

# Managing Scholarly Communication in the Web 2.0 Environment: The Role of University Libraries

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## 1. Introduction

Scholarly communication over the past 10 to 15 years has gained a tremendous momentum with the advent of Internet and the World Wide Web. The web has transformed the ways by which people search, find, use and communicate information. Innovations in web technology since 2005 have brought out an array of new services and facilities and an enhanced version of the web named Web 2.0. Web 2.0 facilitates a collaborative environment in which the information users can interact with the information. Web 2.0 enables its users to create, annotate, review, share re-use and represent the information in new ways thereby optimizing the information dissemination.

## 2. Web 2.0 Basics

Web 2.0 refers to or is associated with the web applications that facilitate participatory information sharing, interoperability, user-centered design, and collaboration on the World Wide Web. According to Wikipedia<sup>1</sup>, “Web 2.0” is a term coined in January 1999 by Darcy DiNucci, a consultant on electronic information design (information architecture) in her article, “Fragmented Future”. She used the term mainly to refer to the Web design, aesthetics, and the interconnection of everyday objects with the Internet. Her usage of the term does not directly relate to, the current uses of the term. The term and concept Web 2.0 that we use today owes for its popularity to Dale Dougherty and Tim O’Reilly of the O’Reilly media.

There is no agreed-upon definition for Web 2.0. JISC in a 2007 report defined it as:

“Web 2.0 encompasses a variety of different meanings that include 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.”<sup>2</sup>

According to Theimer<sup>3</sup>, the term Web 2.0 describes a confluence of changes in Web design and functionality that resulted in fundamental differences in the ways developers and users approach the Web. He enumerates the most significant features of Web 2.0 as follows:

“Network as platform” or “cloud computing”, “live on the Web, not on your local computer.”

- Open standards, open source, openness in general
- Creation of syndicated content—use of (Really Simple Syndication) RSS.
- Customized web experiences for users
- Broad use of interactivity
- Prevalence of user-created content
- Integration of user-to-user connection

The website of the online book retailer amazon is a best example to experience this effect. Once you sign-up with this site it presents you with a customized homepage. Based on the products you look at or buy on the site, amazon.com makes recommendations for other products that it thinks you may have interest. Amazon also facilitates customer interaction with its product by way of ratings, writing reviews, comments, etc.

## **2.1 Web 2.0 Tools**

### **2.1.1 RSS**

RSS (Really Simple Syndication) is a method for delivering regularly changing or updated Web content. Many blogs and Internet publishers syndicate their content as an RSS Feed to

allow people to subscribe to it easily. The RSS feed includes full or summarized text along with metadata related to authorship, publishing date, etc.

### *2.1.2 Tagging*

A tag is a descriptive word or a phrase assigned to a digital document such as web page, blog post, digital image, etc. either by its creator or its user. Tags most probably describes the general content or special qualities of the digital object.

### *2.1.3 Social Bookmarking*

In the web environment, bookmark refers to a locally stored Uniform Resource Identifier (URI). Almost all web browsers provide bookmarking facility. Social bookmarking is a method for Internet users to organize, store, manage, share and search for bookmarks of resources online. Instead of saving the bookmarks in the local browsers, they are saved in the web. Social bookmarking sites provide facilities to access a consolidated set of bookmarks from various computers, organize large numbers of bookmarks, and share bookmarks with contacts.

### *2.1.4 Social Networking*

Social networking facilitates a meeting place for people of likelihood to share content, experience, ideas, etc. Websites like Facebook, Orkut, LinkedIn, Twitter, Myspace, etc. are the popular social networking sites used by Indians. There are specialised social networking sites for academics (such as ResearcherId, Scispace, etc.) that enable discussion of research findings, identifying research partners, etc.

### *2.1.5 Podcasting*

A podcast is a series of digital media files (either audio or video) that are released episodically. They can be downloaded through web syndication. Podcast can be viewed via a computer or a portable device. Within academic publishing, podcasts are becoming increasingly common adjunct to online journals.

### *2.1.6 Blogging*

Blogs/weblogs are personal websites usually maintained by individuals or institutions. Blog consists of a series of entries or posts that can be viewed by others. Most blogs are interactive,

allowing visitors to leave comments. Blog posts can be text, images, video or audio content, etc.

### 2.1.7 Wikis

Wiki is a website that allows many people to contribute to the content by adding and editing. Academic community use wiki for sharing and dissemination of information across institutional and international boundaries.

### 2.1.8 Multimedia Sharing

Multimedia sharing is another web 2.0 application. Sites like Flickr, YouTube, etc. provide facilities to post and share images and video respectively.

## 3. Changing Scenario of Scholarly Communication

Scholarly communication is a constitutive of researcher's everyday activities. It is primarily concerned with the publication of peer-reviewed research. In a broader sense, scholarly communication involves both formal and non-formal means of communication for the purpose of conducting research, developing ideas, preparing the formal research output and communicating the scholarly ideas to broader communities.

Association of College and Research Libraries<sup>4</sup> defines scholarly communication as "the system through which research and other scholarly writings are created, evaluated for quality, disseminates to the scholarly community and preserved for future use. The system includes both formal means of communication such as publication in peer reviewed journals and informal channel such as list serves."

Print journals remained as the prime medium of scholarly communication till the emergence of the World Wide Web. Growth of the cyber infrastructure resulted in the transition from print to electronic publishing. Now web based e-journals dominate the role, as scholarly communities increasingly publish their research findings in subject-specific and web-based archives for wider and faster dissemination.

Innovations in digital library technology led to the development of digital/institutional repositories that help to store, manage and reuse digital materials. Academics are the

#### **4. Role of University Libraries**

Universities being the prime centers of research activities and robust generators of scholarly communication, an organized procedure is required in these institutions to identify, store and preserve their research output. University libraries are vested with this responsibility of managing the scholarly content. Librarians over the time have employed, evaluated and researched better means of preserving and managing the scholarly communication and scholarly content. Library professionals always try to be in tune with the technological developments and are ready to harness them in order to provide better and faster services to its clientele.

In the changed scenario of web technology and scholarly communications, university libraries manage the research output, organizational knowledge and information resources that support R&D activities by way of the following means.

##### **4.1 Library Websites/Homepages**

Website is the public face of an institution through which it communicates. Like-wise, homepages of the library websites are the junctions through which university libraries impart a good percentage of its services to its users. Incorporating web 2.0 tools in its homepage, a university library can enhance the speed of access and usability of its products and services. RSS feeds are the most widely used web 2.0 tool in the library websites by which the subscribers are notified of the latest additions to the websites. Many university libraries syndicate their users about the new additions, new services and products, etc.

##### **4.2 Library Blogs**

Library blogs provide space for interaction by the users. Many academic libraries maintain library blogs (The Duke University Libraries maintain library blogs for different categories like 'Data & GIS', 'Scholarly communications @ Duke', etc.). Library blogs act as an effective means of collecting user suggestions and feedbacks. It helps the libraries to self-evaluate its services and products. Libraries can maintain multiple blogs for different purposes. Developing and maintaining a separate blog for scholarly communication may receive a warm acceptance

prime harnessers of this technology. By way of adding, or self-archiving, items that they have authored into the repository, instant access to their work is being provided to wider communities. As its name implies institutional repositories (IR) manage the content developed within the institution. The main purpose of IR is to preserve and disseminate scholarly communication, rather than publication. A full-blown institutional repository will contain the intellectual works of faculty and students—both research and teaching materials—and also documentation of the activities of the institution itself in the form of records of events and performances and of the ongoing intellectual life of the institution. It will also house experimental and observational data captured by the members of the institution that support their scholarly activities.

The emergence of open access movement and the Open Archive Initiative (OAI) further enhanced the speed of scholarly communication. Problem of costs and license restrictions in subscribing e-journals have overcome by open access movement. Open access facilitated free availability of literature on public domain permitting any user to read, download, copy, distribute print, search or link to full text of these articles. Most of the IR are now in the public domain. The availability of high quality peer-reviewed research and other scholarly documents in the public domain have accelerated the speed of research and development activities all around the world.

With the popularity of web 2.0 tools, scholarly communications have attained greater speed and dissemination and sharing of scholarly literature has become much easier. Personal blogs are now a richer source of scholarly literature. Many of the commercial journal publishing sites are now using web 2.0 tools to enable its users to share many of its content. Many studies have revealed that conducting research in comprehensive digital environments that are interactive and that have high levels of computational, storage and data transfer, resulted in better scholarly communication which in turn positively influence and enhance the quality of scholarly productivity.

from the academics. Other web 2.0 tools like Facebook, Twitter, Flickr, Youtube, etc. can be incorporated in the blog.

### **4.3 Institutional Repositories**

Institutional repositories are an important source of scholarly literature. Open access initiative and institutional repositories have changed the way academics get access to scholarly literature. Institutional repositories play a greater role in resource mobilization within and outside the universities.<sup>6</sup> Many IRs of universities and other research centers around the globe incorporate web 2.0 tools in their homepages to further enhance this process. IRs promote self-archiving of scholarly literature and web 2.0 environment facilitates the users to add comment and review the content thereby the scholars can evaluate their work and understand what others think about it. This is beneficial in the sense that the scholars will become more conscious about the quality of their work.

### **5. Conclusion**

Many studies revealed that web 2.0 has beneficially changed the practice of scholarly communication. University libraries being the channels and managers of scholarly literature, cannot keep its face away from such changes in the web environment. Incorporating web 2.0 tools with its various online services, the university academia can receive better, timely and interactive environment for scholarly communication. Web 2.0 also promotes collaborative research, which in turn is an unavoidable academic activity in universities. To make this effectively and efficiently, policies with vision are to be framed by the universities.

### **NOTES**

1. <http://en.wikipedia.org/wiki/Web2.0> (Retrieved on March 16, 2011).
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March 18, 2011 from <http://www.ala.org/ala/mgrps/divs/acrl/publications/whitepapers/principlesstrategies.cfm>).

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6. Beena, C. and Padmakumar, P.K. (2010). Role of IR in information resource mobilization and management in the current scenario of higher education: A case study of Cochin University of Science & Technology (CUSAT) (Retrieved 20 March, 2011 <http://shodhganga.inflibnet.ac.in/dxml/bitstream/handle/1944/988/48.pdf>).