good		Good		Weak	
	Freq.	%	Freq.	%	Freq.	%
Efficiency and appropriateness of hardware	11	34.4%	10	31.3%	11	34.4%
Periodic maintenance availability	6	18.8%	12	37.5%	13	40.6%
Available software updating	7	21.9%	13	40.6%	11	34.4%
Communication and systems quality	5	15.6%	9	28.1%	18	56.3%
Intranet and local networking quality	7	21.9%	10	31.3%	14	43.8%
Hardware and software ease of uses of	7	21.9%	15	46.9%	10	31.3%
Available software response to networking	6	18.8%	13	40.6%	11	34.4%
Ease and speed of access to information	10	31.3%	12	37.5%	9	28.1%
Total of frequencies	**59**		**94**		**97**	
Frequencies mean	**7.3**		**11.7**		**12.1**	
Percentage	**22.8%**		**36.5%**		**37.8%**	

Generally, results show a decline in the level of the available hardware and telecommunication equipments among most of the health libraries in Oman.

Third: Human Resources Potential for Networking

Table 6 demonstrates the current human resources available at health libraries to measure their readiness to share in collaborative information networking:

Table 6: Current Human Resources Potentials

Equipments	Very Good		Good		Weak	
	Freq.	%	Freq.	%	Freq.	%
Self-readiness to enter into cooperative programs	13	40.6%	15	49.9%	4	12.5%
Expertise to deal with the programs	15	46.9%	11	34.4%	6	18.8%
Received training associated with available program	8	25%	13	40.6%	11	34.4%
Sufficient number of employees available to be involved in collaborative activities	4	12.%	10	31.3%	18	56.3%
Participation in selecting the available information systems	7	21.9%	8	25%	17	53.1%
Employees readiness for change	14	43.8%	15	46.9%	3	9.4%
Adequacy of training to be involved in collaborative network	3	9.4%	16	50%	13	40.6%
Availability of technical competencies	4	12.5%	18	56.3%	10	31.3%
Total of frequencies	**68**		**106**		**82**	
Frequencies mean	**9**		**13**		**10**	
Percentage	**26.5%**		**41.2%**		**31.8%**	

Restrictions to Networking in Omani Health Libraries
Collaboration between or among health libraries is surrounded by several restrictions, including:

1- **Administrative and Organizational Restrictions**
Table 7 illustrates the crucial barriers that hinder the health libraries from being connected to a local consortia or network.

Table 7: Organizational and administrative restrictions to networking

Barriers	Agree		So Far		Disagree	
	Freq.	%	Freq.	%	Freq.	%
Limited awareness among libraries directors	8	25%	14	43.8%	10	31.3%
Deficiencies in work organizational structure at health libraries	14	43.8%	10	31.3%	8	25%
Limited awareness of decision makers	13	40.6%	11	34.4%	7	21.9%
Inadequate budget for collaborative activities	22	68.8%	4	12.5%	5	15.6%
Absence of a body or institution to coordinate the work of health libraries	16	50%	11	34.4%	5	15.6%
Privacy, individuality, and autonomy of action that each library preferred to have	8	25%	14	43.8%	9	28.1%
The inequity of available material and human resources in health libraries	21	65.6%	8	25%	3	9.4%
Variation in the level of the already applied technical processing systems (cataloging & classification)	13	40.6%	11	34.4%	7	21.9%
Application of various information systems	16	50%	10	31.3%	4	12.5%
Total of frequencies	**131**		**93**		**58**	
Frequencies mean	**14.5**		**10.3**		**6.4**	
Percentage	**45.3%**		**32.1%**		**20%**	

2- **Legislative Restrictions**
Table 8 demonstrates the legislative restrictions facing the implementation of health information networking and resource sharing in Oman:

Table 8: Legislative restrictions to networking

Barriers	Agree		So Far		Disagree	
	Freq.	%	Freq.	%	Freq.	%
The absence of required laws and legislation governing the work of networking and collaborative activities	19	59.4%	8	25%	5	15.6%
Availability of legal and licensing intellectual property related to networking and collaborative activities	15	46.9%	13	40.6%	3	9.4%
Absence of legal systems governing the work of health libraries	16	50%	11	34.4%	5	15.6%
The legal complexities to engage in collaborative programs	12	37.5%	12	37.5%	7	21.9%
Information security and protection	13	40.6%	12	37.5%	5	15.6%
Total of frequencies	**75**		**56**		**25**	
Frequencies mean	**15**		**11.2**		**5**	
Percentage	**46.8%**		**35%**		**15.6%**	

C- Research Questions Testing

Question 1: As related to the first research question, the results show that there are no significant differences between hospital or academic libraries within health institutions and colleges and their readiness to share in terms of technological and telecommunication requirements and human resource potentials. The resulting p-values of Levene's test (0.504 and 0.122 consecutively) are more than the critical value (0.05). These results confirm that there are no differences between the various types of libraries and their overall readiness to share services and resources on cooperative network. Table 9 illustrates the results of the Levene's test.

Table 9: Levene's test result for the first research question

Requirements	Types of Libraries	#	Mean	Standard deviation	Levene's test	Sig.
Technological and telecommunication	Academic	15*	15.2	5.94	0.041	0.504
	Hospital	13*	13.4	3.94		
Human potentials	Academic	16	14.43	4.88	0.081	0.122
	Hospital	16	16.68	2.84		
* 4 missing or no responses 1 from academic and 3 from hospital libraries						

Question 2: To find out whether significant differences exist between the type of health libraries and the administrative and legislative restrictions that hinder these libraries from sharing, Levene's test was applied. The resulted p-values (0.919 and 0.803 consecutively) indicate high values comparing to the critical value (0.05). These results ensure that all of the (32) health libraries in Oman share the same level of restrictions in terms of administration and legislations controlling the technical process and offered services within and between each others.

Table 10: Levene's test result for the second research question

Restrictions	Types of Libraries	#	Mean	Standard deviation	Levene's test	Sig.
Administrative	Academic	12*	20.6	2.8	0.280	0.919
	Hospital	15*	20.8	3.68		
Legislative	Academic	14**	11.07	3.26	0.092	0.803
	Hospital	16	11.8	2.18		
*5 missing or with no responses 4 from academic and 1 from hospital libraries						
**2 missing or with no responses from academic libraries						

Conclusion

From the above results and discussions, the study concluded that:

1- Regardless of the limited collaborative activities among the investigated health libraries in Oman and the lack of definite networking policy, the results ensure the willingness of these libraries to be involved in national consortia. Their major purposes rest behind their readiness to achieve better health services, ensure health knowledge integrity and share in building the Omani knowledge society.

2- Most of the health libraries lack the proper technological, telecommunication, and human requirements to establish a national network or collaborative programs in addition to the organizational and administrative barriers that hinder the establishing of such projects.

3- The results also reflect a limited awareness among staff within these libraries in terms of the importance of consortia, collaboration, or any unity between them.

It is time now for health libraries in Oman and decision makers specifically in the Ministry of Health to initiate a collaborative project that insures the level of health knowledge equivalent to the goals of the Sultanate in providing the best health services to the society. Marketing the already costly available health information will help creating a healthy society too.

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