

# Web 2.0 Technologies in IIT Libraries: A Study

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## Abstract

Academic libraries all over the world are striving hard to offer high quality services as they are facing stiff competition from other resource discovery tools like Google, etc. Libraries must find new ways in which users can interact with library resources and services because mere presence of services on web does not appeal to users. Web 2.0 application tools bring fundamental changes in the way libraries operate. The academic libraries may use these application tools to create new environment to promote their web-based resources and services and involve users in two-way communication. The present study examines the status of web 2.0 tools in IIT libraries. The study revealed that libraries are not utilizing full potential of web 2.0 tools. The study also revealed the lack of awareness of these tools among users.

**Keywords:** India, Indian Institutes of Technology (IITs), Internet, Web Resources, Web Services; Web 2.0 Tools

## 1. Introduction

Emergence of Internet and web technology has played vital role in transforming libraries from the traditional to web-based service providers. Libraries are facing a new generation of online users who are more inclined to access the web for resources and services as compared to traditional printed resources and services.

The web 2.0 or participative web has opened new environment for improvement of library services, procedures and operations and empowered users by giving them an opportunity in the creation and management of services.

Web 2.0 application tools represent “shift from the passive experience of static read only pages to the participatory experience of dynamic and interactive web pages”<sup>1</sup>. Web 2.0 was coined in a “conference brainstorming session between O’Reilly and Media Live International”<sup>2</sup>.

Web 2.0 encompasses a wide range of applications and tools such as blog, wiki, social networking sites (Facebook, LinkedIn), photo sharing sites (flicker, Instagram, etc.) and social book marking sites (delicious, Furl, etc.). Web2.0 phenomena have impacted all professions and libraries are not exception to this. On the otherhand, Library 2.0 term coined by Michael Casey on his blog library crunch is the integration of web 2.0 features on web-based library services. It is a model for library service that allows user

participation in physical as well as for virtual services. It is -centric and assumes their participation in the creation of content. The main aim is to serve current users and to reach potential users through improved customer driven services. These web application tools are a platform for publishing and sharing of information which allows users to add, share, rate or adjust information. The concept of collaborative work, social networking and ease in the usage of these applications has brought a significant change in the behavior of Internet users around the world. Academic libraries may enhance their web-based services by using features which enable libraries to engage their users in “acquisition, dissemination, organization and sharing of information”<sup>3</sup> and make their work easier, more productive and bridge the gap between the user and the information.

The purpose of this study is to find out use of web application tools for the effective use of web-based resources and services in IIT libraries.

## 2. Review of Related Studies

Web 2.0 is a space that allows anyone to create and share information online<sup>4</sup>. To remain relevant in information age libraries must embrace these tools in library operations and services<sup>5</sup> and the focus of services has been shifted to facilitation of information transfer and information literacy rather than providing controlled

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access to resources<sup>6</sup>. Library users are more inclined to use library services as these tools empowered them through active participation and communication with the library personnel<sup>7</sup>.

Library websites can use social media to share, revisit and network with peers, it also allows generating content<sup>8</sup>. Web 2.0 technologies may improve the quality of library services<sup>9</sup> and can be utilized to enhance the delivery and promotion of library services<sup>10</sup>. Instant Messaging (IM), RSS and Micro-blogging (Twitter) could be used to provide online reference services<sup>11</sup>. According to Harinarayana and Raju<sup>12</sup> RSS feeds help the users to get updated information without visiting the website. Godwin<sup>13</sup> emphasized that these tools provide more interactive ways to improve the information literacy among users. Miller<sup>14</sup> stated that users might ignore libraries if web 2.0 tools are not integrated to enhance services.

### 3. Objectives

The study examined use of web application tools for the effective use of web-based resources and services in Indian Institutes of Technology (IITs) of India. The study had following objectives:

1. To identify available Web 2.0 tools for effective use of web-based library services in IIT Libraries;
2. To identify problems faced by the libraries in incorporating these tools into their websites; and
3. To identify awareness of web 2.0 tools among users of IIT libraries.

### 4. Methodology

The study covered the seven Indian Institutes of Technology (IITs) IIT Khargpur, IIT Bombay, IIT Madras, IIT Kanpur, IIT Delhi, IIT Guwahati, IIT Roorkee. Questionnaire was used as a tool for data collection. Questionnaires were distributed to all the librarians and users of seven IITs. The seven librarian's questionnaires and six hundred fifty users' questionnaires were received and analyzed.

## 5. Data Analysis and Results

### 5.1 Availability of Web-Based Resources and Services

Regarding availability of web-based resources and services it is found that all the IIT libraries are providing resources and services through website.

### 5.2 Availability of Web 2.0 Application Tools

To ascertain how far these web 2.0 tools services are being incorporated into the websites of the IIT libraries, data was collected from the seven IIT librarians (Table 1).

**Table 1.** Availability of web 2.0 application tools

Yes	No
5(71.4)	2(28.6%)

### 5.3 Use of Web 2.0 Applications Tools

By using web 2.0 application tools libraries can develop new ways for communicating and attracting attention of users towards library services. Through these tools libraries can better organize their resources and enhance their services (Table 2).

**Table 2.** Use of web applications tools

Web Applications Tools	Frequency (%)
Facebook	2(40%)
RSS feeds	5(100%)
Instant Messaging	3(60%)
Blog	0
Wiki	2(40%)
Twitter	1(20%)
Tagging	0
Podcast	0
Vodcast	0

Data was collected from all the libraries to know as to what extent these tools are being used and it was found that RSS feeds is the most popular web application tool and that all the libraries of IITs (100%) provide link to RSS feeds through library home page, whereas Instant Messaging is being used by 3 IIT Libraries. Two libraries have provided links to wiki and Facebook and only one library links to Twitter, Blog, vodcast, podcast and tagging are not popular tools among libraries.

This clearly suggests that RSS is seen as an effective channel for interaction and used for dissemination of latest news and announcements to users.

### 5.4 Purpose of Using Web 2.0 Application Tools

The respondents were asked the purpose of using web 2.0 application tools. It is found that all the IIT libraries use these tools for improving the provision of user oriented

services such as SDI, CAS, etc. 80% IIT libraries uses these tools for virtual reference service, promotion of library image among users, for users' feedback/suggestions and marketing/advertising of library resources and services. The purpose of using these tools in the 60% IIT libraries is for library advocacy, designing new web-based services and information literacy tutorials. Only 40% IIT libraries have responded that the use of these tools is for to create research guides/courseware (Table 3).

**Table 3.** Purpose of using web 2.0 application tools

Purpose	Frequency
Library Advocacy	3(60)
Virtual Reference Service	4(80)
Improve the Provision of User Oriented Services (SDI, CAS, etc.)	5(100)
Designing New Web-based Services	3(60)
User's Feedback /Suggestions	4(80)
Sharing of Library Events/News / Announcements	5(100)
Marketing/Advertising of Library Resources and Services	4(80)
Information Literacy Tutorials	3(60)
Create Research Guides/ Courseware	2(40)
Promoting Library Image Among Users	4(80)

Note: Multiple answers were permitted

It is observed that IIT libraries use these web application tools for improving the provision of user oriented services such as SDI, CAS etc. and for sharing of library events/news/ announcements.

### 5.5 Problems Being Faced in Implementing Web 2.0 Tools

**Table 4.** Problems being faced in Implementing web applications tools

Problems	IITs
Lack of Awareness	1(20)
Lack of Staff Time	3(60)
Problem in Archiving	2(40)
Threats to Data Security	2(40)
Provide Unauthentic Content	3(60)
Breach Copyright Law	3(60)
High Cost of Hardware / Software	1(20)
Overdependence on IT centre	2(40)
Information Overload	3(60)
Affected by Firewalls or Filtering Software	2(40)

Information overload, unauthentic content, lack of staff is some of the major problems. Some libraries also see threat to data security, over dependence on other units such as IT centre as problems in implementing web 2.0 tools (Table 4).

**Table 5.** Rating of usages

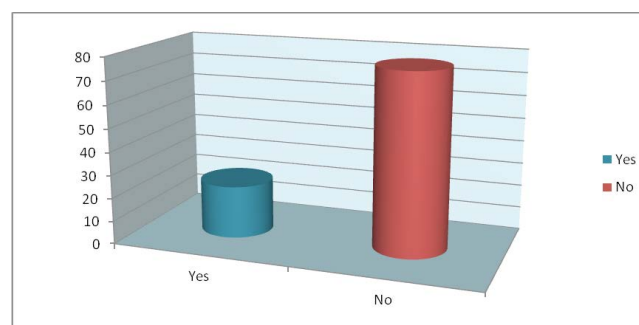
Rate of Usages	Very high	High	Average	Low	Very low
Face book	-	2 (40)	-	-	-
RSS Feeds	3(60)	2(40)	-	-	-
Instant messaging	1(20)	2(40)	-	-	-
Twitter	-	1(20)	-	-	-
Wiki	1(20)	1(20)	-	-	-

It is observed from Table 5 that 3 libraries rated very high for RSS.

**Table 6.** Awareness of SNS, IM, Wiki, Blog, etc. in library websites

Yes	No
106 (16.3%)	544 (83.7%)

Users of IIT libraries were asked to indicate their awareness regarding availability of tools on their library websites; it was found that only 16.3% users were aware of the presence of links to social networking site, instant messaging, wiki, blog, etc on the library website while 83.7% users were unaware. The probable reason might be that users do not get orientation/training (Table 6).



**Figure 1.** Availability of training programme.

### 5.8 Availability of Training Programme

With the growth of online electronic resources and services information seeking in electronic environment

has become more complex. It is imperative for users to train themselves in browsing and searching web-based resources and services along with printed resources effectively and efficiently. In this context users were asked about availability of training programmes by the libraries and responses received are presented Figure 1.

## 6. Suggestions

1. Libraries should leverage web application tools such as blog, wiki, Instant Messaging, twitter, Podcast and Vodcast, etc.,
2. Librarians should integrate these tools into their web services for enhancing web-based library resources and services and permit users in content creation and exchange of information,
3. Users should be trained continuously on the use of web 2.0 tools in order to increase their participation in the library activities, and
4. Libraries should promote their services by using new innovative tools like face book, blog, twitter, etc. for maximum utilization of their resources and services.

## 7. Conclusion

With the development of Internet and web technology, traditional method of offering library services has changed. The World Wide Web offers tremendous opportunities for libraries to provide resources and services to their users online, which is impossible in print media. They are in the forefront in adopting technology and in leveraging the new technology for providing advanced and seamless services.

The findings of the study show that the libraries are not utilizing full potential of web 2.0 technology. They must learn to utilize web application tools like Blog, RSS feeds, Instant Messaging, wiki for enhancing and upgrading their library resources and services. The result of this study emphasizes the need for libraries to create awareness among users about the use of web application tools and training program for effective utilization of web application tools.

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