

The Use of Online Tools by Information Professionals in Medical Libraries in Oman

Salim Said AlKindi
Assistant Professor

Department of Information Studies, College of Arts and Social Sciences, Sultan Qaboos University
EMAIL: salimsk@squ.edu.om or salim9s@hotmail.com

Mohammed Nasser Al-Suqri

Assistant Professor & Head of the Department

Department of Information Studies, College of Arts and Social Sciences, Sultan Qaboos University
EMAIL: saqrim@squ.edu.om or sakri81@hotmail.com

Abdullah Hamood Zaher Al-Sarmi

Training Supervisor

Department of Information Studies, College of Arts and Social Sciences, Sultan Qaboos University
Email: asarmi@squ.edu.om

Abstract

Rapid development of the Internet and the emergence of a new generation of the Internet within different social software offer advantages to medical libraries in terms of their services and marketing. Medical libraries need to change the ways they provide their services based on changes in users' needs in the digital world. The main purpose of this study is to explore the perception/attitude of information professionals in Medical libraries in Oman towards use of various online tools or so-called Web2.0. The study also intends to highlight the main challenges that prevent libraries from using these tools and applications in providing services. An online survey was used as a data collection method. Survey Monkey software was used to design the questionnaire. The survey included all medical libraries (16) in Oman. The study found that the majority of information professionals in medical libraries in Oman are aware of Web 2.0 and the majority of them use its tools within library services. The majority of information professionals reported positively regarding the use of these tools in library services. However, several challenges were identified regarding using and adopting online tools within library services. This study tried to provide a clear understanding of the ways that online tools are used and adopted by information professionals in medical libraries. It is hoped that it will make a contribution to the future development of this subject area.

Keywords: Oman, Online Tools, Information Professionals, Medical Libraries, Web 2.0, Library 2.0, Librarian 2.0

1. Introduction

Various Internet technologies and/or Web 2.0 can help organizations to be more effective and support them in the promotion of their services. These tools and technologies, such as social networking software, help users to create and share new content. In an organisation, Web 2.0 can facilitate learning and increase participation and contributions online. It can facilitate the gaining of new knowledge and foster effective interaction by exploiting these new technologies. For these reasons and others, companies and/or organisations are exploring new online tools and/or Web2.0 and its applications to enhance their services and to expand their employees' knowledge. Information institutions, such as universities, are starting to recognise the importance of harnessing these tools for different purposes. 'Libraries and other information organisations are beginning to incorporate these applications as a means of creating more interactive, user centered library and information services' (Suraweera et al., 2010, p.2).

Many studies have reported on the use of Web2.0 in libraries and are moving to Library 2.0 and Librarian 2.0 (Linh, 2008; Al-Daibani, 2009; Alkindi & Al-Suqri, 2012; Alkindi & Al-Suqri, 2013). Medical libraries are expected to provide users with good facilities and services in the digital world. Library service aims to complement the needs of the community, whether those users work within the organisations or are members of the public. The Information professionals should play an important role in harnessing and using these technologies in the library. However, the attitude/perception of Information professionals in medical libraries in Oman towards use of Web 2.0 technologies and other online tools is unclear. Additionally, the ways they use these technologies to support library services and users are unclear. Therefore, the objectives of this research are to:

- Understand the context of Web 2.0 or online tools in medical libraries in Oman
- Determine perception/attitude of information professionals in medical libraries in Oman towards use of

Web 2.0 technologies

- Identify online tools that are used by information professionals
- Explore the use of online tools or/and Web 2.0 technologies by Information professionals in supporting library services
- Explore the main challenges, if any, to adopting these applications and tools in library services

Among other things, the study attempts to answer the following questions:

- (1) To what extent are medical libraries aware of Web2.0?
- (2) How do Information professionals use online tools in supporting libraries services?
- (3) What Web 2.0 technologies do they use?
- (4) What is the attitude/perception of information professionals in medical libraries in Oman towards Web 2.0 technologies?
- (5) What are the main challenges, if any, to adopting these online tools in library services?

This research is very important for several reasons. It will provide a clear map of the use of Web 2.0 technologies in medical libraries in Oman. The result will show the applications and tools that are used by some medical libraries in Oman. Other libraries can benefit from this by collaborating with these libraries in regards to the use of these applications. The study will also address the challenges in adopting these applications to understand the medical library's need, if any, for technology skills, Internet access and other needs that can improve library services. More importantly, this research will contribute new knowledge in this field regarding the adoption and use of Web 2.0 technologies in libraries, as there is not much discussion about adoption these technologies for the provision of library services in the Gulf Cooperation Council (GCC).

2. Review of the Literature

2.1. *Web 2.0 and the concept of Librarian 2.0*

The term 'Web 2.0' has widely used by many scholars in different fields of the studies. The concept of Web 2.0 was introduced in a conference by O'Reilly and Media Live International (O'Reilly, 2005). Web 2.0 has many definitions, depending on the viewpoints of various authors and scholars in diverse fields, but it is considered to have a positive impact on people's life and work. It was described as a new Internet collaborative application (Sendall, Ceccucci & Peslak, 2008). It can be described as "a way of creating webpages focusing on micro content and social connection between people" (Alexander, 2008, p. 151). As such, Web2.0 refers to different terms, such as collaboration, communication, information, and knowledge sharing and content creating. One of the most significant definitions was introduced by Anderson (2008) who summarised Web 2.0 as: user generated content in which users can share and create new content; the power of the crowd; data on an epic scale in which users can make and create data; architecture of participate on; a network effect and openness (see Anderson, 2008). Another definition was given by Franklin and Harmelen (2007) as an "increased emphasis on user generated content, data and content sharing and collaborative effort, together with the use of various kinds of social software, new ways of interacting with web-based applications, and the use of the web as a platform for generating, re-purposing and consuming content" (p.4).

Therefore, this current study uses the term 'online tools' or 'online technologies' to indicate Web 2.0 and its application. It is also worth providing a brief description of the terms 'Librarian 2.0' and 'Library 2.0'. The concept of Library 2.0 has developed from the use of Web2.0 technologies by librarians (Al-Daibani, 2009). It was coined by Michael Casey in his Library Crunch blog (Miller, 2005). "Library 2.0 is not about searching, but finding; not about access, but sharing. Library 2.0 recognises that human beings do not seek and utilize information as individuals, but as communities" (Maness, 2006). As such, Library 2.0 is about a social network interface in which users can interact and design their own pages. In Library 2.0, users have the ability to interact with databases and have the ability to blog, share, participate, and communicate more effectively. In other words, the term 'Library 2.0' exploits Web2.0 technologies to enhance library services, and prepares librarians for the digital world in order to serve digital users. Library 2.0 needs to have a new way to interact with users; for example, it provides a multi-media experience like video, really simple syndication (RSS), blogs to publish frequently updated works and news, social bookmarking (share bookmarks and bookmarked collections), wikis and other applications to support library services. Using these technologies in libraries will add new value and help libraries to find a place in the digital world, as change is essential for survival.

2.2. *Online Tools in Libraries*

A lot of studies have discussed the use of Web 2.0 technologies in libraries. Some of these studies tend to investigate the use of these technologies according to participants surveyed, while others tend to analyse the library's home page or Facebook page. Some of these studies reported high use of these technologies, while others reported less use of these technologies. For example, a study by Al-Daibani (2009) explored the perception of Library 2.0 of academic librarians in a Kuwaiti university. The study was conducted in four universities in Kuwait. The study showed these libraries made little use of Web2.0 applications and tools. The

majority of these libraries did not use applications like social networking, bookmarking and collaborative authoring. However, the study showed that there was a positive attitude to the optional use of Library 2.0 in academic libraries. Chawner (2008) conducted a study of information management professions in New Zealand libraries to explore the usage of Web2.0 technologies. According to that study, the majority of information management professions had experience with Web 2.0 technologies, such as using RSS and reading blogs. However, librarians were less familiar with content creation and generating, such as adding or updating content in a wiki. Another study by Kelly et al. (2009) intended to explore the use of Web 2.0 in the library sector and found that many libraries use it. For example, the national library used Web 2.0 applications, such as Facebook, YouTube and wikis.

Many Web 2.0 technologies can be used effectively in the libraries. The most common technologies are RSS, blogs, instant messaging (IM), podcasts and social networking sites (SNS), such as Facebook. For example, Linh (2008) conducted a study among Australian university libraries to provide a clear map of Web 2.0 application use. The study found that nearly a half of the libraries (47%) used Web 2.0. The study showed that four types of Web 2.0 technologies were used by these libraries: RSS, blogs, IM and podcasts. Another study by Xua, Ouyanga and Chua (2009) explored the use and adoption of Web2.0 applications in 81 academic libraries in the New York State by visiting their sites. The study found that half of them adopted and used Web2.0 technologies; "they collectively implemented, albeit on varying scales, IM, blogs, RSS, tagging, wikis, social networks, and podcasts to enhance their library operations and services"(p.330). However, Chua, Goh and Lee (2008), who analysed 90 libraries' websites in North America, Europe and Asia, found that that blogs, RSS and IM were most popular applications used, whereas wikis, social networking services and social tagging were less used. Kim and Abbas (2010) found that RSS and blogs are widely used by these libraries. Others found that IM, Blog, SNS and wikis are used less frequently (Nielsen, 2009).

Many studies indicated the way Web 2.0 technologies are used in the libraries. An example of the best practise of Web 2.0 technologies was offered by Stephens and Collins (2007) who stated that libraries can use blogs for marketing by offering blogs on new materials, resources and library events. They can use RSS to offer feeds of new materials, event information and blog posts. They can use podcasting to record library's services and programs, book reviews and others. They provided many examples of the Web2.0 technologies used by librarians, for example, librarians at Butler University used wikis to build reference resources for libraries, and to allow easy access to the site by staff, students and the librarians. Librarians at the St. Joseph County Public Library in South Bend used wikis to discuss the library, and they created subject guides for their users. Central Reference Services at the University of Illinois at Urbana-Champaign used IM for reference service purposes like answer students' questions. Nielsen (2009) noted that IM can be used as a library service to communicate with users outside a library context.

Another example is a study by Han and Liu (2009), which was conducted on 38 top Chinese university libraries' web sites to identify the Web 2.0 technologies applied in these libraries. According to that study, most of these libraries used some Web2.0 technologies, such as Catalog 2.0, RSS, IM, Blog, SNS and wikis in their services. The study indicated that Catalog 2.0 and RSS are the most widely used technologies. The libraries used Catalog 2.0 to allow users contribute to the book record, provide links to other websites and mine "valuable information from book record databases" (p.52). RSS was used by the libraries for book information, library news, database feeds and others purposes. Blogs were used for marketing library events and resources; IM was used for reference services on library's web site; SNS was used for publicising library's events, providing reference services and accessing library's resources; wikis were used for training resources, resource listings and project progression. Rutherford (as cited in Winston, 2009) conducted a study among seven librarians from public libraries in New Zealand and the United States to assess their experience using Web 2.0. The study found that librarians benefitted from using Web 2.0. They used it to "promote communication, interactivity, and sharing; [it] reaches remote users better than traditional library services; [it] empowers users to control their library experience and provides valuable metrics through which they can evaluate the quality of service" (p.11).

Another study by Chua, Goh and Lee (2008) explored the prevalence and use of Web 2.0 in libraries by analysing 90 libraries' websites from North America, Europe and Asia. In these libraries, blogs were used to engage users and to generate interest in subject-specific topics, and IM, such as Yahoo Instant Messenger, MSN Messenger, ICQ and Skype, were used for users' enquiries. The libraries used SNS, such as Facebook and MySpace, to communicate with their users. A recent study conducted by Kim and Abbas (2010) based on 230 academic library web sites and 184 randomly chosen users investigated the adoption of Web 2.0 in academic libraries. According to that study, RSS was used to "inform users about library news, such as changed library hours, new books, and/or special events" (p.215), and blogs allowed users to "comment on books or issues and making communication a two-way exchange" (p. 215). Another study by Linh (2008) found that libraries used RSS for announcing new books in specific fields, subjects or branch libraries. They used blogs for library services and library news and events. They used podcasts to provide guidance for resources, advice on library skills and library orientation tours. They used IM as a tool for virtual reference services in terms of chat services.

Another recent study by Al Kindi and Al-Suqri (2012, 2013) explored the use of SNS as marketing and outreach tools by library and information services. Twenty public libraries that have Facebook pages were selected as subject samples. The study found that the libraries used these technologies for marketing purposes, including marketing the library itself, marketing information services, marketing information resources, and marketing people knowledge and skills. As previous studies have shown, some libraries were more aware than others of Web2.0 technologies. Furthermore, most of these libraries adopted SNS, blog, RSS, IM and wikis in their services, and they used them to provide and enhance their services.

It is also worth noting that the libraries faced challenges in adopting and using these technologies. Some of these challenges and barriers are: lack of training (Al-Daibani, 2009); personal barriers, such as lack of time and lack of confidence/skills; technical barriers, such as slow dial up access, and organisational barriers, such as limited access to firewalls or filtering software services (Chawner, 2008). Aharony (2008) pointed out other challenges and barriers related to personality characteristics, such as resistance to change, cognitive appraisal, empowerment, and extroversion or introversion. He also added that computer expertise and motivation is another challenge to use of these tools.

2.3. Medical Libraries and Online Tools

A number of studies focused more on using these technologies in medical libraries. For example, Gavvani and Mohan (2008) identified many online services provided by medical libraries through Web 2.0, such as medical blogs, wikis, slide shares, video shares, folksonomy and RSS. They stated that medical/hospital library blogs can be a place to present and share patient education, patient discharge information, doctors' schedules, patient guides in hospitalisation, common diseases, prevention of common diseases, seasonal diseases, list of doctors based on specialty, insurance and information about diseases caused by climate changes. They added that librarians can use wikis to support medical sciences by creating a special case study wiki for any specialty of medicine. They can use other applications, such as community tools, such as slide shares, video shares and photo shares to share medical images, atlases and educational video clips in medical libraries. Other applications mentioned by Gavvani and Mohan (2008) are podcasts and RSS, which are used to keep user communities up-to-date, and folksonomy, which helps librarians to organise information efficiently and support the search engines' indexing tools.

Another study by Barsky and Giustini (2007) showed that wikis offer a number of marketing and teaching opportunities for medical libraries. The authors explored several features of a wiki. Wikis provide the opportunity to share original content that is difficult to find elsewhere, and anyone can add the content. They introduced some applications that can be used in medical libraries, such as subject guides, project planning, policy manuals and training resources. Lambert (2009) found several applications can be used in medical libraries to service health sciences and provide information easily and quickly. Some of these applications are: podcasts, RSS feeds, blogs, wikis, social tagging and Mashup. Other studies introduce and discuss the use of online tools and/or Web 2.0 in medical libraries (see Philbrick, Cleveland & Pan, 2009; Barsk, 2006; Barsky& Purdon, 2006; Connor, 2007; Lemley& Burnham, 2009). However, the use and adoption of these applications in medical libraries in Oman needs to be addressed. The study will attempt to explore the Information professionals awareness of the various online tools include Web 2.0 concepts and applications, how they are used in their libraries and barriers that could prevent them librarians from using these applications. The study was conducted in 50 Information professionals in different areas in Oman.

3. Research Design

3.1. Objectives

The main objective of this study is to explore information professionals' attitude towards online technologies use in medical libraries in Oman. The study also aims to outline the main challenges, if any, to adopting these technologies in library services and to identify the most popular applications used.

3.2. Method

The study used an online survey in order to explore the attitude of Information professionals towards using Web 2.0 technologies in medical libraries. The questionnaire consisted of five parts: demographic information; Internet use, which was sought to explore their experience in using the Internet; Web 2.0 and its applications, which sought to explore Information professionals awareness of such applications and the term Web 2.0; challenges to adopting these technologies in the library; attitudes towards use of these technologies in the library. The questionnaire was developed on the basis of the literature review and initial investigation. The researchers used Survey Monkey (online software for designing surveys) to design an online survey. The survey was available online for four weeks. A total of 29 questionnaires were filled online of which 50 were completed successfully and were useful for data analysis.

3.3. Participants' Profile

There are 16 medical libraries in Oman, namely Sultan Qaboos University, Medical library Oman, Medical College Library, Oman Nursing Institute, Oman Central Medical Library, Royal Hospital Medical Library, Khawla Hospital Medical Library, Al'Nahdah Hospital Medical Library, Ibn Senaa Hospital Medical Library, Sohar Hospital Medical Library, Al'Rustaq Hospital Medical Library, Al'Buraimi Hospital Medical Library, Nizwa Hospital Medical Library, Ibri Hospital Medical Library, Sur Hospital Medical Library, Ibra Hospital Medical Library and Salalah Hospital Medical Library. There are 50 Information professionals in medical libraries in Oman. A total of 29 questionnaires were completed online, giving a response rate of 58%. The next table illustrates the number of participants' from these medical libraries.

Table 1. Number of Participants from Medical Libraries

		Number of participants
Valid	Sultan Qaboos University, Medical library	10
	Oman Nursing Institute	1
	Oman Central medical Library	1
	Royal Hospital Medical Library	4
	Ibn Senaa Hospital Medical Library	1
	Sohar Hospital Medical Library	3
	Al'Rustaq Hospital Medical Library	1
	Nizwa Hospital Medical Library	2
	Ibri Hospital Medical Library	1
	Sur Hospital Medical Library	2
	Ibra Hospital Medical Library	2
	Salalah Hospital Medical Library	1
Total	29	

Of these, nine were males and 20 were females. As is observed across all societies, women are more likely to enter librarianship than men. The ratio of men to women is lower in medical libraries in Oman.

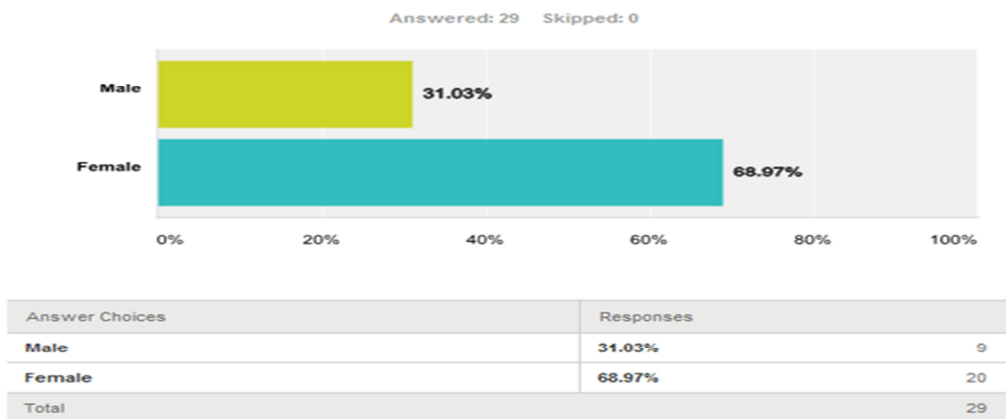


Figure 1. Gender

The age reported in Table 2 indicates that 13 of participants were aged 30–29, nine were aged 20–29, and seven were aged 40–49.

Table 2. Participants' Age

		Frequency	Percentage	Valid Percentage
Valid	20-29	9	31.0	31.0
	30-39	13	44.8	44.8
	40-49	7	24.1	24.1
	Total	29	100.0	100.0

Table 3 shows the outcome when participants were asked to indicate the level of their degree, ranging from bachelor to PhD. More than half, 52% (n=15) of the participants held a bachelor's degree, 31% (n=9) held higher diploma or equivalent, 14% (n=4) held a masters, and nearly 3% (n=1) held a PhD.

Table 3. Level of Participants' Degree

		Frequency	Percentage	Valid Percentage
Valid	Bachelor or equivalent	15	51.7	51.7
	Higher Diploma or equivalent	9	31.0	31.0
	Masters or equivalent	4	13.8	13.8
	PhD or equivalent	1	3.4	3.4
	Total	29	100.0	100.0

Half of participants (52%, n=15 out of 29) classify themselves as 'somewhat proficient' in using the Internet, (24%, n=7 out of 29) as 'very proficient', and only one participant reported 'less than adequate' with regards to the internet skills.

Table 4. Level of Internet Skill

		Frequency	Percentage
Valid	Very Proficient	7	24.1
	Somewhat proficient	15	51.7
	Adequate	6	20.7
	Less than adequate	1	3.4
	Total	29	100.0

All participants access the Internet from their place of work, and only one reported access from home (see Figure 2).

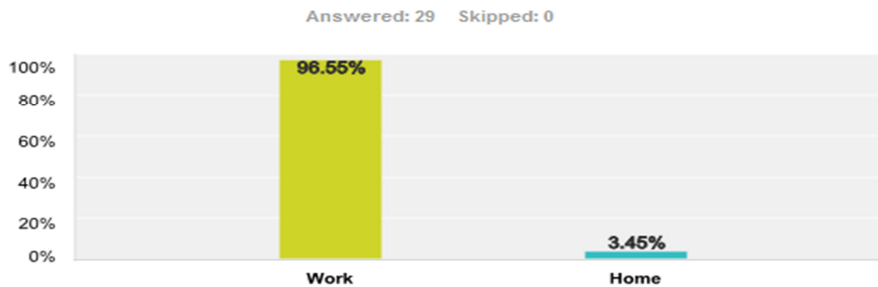
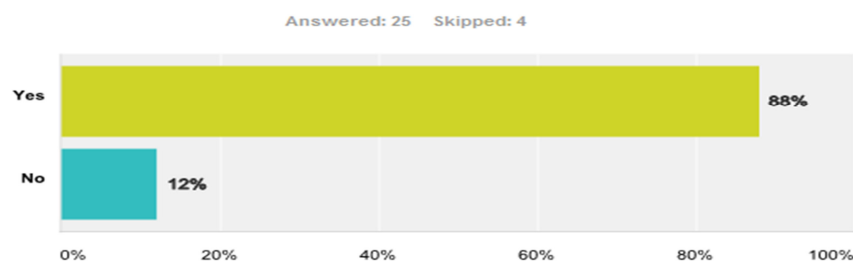


Figure 2. Place of Internet access

4. Findings

The participating professionals were asked about their awareness of the term Web 2.0. The majority of them (88%, n=22 out of 29) reported that they were aware of the term, while only 12% (n=3) reported that they were unaware of this term.



Answer Choices	Responses
Yes	88% 22
No	12% 3
Total	25

Figure 3. Levels of awareness of Web 2.0 term

The second question in the survey addresses the level of familiarity with the most popular online tools and participants' frequency of use of these tools. The participants were asked the following question: how often do you use the following online tools? Of the 29 participants 25 replied to this question, while four skipped the question. Descriptive statistics presented in Table 5 show that most of the respondents were using online video (YouTube) (mean=3.36), and 92% (n=23 out of 29) were doing this either occasionally or frequently. Nearly

half of the respondents (44%) reported frequent use of SNS. The other favourite online tools according to the usage scale were podcasts (video podcast, audio podcast). It also important to note that 40% of the respondents reported that they rarely used RSS, and 24% (n=6 out of 25) never used it. Social bookmarking was also used less by respondents, 32% (n=8 out of 25) never used them and 32% rarely used it. These results were unsurprising—SNS are popular tools used around the world, and many studies have reported more infrequent use of bookmarking tools.

Table 5. Frequency of Online Tools Usage among Information professionals

	Never Used	Rarely	Occasionally	Frequently	Means	Total
Online video (YouTube)	4%(1)	4%(1)	44%(11)	48%(12)	3.36	25
Social networking sites (e. g., Facebook, and MySpace)	16%(4)	24%(6)	16%(4)	44%(11)	2.88	25
Podcasts (video podcast, audio podcast)	16%(4)	20%(5)	52%(13)	12%(3)	2.60	25
wikis (e.g., Wikipedia)	20%(5)	32%(8)	44%(11)	4%(1)	2.32	25
Blogs or/and micro blogging	24%(6)	32%(8)	40%(10)	4%(1)	2.24	25
RSS (Really Simple Syndication)	24%(6)	40%(10)	36%(9)	0%(0)	2.12	25
Social bookmarking (delicious)	32%(8)	32%(8)	32%(8)	4%(1)	2.08	25

The respondents were asked: are you using one or more of the following applications: blogs/weblogs; social networking sites, such as Facebook, LinkedIn, MySpace, Twitter; RSS feeds; social bookmarking, such as CiteULike; podcasts; wikis and YouTube at work and within library services? The majority of them (88%, 22 out of 25) reported that they use one or more of these applications as indicated in Table 6. This shows that Information professionals attempt to gain possible advantages from use of these tools, and they shape them to support library services.

Table 6. Use of Online Tools in the Workplace

Answer Choices	Responses
Yes	88% (22)
No	12% (3)
Total	100% 25

The results presented in Table6 shows that only three of the respondents did not use these tools in the workplace. The reasons are shown in Table 7. The most significant reasons reported by two of three participants were: lack of interest, workload and insufficient time to become familiar with these applications, lack of information technology skills and lack of training in using these applications. No participants mentioned the following factors as barriers: lack of Internet access and support, limited access to firewalls or filtering software services, resistance to change or staff commitment and cooperation. As mentioned by other studies (see Al-Daibani, 2009; Aharony, 2008), lack of information technology skills and training in using these tools are two important factors.

Table 7. Reasons for Not Using Online Tools in the Workplace

Answer Choices	Responses
Lack of interest	66.67% (2)
Workload and insufficient time to become familiar with these applications	66.67% (2)
Lack of information technology skills	66.67% (2)
Lack of training in using these applications	66.67% (2)
Lack of encouragement and motivation	33.33% (1)
Insufficient number of computers at library	33.33% (1)
Librarians' awareness of these technologies	33.33% (1)
Lack of Internet access and support	0% 0
Limited access to firewalls or filtering software services	0% 0
Resistance to change	0% 0
Staff commitment and cooperation	0% 0
Total Respondents: 3	

The respondents were provided with a list of 15activities regarding using blogs/weblogs; social networking, sites such as Facebook, LinkedIn, MySpace, Twitter; RSS feeds; social bookmarking, such as

CiteULike; podcasts; wikis and YouTube within the library services. Out of 22, 19 answered this question. More than half of the respondents reported that they currently use these online tools for publicising university/institutions news (53, n=10 out of 19); for announcements regarding new resources, new books, e-journals, databases (58, n=11) and library services (58, n=11); for references services (53%, n=10) and for getting feedback from library users (53%, n=10). It also interesting to note that nearly half reported they also used these tools for general news (42%, n=8, for announcements about workshops, lectures and seminars at the library/university or institution; 47%, n=9, for providing links to web resources; 47%, n=9 for recommending books and journals.). Few respondents (26%, n=5) use these tools to facilitate online discussion with users, and 32% of them never used these tools for this activity; however, 37% (n=7) reported that they planned to use these tools within the library services in the future.

It also interesting to note that only one respondent reported never using these tools to keep the user community up-to-date or for announcements of library services, workshop, lectures or seminars at the library/university or institution. This indicates that these tools are used by Information professionals in their workplace to facilitate library services and to enhance library users' experiences.

Table 8. Respondents Responses to Fifteen Online Activities to the Library Services

	Never used	Yes, but not any more	Yes, currently use	Plan to use	Total
1. For general news	15.79%(3)	31.58%(6)	42.11%(8)	10.53%(2)	19
2. For publicising university/institutions news.	26.32%(5)	5.26%(1)	52.6%(10)	15.79%(3)	19
3. For publicising library news and events	10.53%(2)	21.05%(4)	36.84%(7)	31.58%(6)	19
4. For announcements on new recourses (e.g., new books, e-journals and databases)	0%(0)	10.53%(2)	57.89%(11)	31.58%(6)	19
5. For announcements on library services	5.26% (1)	10.53% (2)	57.89% (11)	26.32% 5	19
6. For announcements on workshop, lectures and seminar at library/university or institution	5.26% (1)	21.05% (4)	47.37% (9)	26.32% (5)	19
7. For references services	10.53%(2)	10.53%(2)	52.63%(10)	26.32%(5)	19
8. For providing guidance with resources (e.g., using YouTube and Facebook)	26.32% 5	10.53% 2	31.58% 6	31.58% 6	19
9. For providing links to web resources	15.79%(3)	0%(0)	47.37%(9)	36.84%(7)	19
10. For providing links to facilities and services on library homepage	15.79% 3	15.79% 3	26.32% 5	42.11% 8	19
11. For providing advices on library services	21.05% 4	10.53% 2	42.11% 8	26.32% 5	19
12. For online discussion with the users	31.58%(6)	5.26%(1)	26.32%(5)	36.84%(7)	19
13. For keeping user community up-to-date	5.26% 1	26.32% 5	31.58% 6	36.84% 7	19
14. For recommending books and journals	21.05% 4	5.26% 1	47.37% 9	26.32% 5	19
15. For getting feedback from Library's users	21.05% 4	0% 0	52.63% 10	26.32% 5	19

To get information regarding professionals' perceptions online tools in library services, participants were asked to give their opinion about the use of different online tools for the delivery of library services. Five items were asked regarding their attitude toward use of various online tools within library services. A five-point scale was used (1 = 'Strongly Disagree', 2 = 'Disagree', 3 = 'Neither', 4 = 'Agree', and 5 = 'Strongly Agree'). It is interesting to note that all respondents were more likely to 'Agree' or 'Strongly Agree' with the statement that 'Using Internet applications helps to communicate with the users more effectively' (95%, n=18 out of 19). The results from Table 9 shows that 95% (n=18 out of 19) of respondents were more likely to 'Agree' or 'Strongly Agree' with the statements that 'Using Internet applications helps to promote library services' and 'Using Internet applications helps to promote cooperative/collaboration work for librarians and information

professionals'. Regarding other questions, 84% (n=16 out of 19) agreed with the statement that 'Using Internet applications helps to promote library interaction', 79% (n=15 out of 19) agreed with the statement that 'Using Internet applications helps promote library marketing'. Only (n=1) selected 'Disagree' with the statement 'Using Internet applications helps promote library marketing'. Interestingly, none had a negative response to the rest of these statements. This indicates Information professionals have a positive attitude towards using these tools within library services.

Table 9. Information Professionals' Perceptions of the Use of Online Tools in Library Services

	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	Mean	Total
Using Internet applications helps to promote cooperative/collaboration work for librarians and information professionals	0% 0	0% 0	5.26% (1)	36.84% (7)	57.89% (11)	4.5263	19
Using Internet applications helps to communicate with the users more effectively	0% 0	0% 0	0% 0	52.63% (10)	47.37% (9)	4.4737	19
Using Internet applications helps to promote library services	0% 0	0% 0	5.26% (1)	47.37% (9)	47.37% (9)	4.4211	19
Using Internet applications helps to promote library interaction	0% 0	0% 0	15.79% (3)	36.84% (7)	47.37% (9)	4.3158	19
Using Internet applications helps promote library marketing	0% 0	5.26% (1)	15.79% (3)	31.58% (6)	47.37% (9)	4.2105	19

The survey also asked respondents to indicate their perception of challenges to using and adopting online tools within the library services using a scale of 1 to 3 (where 1 = 'unimportant', 2 = 'neutral', 3 = 'important'). They rated 11 challenges (see Table 10). The main goal of asking these questions was to get the opinion of the Information professionals regarding the challenges and obstacles related to using online tools to support library services.

Table 10. Challenges to Using and Adopting Online Tools within the Library Services

	Unimportant	Neutral	Important	Total
Lack of information technology skills	15.79%3	31.58%6	52.63%10	19
Lack of Internet access and support	21.05%4	26.32%5	52.63%10	19
Insufficient number of computers at library	21.05%4	26.32%5	52.63%10	19
Lack of training in using these applications	21.05%4	31.58%6	47.37%9	19
Lack of interest	15.79%3	36.84%7	47.37%9	19
Librarians' awareness of these technologies	15.79%3	36.84%7	47.37%9	19
Lack of encouragement and motivation	10.53%2	47.37%9	42.11%8	19
Workload and insufficient time to become familiar with these applications	10.53%2	47.37%9	42.11%8	19
Resistance to change	31.58%6	36.84%7	31.58%6	19
Limited access to firewalls or filtering software services	10.53%2	63.16%12	26.32%5	19
Staff commitment and cooperation	5.26%1	68.42%13	26.32%5	19

According to Table 10, more than half of the respondents reported that lack of information technology skills (53% n=10 out of 19), lack of Internet access and support (53% n=10 out of 19) and insufficient number of computer at library (53% n=10 out of 19) as important factors in the use and adoption of online tools within the library services. Nearly half of respondents reported the following challenges to use and adopt online tools within the library services: lack of training in using these applications (47%, n= 9), lack of interest (47%, n= 9), lack of encouragement and motivation (42%, n= 8 out of 19), workload and insufficient time to become familiar with these applications (42%, n= 8 out of 19) and librarians' awareness of these technologies(47%, n=9). Less than 32% of the respondents reported that limited access to firewalls or filtering software services, resistance to change and staff commitment and cooperation were important challenges of using online tools within library services.

5. Discussion and Conclusion

Various online tools, such as SNS, podcasts and blogs, are used in many organisations for different purposes. The libraries have started to adopt and take advantage of these tools to enhance the services and compete with others. Findings from this study indicate that the majority of Information professionals (88%, n=22 out of 29) in medical libraries in Oman are aware of the Web 2.0 term, while only 12% (n=3) of them are not. This study found that the majority (88%, 22 out of 25) reported that they use one or more of these online tools including blogs/weblogs, SNS, RSS feeds, social bookmarking, podcasts, wikis and YouTube within library services. It seems that Information professionals have started to take advantage of these tools to support their work.

Various online tools have seen a substantial increase in use across many libraries. For example, the national library uses Web 2.0 applications, such as Facebook, YouTube and Wikipedia (Kelly et al., 2009). Other studies also show that various online tools are used by librarians, such as RSS, blogs, IM and podcasts (see Linh, 2008; Xua, Ouyanga and Chua, 2009). However, others studies reported infrequent use of these tools; for example, a study by Chua, Goh and Lee (2008), which analysed 90 libraries' websites from North America, Europe and Asia, found that blogs, RSS and IM were the most popular, whereas wikis, SNS and social tagging were used less frequently. Al-Daibani (2009) explored the perceptions of academic librarians in a Kuwaiti university regarding Library 2.0. The study was conducted in four universities in Kuwait. The results show that these libraries had a lower use of Web2.0 applications and tools. The majority of these libraries did not use applications such as SNS, bookmarking and collaborative authoring. Findings from the current study found that Information professionals most frequently use SNS and podcasts, while they use RSS and social bookmarking tools less frequently. This indicates that Information professionals in Oman reported positively on their knowledge and use of these tools. They are most knowledgeable about YouTube and SNS. This can be explained by the fact that these tools have rapidly gained worldwide popularity, which is consistent with the findings of other researchers.

The study shows a positive use of these tools within library services. The responses received showed that more than half (58, n=11) of the respondents used these tools for announcements of new resources, new books, e-journals and databases and library services. The study also found that (53%, n=10) of Information professionals use these tools for references services and for getting feedback from library users. It seems that libraries are marketing their resources by making announcements by using various online tools to distribute messages, notifications and emails to their users or to a specific group. This is also indicated by Al Kindi & Al-Suqri (2012, 2013) who analysed 20 public libraries that use Facebook pages to support library services. Four main activities were found in that study; marketing the library itself, marketing information services, marketing information resources, and marketing people's knowledge and skills. This also shows that Information professionals have a high awareness of the importance of these tools in marketing and library services.

The study also explored perceptions of the use of various online tools or internet applications in supporting library services. It is interesting to conclude that none of Information professionals reported negatively regarding use of these tools in library services. Most of them were likely to agree or strongly agree to use these tools within library services. It seems that these tools support and help Information professionals to collaborate and communicate effectively. While most of them, 18 out of 19, were likely to agree or strongly agree that using internet applications and tools helps to promote cooperative/collaboration work and to communicate with users more effectively. The use of these tools at libraries facilitates communication and collaboration and can also promote library services.

The research also revealed that out of 25 participants only three did not use these applications within the library service. Two of them reported reasons such as lack of interest, workload and insufficient time to become familiar with these applications, lack of information technology skills and lack of training in using these applications. Interestingly, the same questions were asked to those who use these tools within library services to explore challenges to the use and adoption of online tools within the library services. More than half of Information professionals reported the same reasons: lack of information technology skills, lack of Internet access and support, insufficient number of computers at the library and lack of training in using these applications. It seems that lack of information technology skills and training in use of these applications are very important factors in terms of the adoption and use of these tools within library services. As Al-Daibani (2009) found, lack of training was an obstacle or challenge to using these tools among academic librarians in a Kuwaiti university. It is very important to consider these factors, as Internet skills and training are important for Information professionals to survive in the digital world and meet the needs of the market. Training Information professionals in new trends in libraries and the Internet will help them to provide the services that user's needs.

In conclusion, this research has shown that the majority of information professionals in medical libraries in Oman are familiar with and use online tools. A very high percentage indicated use of SNS and YouTube—popular online tools used for different purposes. Information professionals showed a positive attitude towards use of these tools and applications in the library services. Information professionals in medical libraries in Oman showed their willingness to use these tools within library services. Providing Information professionals

with training and skills is necessary to help them adopt and use these application and tools in the workplace in the future.

6. Future Research Directions

The impact of online tools on library and information services and the way they facilitate information access is observable; they give more opportunities to information professionals to improve library and information services. There has been no clear map of the using of these technologies and tools within the library services. The use of online tools in library services and marketing is inadequately understood in Oman.

Future research in this area could be conducted to:

- Examine the contribution of smartphones and the adaptation of new online tools to library and information services in the age of social media.
- Look at social networks and privacy issues in libraries
- Look at social networks and marketing in libraries

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