Web 2.0 and Libraries: Facts or Myths

Mohammad Aqil, Parvez Ahmad, and Mohammad Asad Siddique

King Saud University Saudi Arabia
E-mail: maqil.c@ksu.edu.sa; pahmad.c@ksu.edu.sa; msiddique.c@ksu.edu.sa

ABSTRACT

The objective and scope of this paper is to assess and highlight the potential of Web 2.0 in the context of libraries. The concept of Web 2.0 such as social networks, RSS feeds, blogs, streaming media, podcasts, Wikis, tags, mashups, etc. is defined and the possible applications in various library functions and activities are mentioned. In addition, the difference between the Web 2.0 and Web 1.0 is given and how during the past several years, new advances in web technologies have enabled libraries to create new interactive services, such as virtual reference services, personalised interfaces of online catalogues, and audio-visual media that can be downloaded by the user community irrespective of their physical locations. Thus, these emerging web-based features (Web 2.0) are opening new avenues and giving libraries the ability to offer the improved, customer-driven services to the user communities.

Keywords: Web 2.0, library 2.0, world wide web, social networking

1. INTRODUCTION

The Web 2.0 refers to the interactive, user-centred design of the world wide web where users not only access the web content but at the same time generate the web content. The term 'Web 2.0' was coined in 1999 by Darcy DiNucci. Its rise and popularity began in 2004, when O'Reilly Media and MediaLive organised the first Web 2.0 conference. In the opening remarks, John Battelle and Tim O'Reilly outlined their definition of the 'Web as Platform', where software applications are built upon the web as opposed to upon the desktop. They further argued, that "customers are building your business for you". "Users generating the content (in the form of ideas, text, videos, or pictures) could be harnessed to create value", they argued. O'Reilly[1], *et al.* compared Web 2.0 with what they called 'Web 1.0'. They associated Web 1.0 with the business models of Netscape and the Encyclopedia Britannica Online[2]. According to Miller[3],"Web 2.0 applications work for the user, and are able to locate and assemble content that meets our needs as users, rather than forcing us to conform to the paths laid out for us by content owners or their intermediaries".

At the moment there is a hot debate, questioning the existence of Web 2.0. Many argue that Web 2.0 is not a new phenomenon but the very features of Web 2.0 were already available on Amazon.com as early as Amazon came into existence. As O'Reilly[1] describes, "Web 2.0 has clearly taken hold, with more than 9.5 million citations in Google. But there's still a huge amount of disagreement about just what Web 2.0 means, with some people decrying it as a meaningless marketing buzzword, and others accepting it as the new conventional wisdom". Figure 1 gives an idea and the difference between the Web 1.0 and Web 2.0. In the Web 1.0 environment the user community is less connected or interaction between the various communities and group of people are restricted; sites are passive or read only; content is static and rarely changed; sites are closed or less collaborative while the Web 2.0 environment invites participation-submitting new posts, rating and commenting on content; content is dynamic, collaborative, and changed quite often; the user community is potentially well connected with one another, therefore not only able to share the information but also contribute web content at the wider extent.

2. LIBRARY 2.0

The idea of Library 2.0 was first generated by Michael Casey and published on his blog, library crunch in 2006. The idea is a transformation of the library services-the way they are delivered to the user community, basically allowing the library services to operate in an interactive,
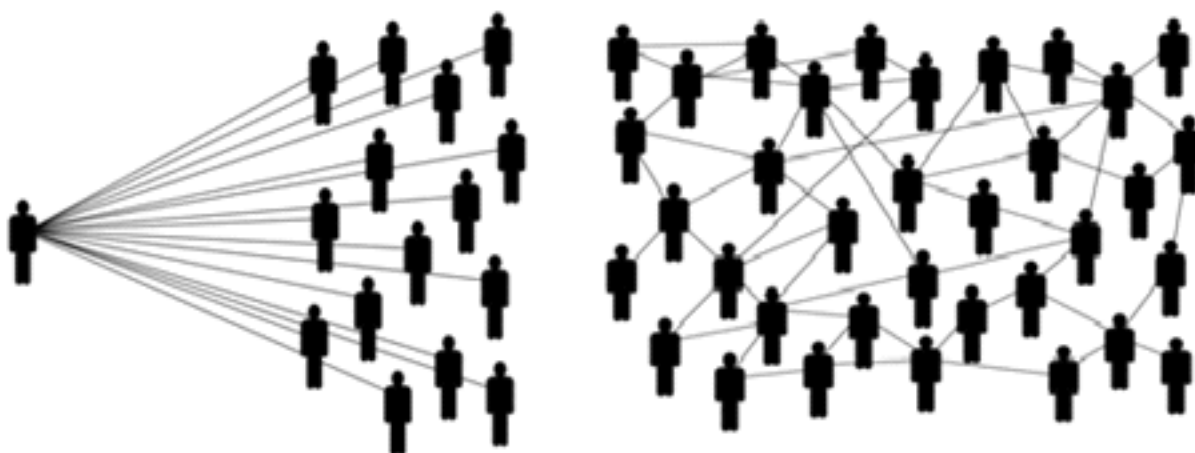
Figure 1. (a) Web 1.0 phenomenon and (b) Web 2.0 phenomenon

collaborative atmosphere driven by community needs[4]. Library 2.0 encourages synchronous social interactions between library staff and users. It is evident from the characteristics of library services that many things of what libraries implemented in the first generation of web are static.

The earlier version of the web-based library instruction and services were text-based and non-interactive where library users have very limited freedom in terms of their interaction with library staff and user community. As Casey and Savastinuk[4] stated that, "Any service, physical or virtual, that successfully reaches users, is evaluated frequently, and makes use of customer input is a Library 2.0 service. Even older, traditional services can be Library 2.0 if criteria are met." Moreover, various aspects and utilities of Web 2.0 are growing by leaps and bounds with each passing day and something new is emerging and being added to the ever expanding universe of knowledge. Web world is, therefore, a great source and channel of information to share ideas and experiences. It is recommended that librarians should welcome and adapt this new concept, i.e., Web 2.0, in order to survive in the changing technological world.

3. WEB 2.0 TOOLS AND APPLICATIONS IN LIBRARIES

Some of the important aspects of Web 2.0 vis-à-vis libraries and information centres are discussed.

3.1 Blogs/Weblogs

A blog is a website, which is updated very frequently, post dated and arranged in reverse chronological order. A blogger maintains his/her blog with varied and unlimited information depending upon the purpose and nature of the blog where everybody can read and write their views and ideas without changing the original content. According to Reichardt & Harder[5], "In very simple terms, a weblog, or blog, is a website resembling a personal journal that is updated with individual entries or postings".

The most important application of blogs in libraries is that, they can be used as a platform for in-house publication. For example, a library may set up a blog as a part of its permanent collection development tool where the user community can suggest titles of their choice and interest. Moreover, book reviews published on the library blog may also help the user community to choose and suggest an appropriate title for library collection. Libraries can also provide reference services through the blog where users can post their comments and queries and receive real-time responses from reference departments where these questions and answers can be tagged and automatically archived for future users.

As Reichardt & Harder[5] stated, "The traditional solution for many reference teams has been to develop a reference binder or book…A reference blog is one alternative that could possibly help this situation." In addition, blogs could be useful to update the user community about the new arrivals and new titles added in the library collection, list of the books recently published in a particular area of subjects as a part of current awareness services.

Other possible implications of a blog in a library culture could be, posting the overdue notification, items returned or reserved by a user, library discussion forums, a library newsletter where monthly progress and events of the library can be published; it can also be used as a marketing tool for propagating the various facilities and library services among the user community and so on. Receiving comments and feedback about the various library services and library staff is another possible way to implement the blog culture in libraries. For example, University of British Columbia (UBC) library[6], Vancouver, provides up-to-date information to its user community on various library services such as, events, resources, news, etc.

3.2 Wikis/Wikipedia

Wikis have emerged in 1995 and since then growing by leap and bound. The most important characteristic of wikis is that it allows users to create and edit web content freely. Compared to other information sources, wikis are not very reliable and authentic, but this does not undermine their the value and importance. As Godwin[7] said, "Critics have been quick to point to lack of editorial control, bias, inaccuracy, and lack of academic credibility".

Although the non-editorship and lack of peer review of wikis is a great challenge to librarians, it does not mean that users should avoid wikis; instead, users should use the critical approach when depending on the wikis and "A health warning should be given, with encouragement to check information given against another source"[6]. Wikis as information sources are certainly going to play a very crucial role in future libraries. In addition, a wiki, as a library service, can facilitate the social interaction among librarians and the online user community. As users share information on wiki through discussions, comments, criticism, etc., a record of these discussions can archived for future reference. Owing to its authenticity and reliability, libraries may initially start this service with some restrictions where users might be restricted from direct addition and deletion in the wiki. Users can also give their suggestions to the responsible authority for further improvement in the content of the wiki. For example, Jean and Alexander Heard Library Wiki (Vanderbilt University)[8] is available for the general public. But the direct addition, deletion, and any kind of editing is restricted. If a user wants to add some information into the wiki he/she can directly contact the library.

3.3 Live Streaming Media

Streaming media is the multimedia content (audio & video) that is constantly received by, and normally presented to an end-user while it is being delivered by a streaming provider. Although streaming videos were widely employed before many of the so-called Web 2.0 technologies had not even been invented, the synchronous attributes put the streaming videos into Web 2.0 phenomenon.

The concept of streaming media is another application that libraries might adopt to deliver various information services to end users. The modern libraries might implement this concept to improve the delivery of interactive multimedia library services right at the door of library patrons such as the online tutorials coupled with multimedia features and interactive video sessions.

Likewise, live user training sessions, library orientation, and demonstration on how to use various library services, such as online catalogues, to search the online databases, discussions, library events and exhibitions, etc. can be delivered directly to library patrons through the live streaming videos. Similarly, streaming media might become the part of audio video collections of the future libraries as Maness[9] has rightly stated, "As media is created, libraries will inevitably be the institutions responsible for archiving and providing access to them."

3.4 Tagging

A tag or meta-tag is a non-hierarchical keyword which is assigned to a particular piece of information. Metadata represents the subject of an item and helps in the retrieval process. The idea of tags is not new to libraries as the concept of keyword indexing, subject headings are almost the same 'tags' in the Web 2.0 environment. In contrast to subject headings and keywords, tags are chosen informally and personally by the content creator or by its viewer, depending upon the system.

On a website in which countless users tag its items, this collection of tags called folksonomy. In the Web 2.0 environment, users can participate in the cataloguing process by tagging the library collection. But tagging creates the problem of standardised classification or standardised subject heading which is a big issue as far as libraries are concerned. Although the meta-tags and standardised subject headings are not replacements of each other, by adopting the Web 2.0 utilities, perhaps the future libraries would be able to implement both the user generated tags and standardised subject heading, simultaneously, in their cataloguing system. Therefore, the user community will have more options and shall be able to use an integrated cataloguing system based on the librarian's view point as well as users' approach[10].

As Kroski[11] rightly mentioned on her blog infotangle, "The advantages to top-down hierarchical taxonomies for library collections are without question. For cataloging the web, however, they just aren't feasible. The new, 'voice of the people' approach of folksonomies emerges at a time when attitudes about information organisation and retrieval are shifting and the technology is developing to support them."

3.5 Social Networking Websites

Social networks are based upon the software that facilitate people to connect, collaborate, and form virtual communities via internet. Normally social network sites are full of features, which allow the user community to send e-mails, post comments, share audio and video files, take part in live chats, etc. As Barsky and Purdon[12] righty said, "Social network sites offer a free and easy way to create personal web pages and fill them with content such as blogs, digital photographs, favorite music, short video clips and much more."

MySpace, Facebook, Orkut, Youtube, Flickr, Picasa, etc., are the social networks that are very popular nowadays. While MySpace, FaceBook, and orkut enable users to share the information at various levels among the network community; flickr and picasa enable the sharing of pictures; and Youtube allows users to share their audio-visual files[10]. Recently, Library of Congress[13] Prints and Photographs Division joined hands with Flickr, the popular photo sharing site, to provide new avenues to the library's photos and build new levels of interac-tion with the public. Similarly, 'Kete'[14] an open source software developed by the mother organisation of 'Koha' Katipo Communications and the Horowhenua Library Trust enables the users to collaboratively build and maintain their own digital multimedia content. The user community builds the repository by uploading images, audio, video, documents, text, and then linking and discussing them. Therefore, Kete[14] can be deemed open source social networking software for the library community. Other social networks websites such as Goodreads[15], is a social cataloging website started in December 2006 by a software engineer and entrepreneur named Otis Chandler. This website allows the individuals to sign up and register books to create their library catalogs and reading lists. It also allows users to write reviews, rate the book, create their own groups of book suggestions and discussions, etc.

Moreover, the website navigates the users on various online bookshops such as worldcat.org to buy a particular title. Goodreads[15] had reached 4,100,000 members who have added more than 110,000,000 books to their shelves. Librarians can do many things with social networks such as to create various subjects oriented groups according to the interest of the specialised user community. Moreover, librarians can also setup the professional groups where they may discuss and share their ideas on various issues related to cataloguing, classification, collection development, reference services, etc. Librarians can do many other things with social networks depending upon the specific requirements and changing needs of the library patrons and staff.

3.6 RSS Feeds

The RSS stands for 'Rich Site Summary' or 'Real Simple Syndication'. Weblogs and other sites can provide a 'feed' in XML language which enables anyone to subscribe the content and receive it on their chosen page, thereby eliminating the need to visit the site repeatedly[7]. It is a web utility which facilitates the publication of frequently updated works—such as news headlines, blog entries, and audio-video files in a standard format. It is a channel for a subscriber to automatically receive updates from blogs, newspapers, and podcasts.

Libraries may apply this concept to provide the current awareness services to its user community, upcoming new items, services, and new content which have been added in the library collection and databases. Updates on library services, events, exhibition etc. can also be accessed by subscribing to the RSS feeds from the library website. Zanin-Yost[16] mentioned the utility of RSS for libraries: libraries can inform others of purchases, exhibitions or other events of the library; RSS saves the time of librarian and user community as librarian has choice which links can be distributed; and user has choice what to receive or accept.

Cranfield University[3], UK is a good example of the many libraries which are already beginning to guide its users through the web pages toward RSS feeds.

3.7 Instant Messaging

Instant messaging (IM), also known as synchronous messaging allows real-time text communication between individuals and groups. This utility has already been adopted by many libraries especially in the western world. Libraries can provide the reference services such as 'chat reference' via IM applications where users can communicate with reference librarians in a real time environment or as they would in a face-to-face communication.

Maness[9] expressed the similar views, "The time will almost certainly soon come when web reference is nearly indistinguishable from face-to-face reference; librarians and patrons will see and hear each other, and will share screens and files." There is plenty of free software available such as skype, gtalk AIM, which can provide the real-time face to face virtual reference services, through which users can start the interactive video session with a reference librarian. Though this concept is becoming very popular in developed countries, it's still not so popular in the third world countries. Librarians of the third world countries must pay their attention towards this as it is one of the efficient tools to handle real-time reference queries.

A simple example can be of Chat services at Van Pelt/ Opie Library, Michigan Technological University[17]. It is evident how the library has expanded its real-time reference services to include both instant messaging (IM) and embedded web chat. Both of the services are available during reference desk hours and work best to get quick answers to brief reference queries.

3.8 Web Podcasting

The term 'podcasting' was first mentioned by Ben Hammersley in The Guardian newspaper in a February 2004 article, along with other proposed names for the new medium and formally came into existence in the year 2005, when "podcast" was named word of the year by the New Oxford American Dictionary[18]. A podcast (or non-streamed webcast) is a series of digital media files (either audio or video) that are released episodically and often downloaded through RSS feed.

The way information is delivered via podcasting makes it significant and different from other methods of accessing media files over the internet such as direct download, or streamed webcasting.

Usually a list of all media files launched earlier and recently on a particular aspect or series is maintained on the network of the service provider. Podcasts use the RSS feeds to distribute the latest information to its target community. The users receive the new items automatically or manually by checking the new updates.

Librarians can do a lot many things with podcasts. For example, podcast could be very helpful for the children with learning or reading disabilities. Podcasts could be a good for kids as they normally like to read loudly. It is also a beneficial and excellent learning tool for the partially deaf, blind and low vision community. Also librarians can record the stories from the books in public domain and organise story telling sessions. The rare books and documents which are in public domain and there is no more copyright issues, can be provided as podcasts to target user community[18]. Moreover, libraries might propagate their important audio/video collections, speeches of dignitaries and important personalities, classroom lectures, multimedia presentations to its user community via podcasting.

The John Hopkins University[19] propagates its Library services through the podcasting about collection, services it offers, User groups, and how to use library services efficiently etc. Library of congress[10] is also offering podcasting services such as oral histories and interviews with African Americans who endured the hardships of slavery, books festivals, etc.

3.9 Mashups

Mashup is a web-based application which combines two or more services or data, using technologies including AJAX (Asynchronous JavaScript and XML) and RSS in order to create a new service. Nowadays, many organisations are providing various featured services, for example, Google map and Flickr have started new Mashup service named 'Earth Album', which allows to search most stunning photos available in Flickr database by simply clicking on a particular geographical location in a Google map[20,21]. In addition a similar Mashup service offered by this website is the combination of YouTube and Earth Album by just clicking on a particular location you can access the video uploaded on YouTube in that particular country.

Another example is of Mashup service by Housing Maps[22], a website where a user can search the housing information such as buying, selling, renting of apartments in various cities of United States within the preferred range of price. Similarly, there could be many possibilities with

regard to the use of Mashup features in libraries, such as libraries can indicate the circulation section, reference section, shelf areas, specific collection or may be a specific title on shelves, and various library branches in a university etc. in an online map by combining the similar technologies, which might be useful for the user community.

Moreover, libraries can collaborate with various commercial database vendors to linkup their catalogues with them. For example, Huddersfield University, UK has used Greasemonkey to display their local catalogue information in Amazon so that users can be linked back into the library OPAC to view the full record. To adopt and trial these features, the libraries really need technically sound IT staff.

Therefore, libraries which do not have sufficient IT staff may face problems in adopting and trialing these services. Infact the concept of library 2.0 is itself a mashup as it is rightly mentioned by the Maness[9], "Library 2.0 is a mashup. It is a hybrid of blogs, wikis, streaming media, content aggregators, instant messaging, and social networks."

4. CONCLUSIONS

Web 2.0 is making library services more interactive[9]; it will surely improve the quality of library services in terms of the requirement of the user community. It will also be able to transform the various library functions and services, the way they look and delivery to the library patrons in the Web 1.0 world. Moreover, it will increase the user's participation in various library functions such as cataloguing, classification, reference services, current awareness services, collection development process, information delivery, information retrieval, user orientation programs, library events and news, etc. The metamorphosis of library functions and services into Web 2.0 phenomenon is going to be very interesting and indistinguishable in its appearance which resembles the early stage of web world or Web 1.0 era. The librarians' authority and domain will be open to a larger section of the user community and will actively participate in the various library functions and services. A lot of libraries have already adopted and implemented the Web 2.0 tools, especially in the developed countries, but the third world nations are far behind in adopting and implementing the Web 2.0 tools mostly because of their restricted and tight budget.

Finally, it is also necessary to consider that the web will continue to develop and Web 2.0 is just the beginning of one of many changes occurring in the web world, so librarians and information managers must welcome and adapt this new concept in libraries as they did with the web originally.

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About the Authors

Mohammad Aqil obtained his Master degree from Aligarh Muslim University and MPhil in Library Science from Alagappa University, Tamilnadu, India. He joined the King Saud University in March 2009 as one of the team member of Repository Development Project. He is working in the area of library and information science since more than six years. His areas of interests are: Library automation, digital libraries, digital repositories, web application in libraries, etc.

Mr Parvez Ahmad is working in King Saud University as a team member of KSU Repository Development Project. His research interests include: Open access library tools, blogging, digital library applications, information retrieval, and IT applications in libraries.

Mohd Asad Siddique obtained his MPhil in Library and Information Science. He is handling the digital content development projects at King Saud University. Earlier, he has worked in Wipro Technology in India.