

AVAILABILITY OF LIBRARY WEB PAGES AND WEB 2.0 TECHNOLOGIES: A CASE STUDY OF SELECTED INDIAN INSTITUTES OF MANAGEMENT (IIMS)

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Abstract *The present study describes the brief introduction, status of library webpages of 13 IIMs and availability of web 2.0 applications like YouTube, Facebook, Wikis, Twitter, LinkedIn and Wordpress etc. It also suggests a depth study to find out the barriers and ignorance in using web 2.0 applications in IIMs.*

Purpose: The purpose of this paper is to identify the status and availability of library web pages and web 2.0 applications at IIMs.

Design/methodology/approach: This paper open gate for the depth study on web 2.0 applications. Data required for the present study was collected to visit the official website of IIMs.

The Findings: All the 13 IIMs have web 2.0 applications at their official website but out of 13 IIMs, only 7 IIM's library web pages have web 2.0 application and remaining 6 library web pages are not having web 2.0 applications. Total 7 web 2.0 applications are available at IIMs (13) library pages. Facebook is the most used web 2.0 tools which is available at 13 IIMs (100%) followed by Twitter which is available 11 IIMs (84.6%) IIM's library webpages. YouTube, LinkedIn, Google+ and Blog are being used by 6 IIM libraries (46.1%) and Wiki is being used by 1 IIM (7.6%).

Originality/value: The web 2.0 applications are most commonly used web. The availability of these applications at websites of 13 IIMs encourages and motivates. But non-availability of these applications at library portals of 6IIMs presents ignorance of these tools..

Keyword: *Web 2.0, Social Media, YouTube, Facebook, LinkedIn, Twitter, Word press, Google+ Post, Blog, Photo Gallery, Delicious and Wiki.*

PARADIGM SHIFT IN ACADEMIC LIBRARIES

Within a span of few years libraries witnessed lot of changes in technologies. These changes have been noticed in all areas of libraries. Impact of these changes can also be noticed on the working style of library professionals and information seeking behavior of users as well. Library professionals are taking advantages of ICT. Patra (2008) opined that technological innovations of ICT have been taking place at very fast pace which is very much responsible for the changes in library services, facilities, products, availability and delivery of information, physical forms of documents, medium of information, attitudes of library professionals and users. Libraries are using library management and digital library software and also acquiring technological knowledge

to deal with ICT innovations. ICT has been playing significant role in reducing the gap between information rich and information poor / knows and knows-not. Lot of changes has been observed in the ICT tools. Earlier libraries were dependent on, DVD, Microfiches, Microforms, video cassettes etc. But the fiber optic revolution changed the whole concept of information gathering, processing and storing as it gave birth to electronic resources (e-books, e-journals and online database), web portals and many more. Availability of these resources paved way for fast and efficient services.

Availability of the latest computer, network and communication technology forced libraries to implement automation. Automation was the first step towards networking and resource sharing. It saved time of library users and staff members in locating information. Quality in library services increased which improved user satisfaction also. Catalogue

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cards are being replaced with online catalogue and OPAC.

Internet is surely a landmark achievement of human race as it changed everything in the society. With its emergence, the global connectivity of computers became reality. E-mail and World Wide Web (WWW) emerged as the core and foundation of Information infrastructure. It broke all geographical barriers. Instead of hard copies of journals books, libraries are focusing on electronic forms i.e. e-journals. Availability of resources in electronic form not only reduced cost but saved library space also. Internet brought together picture, sound and text. Transition of information from one place to another happened in zero time. Positive impact on library services, efficiency and budget has been observed by many researchers.

Ability of Internet to transfer / exchange huge data in few seconds paved ways for digital library and digital reference services. Emergence of digital library became an important tool for information seekers. It made library users able to access information from any corner of the world.

Positive impact of ICT has been noticed on libraries and its professionals. It enabled library professionals to learn, operate and handle newly invented tools and technologies such as computer, internet, library management software, online databases etc. The popularity of ICT among user forced library professionals to use ICT tools and develop web-based information services.

For the better use of ICT, library professionals need some skills. These skills play very important role in handling ICT tools efficiently. Kainthola (2008) "Library profession is like another profession and it requires human and professional skills, qualifications to provide qualitative and quantitative services to end users. Further, LIS professional requires: communication skills to articulate the thought content of a document; leadership qualities to maximize output; motivation skills; technological knowledge to deal with ICT and its gadgets; liaison skills to tackle users in worst situations". Library and information professionals have been learning to cope with ICT led changes. Cheng (2001) highlighted core competencies for future librarian. Some of them are as followed:

- "Librarian should be more than just computer literate with good understanding of ICT and its relation to information resources;
- Should have an in-depth understanding of organizational and user needs that is research based and should organize library resources to satisfy those needs;
- Competent in web publishing techniques;
- Skilled in manipulating metadata to organize digital information;
- Skilled in training users in the use of e-resources.;

- Skilled in filtering, evaluating and appraising Internet information".

Kainthola (2008) "to run software or to discharge work efficiently, one needs to acquire basic computer knowledge librarian community has been taking interest in: library software development and its administration; online database and consortia development; library networking; knowledge management activities; web publishing and digital library software development and management".

EMERGENCE OF WEB 2.0 TOOLS IN LIBRARY & INFORMATION CENTRE

The web 1.0 technologies have brought changes in Libraries & Information Centre (s). Web 1.0 made available seamless access of information to users. It also made libraries and library professionals able to deliver fast and efficient services to their users. Information made available in the forms of: a) library portals / websites; b) e-books; c) e-journals; d) on-line / off-line databases; e) consortiums; f) resource sharing networks; g) digital libraries; h) IRs; i) archives etc.

However, one important feature was missing in web 1.0 technologies i.e. two ways communication or interactive mode of communication. But the arrival of web 2.0 technologies or latest version web 1.0 has made interactive mode of communication possible. These technologies have become popular in almost every area. People are becoming habitual of web 2.0 technologies in their personal life. Use of these technologies has also influenced libraries.

O'Reilly (2005) the founder and CEO of O'Reilly Media Inc. called web 2.0 as a platform for participation. Aharony (2008) called web 2.0 technologies as upgraded / advanced version of World Wide Web (WWW). Anderson (2007) defined web 2.0 technologies with "individual production and user generated content", "harness the power of the crowd", "data on an epic scale", "architecture of participation", "network effects" and "openness".

Initially, its use was noticed in education system of technological advanced countries. However, its use is still at initial stage but teachers, student and library professionals have started taking advantages of these tools. It is popular among students. Bamigbola (2010) observed that Blogs, Wikis, Social Bookmarking, Multimedia Sharing tools and Really Simple Syndication (RSS) are popular web 2.0 technologies in education sector and these technologies are being used by libraries and teachers. Secker (2008) opined that social networking site and other web 2.0 technologies provide opportunities to library science professionals. They can use web 2.0 tools to inform users about library news, events and library services. Hvass and Myer (2008) observed improvement in IM's usage as no additional hardware and software are required to use this service.

INDIAN INSTITUTE OF MANAGEMENT (IIM): A GIST

("IIM", 2015) IIMs are a group of institutions which offers post graduate diploma, MDPs, short term executive and fellowship programmes. These institutions are being established across India and considered best business schools in India. Establishment of first IIM was initiated by Jawaharlal Nehru (First Prime Minister of India) on the recommendations of Planning Commission of India. All IIMs are autonomous bodies of Government of India and registered under Indian Societies Registration Act XXI of 1860. IIM council is the supreme body which governs all functions of IIM. This council is headed by Ministry of Human Resource Development (India). IIM Calcutta was the first IIM which was established in 1961 and followed by IIM Ahmedabad. In the beginning IIM Calcutta tied up with Alfred P. Sloan School of Management (MIT) and the government of West Bengal. Similarly IIMA tied up with the Harvard Business School. As of now, 19 IIMs have been established in Indian

Table 1: Indian Institute of Management (in Order of Establishment)

S.N.	Name	Short Name	Estb Yr	Location
1.	IIM Calcutta	IIM-C	1961	Kolkata, West Bengal
2.	IIM Ahmedabad	IIM-A	1961	Ahmedabad, Gujarat
3.	IIM Bangalore	IIM-B	1973	Bangalore, Karnataka
4.	IIM Lucknow	IIM-L	1984	Lucknow, Uttar Pradesh
5.	IIM Kozhikode	IIM-K	1996	Kozhikode, Kerala
6.	IIM Indore	IIM-I	1996	Indore, Madhya Pradesh
7.	IIM Shillong	IIM-S	2007	Shillong, Meghalaya
8.	IIM Rohtak	IIM-Rohtak	2010	Rohtak, Haryana
9.	IIM Ranchi	IIM-R	2010	Ranchi, Jharkhand
10.	IIM Raipur	IIM-Raipur	2010	Raipur, Chhattisgarh
11.	IIM Tiruchirappalli	IIM-T	2011	Tiruchirappalli, Tamil Nadu
12.	IIM Udaipur	IIM-U	2011	Udaipur, Rajasthan
13.	IIM Kashipur	IIM-Kashipur	2011	Kashipur, Uttarakhand

S.N.	Name	Short Name	Estb Yr	Location
14.	IIM Amritsar	IIM-Amritsar	2015	Amritsar, Punjab
15.	IIM Nagpur	IIM-N	2015	Nagpur, Maharashtra
16.	IIM Bodh Gaya	IIM-BG	2015	Bodh Gaya, Bihar
17.	IIM Visakhapatnam	IIM-V	2015	Visakhapatnam, Andhra Pradesh
18.	IIM Sambalpur	IIM-Sambalpur	2015	Sambalpur, Odisha
19.	IIM Sirmaur	IIM-Sirmaur	2015	Sirmaur, Himachal Pradesh

PREVIOUS RESEARCH

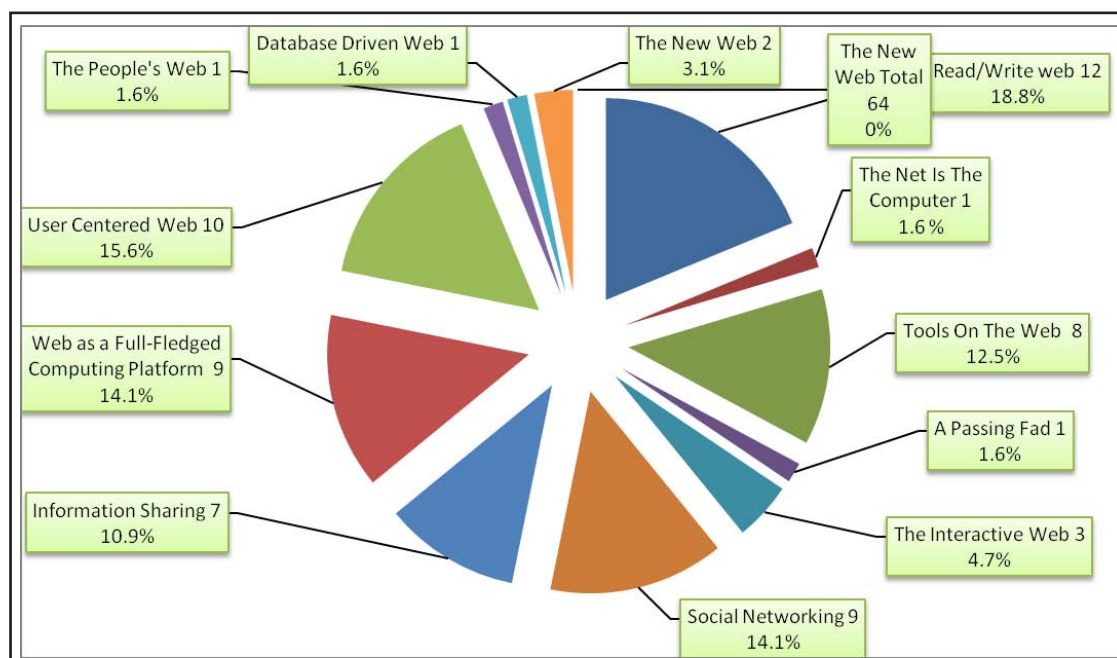
Krishnamurthy and Chan (2005) found in their study that ICT is the driving force which led the changes in functioning of academic libraries and library professionals. Due to users' likeness and easiness attention has been given to web-based information services in libraries. Balaji and Kumar (2011) opined that India has become the hub for education. Unlike the past, ICT has influenced the academic world and now information is available easily. Emergence of Internet has changed everything in the society. Large group of people are fully dependent on it. It is perhaps one of the very few technologies that experienced a high rate of development which has broken all boundaries of adaption and adoption. It is also known as 1.0. It brought lot of changes in libraries. It made available boundless and seamless access of information to users and also enabled libraries and library professionals to deliver fast and efficient services to their users. Chan (2010) considered internet as web 1.0. Further added, that in mid 90s many libraries started developing their own website to disseminate information. However, information was static. During this period, technological changes have been noticed in the libraries. Libraries started interaction with users using internet and related tools and technologies. This period was considered web 1.0 era. Library services were disseminated and marketed through website, web pages and emails. But emergence of web 2.0 enabled libraries to provide opportunities to respond in zero time. Ram, Anbu and Kataria (2011) opined that static features of web lead towards the web 2.0. Web 2.0 not only disseminate information but also provides the interactive features where users can publish information and comment. In other words, it can be said that web 2.0 is extension of web or web 1.0. Harinarayana and Raju (2010) conducted a survey of top100 universities from world ranking "Times Higher Education web site (2007)" and observed that in the academics, especially in libraries, use of we 2.0 is at initial stage. Collaboration and participation are the two most attractive features of web 2.0. While conducting this survey,

they found that only 57 (out of 100) universities were using web 2.0 applications. Out of 57, 37 university libraries use RSS feeds for dissemination of library news, events, and announcements; 15 university libraries provided Blog space for users. Instant Messaging was used by 37 libraries for providing quick reference services. The less used tools were wikis and podcast with 1 (out of 57, 1.75 per cent) and 3 three (out of 57, 5.26 per cent) respectively. They concluded that very less libraries were using Blog, wikies, podcast and vodcast. Linh (2008) conducted a survey on Australians University Libraries and found that Blogs were used for library services, news, events, and new arrivals of books, research tools, information literacy and general information. These Blogs were controlled by librarians. RSS was used to display new books, new e-journal, new database, university news and general information. Podcasts were used to advice on library skills, guidance with resources, library orientation tours, library news, book reviews and study skills workshops. IM was used for guidance with resources and advice on library services, text-based chat (one library offered voice chat). While discussing web 2.0 Wyatt and Hahn (2011) raised copyright issue which is very important while using and implementing web 2.0 technologies. According to Tyagi (2012) ability of the web 2.0 applications as learning and teaching tool has made them popular in the globe. Ram et al. (2011) opined that libraries are using new technologies in providing services to their users. Razmerita, Kirchner and Sudzina (2009) stated that transformation has been noticed in web as users became participants in the dissemination of information. SNS sites, where people of same interest share

information, have become popular mode for information sharing. Sahoo and Sharma (2015) used term web 2.0 and social media for an online portal, or web service. Chawner (2008) stated that tools like IM and SMS make user able to communicate in diverse environment.

DEFINING WEB 2.0

Chawner (2008) defined web 2.0 as a upgraded version of traditional web “web 1.0” as it allows user to participate in the communication by reading and writing. Majumdar (2012) opined initial stage of web is named “web 1.0” as it facilitated one way communication whereas web 2.0 provides interactive mode for users. They also used term “shared networks and people network” for web 2.0. Tripathi and Kumar (2010) submitted web 2.0 refers to the second generation development and design of the web. Joint (2009) associated term “web 2.0” with social networking, Blogging, wikis, RSS feed. Peltier-Davis, (2009) included applications like Blogs, wikis, RSS (really simple syndication) feeds, user-added reviews, ratings, Instant messaging, podcasts vodcasts, folksonomies, tagging tag clouds, social bookmarking networking sites, streaming audio video, community photo services sharing book services as web 2.0. A pilot study was conducted by Davis(2009) on graduate library school students to define web 2.0. Results are highlighted below:-



(Source: Clay Davis 2009)

Table 1: Pilot Study Results for Definition of Web 2.0

Definition	n	%
Read/Write web	12	18.8
The Net Is The Computer	1	1.6
Tools On The Web	8	12.5
A Passing Fad	1	1.6
The Interactive Web	3	4.7
Social Networking	9	14.1
Information Sharing	7	10.9
Web as a Full-Fledged Computing Platform	9	14.1
User Centered Web	10	15.6
The People's Web	1	1.6
Database Driven Web	1	1.6
The New Web	2	3.1
	Total 64	

On the basis of reviewed studies, we can define that web 2.0 is upgraded version of traditional web or a kind of web where user can participation by reading and writing or commenting or sharing, user dominated web, full-fledged computing platform which facilitates two ways communication. It has potential to connect people. Tools like social networking, Blogging, wikis and RSS are foundation of web 2.0. It is

popular among users due to its ability to provide opportunity to the users.

OBJECTIVES OF THE STUDY

The objectives of the study are as:

- To find out the availability of library web page of IIMs.
- To find out the availability of web 2.0 applications at IIMs official websites and library web pages.
- To find out the use of specific web 2.0 tool by IIM libraries.
- To highlight important information about collection and services at library web pages.

SCOPE AND METHODOLOGY OF THE STUDY

The study provides information about the availability of library web pages, web 2.0 applications at IIM's website as well and library webpages. The data was collected by visiting the official website of all 13 IIMs.

FINDINGS

The findings of the study are as under:

Table 2: Availability of Library Web Page With Link: (13 IIMS)

S.N.	Name	Website	Library web page link	Link Available/ Not Available
1.	IIM Calcutta	iimcal.ac.in	https://library.iimcal.ac.in/	Available
2.	IIM Ahmedabad	iimahd.ernet.in	http://iimahd.ernet.in/library/staff.html	Available
3.	IIM Bangalore	iimb.ernet.in	http://www.iimb.ernet.in/newlibrary	Available
4.	IIM Lucknow	iiml.ac.in	http://ganga.iiml.ac.in/~librarian/index.htm	Available
5.	IIM Kozhikode	iimk.ac.in	http://www.iimk.ac.in/libportal/	Available
6.	IIM Indore	iimidr.ac.in	http://www.iimidr.ac.in/facilities/library/	Available
7.	IIM Shillong	iimshillong.in	http://iimshillong.in/iim-shillong/knowledge-centre.asp	Available
8.	IIM Rohtak	iimrohtak.ac.in	http://www.iimrohtak.ac.in/facilities/knowledge-resources-centre.html	Available
9.	IIM Ranchi	iimranchi.ac.in	http://www.iimranchi.ac.in/?page_id=195	Available
10.	IIM Raipur	iimraipur.ac.in	http://iimraipur.ac.in/resour_Library.htm	Available
11.	IIM Trichy	iimtrichy.ac.in	http://library.iimtrichy.ac.in/	Available
12.	IIM Udaipur	iimu.ac.in	http://192.168.1.244:8280/liberty/libraryHome.do	Available
13.	IIM Kashipur	iimkashipur.ac.in	http://iimkashipur.ac.in/en/resources/library	Available

Table 2 shows that the all 13 IIMs have separate library web page or information.

Availability of Web 2.0 Applications at Official Websites And Library Web Pages of IIMS

Mahmood and Richardson (2011) observed that many libraries have started using web 2.0 application in their

websites. Burkhardt (2010) opined that web 2.0 is a powerful new form of communication. Buigues-García and Giménez-Chornet (2012) advocated that web 2.0 makes websites more interactive.

Table 3 shows that the official websites of all IIMs are having web 2.0 applications but out of 13 IIMs, only 7 IIM libraries are having web 2.0 applications at their library web pages.

Table 3: Availability of Web 2.0 Tools at IIMS Website & Library Webpage

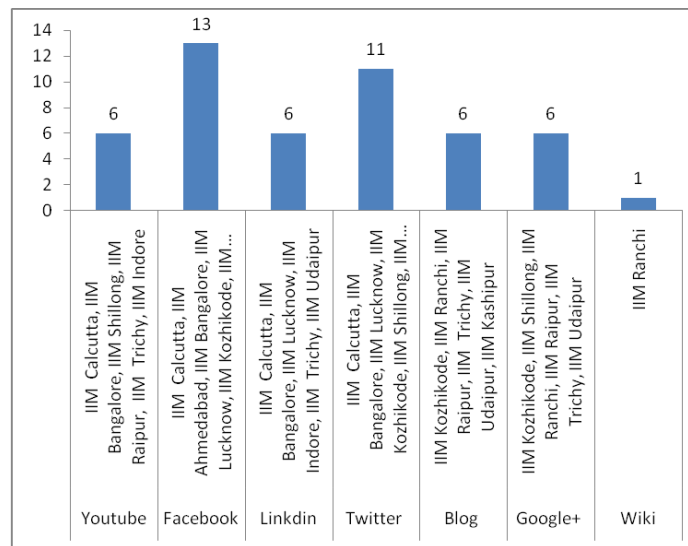
S.N.	Name	Web 2.0 available at Official Website	Web 2.0 available at library web page
1.	IIM Calcutta	YouTube, Facebook, LinkedIn, Twitter	Not Available
2.	IIM Ahmedabad	Facebook	Available
3.	IIM Bangalore	YouTube, Facebook, LinkedIn and Twitter	Available
4.	IIM Lucknow	Facebook, Twitter and LinkedIn	Available
5.	IIM Kozhikode	Google+, Twitter, Facebook and Blog	Not Available
6.	IIM Indore	LinkedIn, Facebook and YouTube	Available
7.	IIM Shillong	YouTube, Facebook, Twitter and Google+	Not Available
8.	IIM Rohtak	Facebook and Twitter	Available
9.	IIM Ranchi	Wiki, Blog, Facebook, Twitter and Google+	Available
10.	IIM Raipur	Blog, Facebook, Twitter, Google+ and YouTube	Not Available
11.	IIM Trichy	Blog, Facebook, Twitter, Google+, YouTube and LinkedIn	Not Available
12.	IIM Udaipur	Blog, Facebook, Twitter, LinkedIn, Google+ and Blog	Available
13.	IIM Kashipur	Blog, Facebook and Twitter	Not Available

Table 4: Use of Specific Web 2.0 Tool by IIMS Libraries

S.N.	Web 2.0 tool	Name of IIM	Number of IIMS
1.	YouTube	IIM Calcutta, IIM Bangalore, IIM Shillong, IIM Raipur, IIM Trichy, IIM Indore	6
2.	Facebook	IIM Calcutta, IIM Ahmedabad, IIM Bangalore, IIM Lucknow, IIM Kozhikode, IIM Indore, IIM Shillong, IIM Rohtak, IIM Ranchi, IIM Raipur, IIM Trichy, IIM Udaipur, IIM Kashipur	13
3.	LinkedIn	IIM Calcutta, IIM Bangalore, IIM Lucknow, IIM Indore, IIM Trichy, IIM Udaipur	6
4.	Twitter	IIM Calcutta, IIM Bangalore, IIM Lucknow, IIM Kozhikode, IIM Shillong, IIM Rohtak, IIM Ranchi, IIM Raipur, IIM Trichy, IIM Udaipur, IIM Kashipur	11
5.	Blog	IIM Kozhikode, IIM Ranchi, IIM Raipur, IIM Trichy, IIM Udaipur, IIM Kashipur	6
6.	Google+	IIM Kozhikode, IIM Shillong, IIM Ranchi, IIM Raipur, IIM Trichy, IIM Udaipur	6
7.	Wiki	IIM Ranchi	1

Table 4 and chart shows that total 7 web 2.0 applications are available at IIMS (13) library pages. Facebook is the most used web 2.0 tools which is available at 13 IIMs (100%) followed by Twitter which is available 11 IIMs (84.6%)

institute's library pages. YouTube, LinkedIn, Google+ and Blog are being used by 6 IIM libraries (46.1%) and Wiki is being used by 1 institute (7.6%).



OVERVIEW OF COLLECTION AND SERVICE LIBRARY OF IIM LIBRARIES

IIM Calcutta has separate library page and provides enough information about library services, facilities, collection (online databases, books and e-journals) cyber lab, video conference lab and video library etc. Web 2.0 applications are not available at library page.

IIM Ahmedabad has well designed page which provides information about library rules, timings, resources, discovery services, e-journals, institutional repository, download, new arrivals, ask a librarian etc.

It was observed that IIMA library is the first library amongst all IIMs which is using android app. It provides required information to its users. User can access e- resources through this app. It can be downloaded from library page with the help of QR code. With the advantages of android app, IIMA library is available on mobile. Layout of the app is excellent and it is a remarkable work in our field. Facebook is the only one web application which is available at library page.

IIM Bangalore has separate web page which provides basic information about library rules & regulations, timings, committee member, space, users, details of functional heads, electronic resources, e-journals, online catalogue, books, institutional repository, Ebsco and Athens login. Web 2.0 applications are available at library page.

IIM Rohtak has separate library page which provides brief introduction of library, e-databases, online journals & newspapers, print journals & magazines, web OPAC etc. but information is scattered. Users need to visit main page to get the details. Web 2.0 applications are available at library page.

IIM Indore also has separate library page and provides brief introduction of library, OPAC, One search facility (Ebsco

discovery service), list of new arrivals, electronic resources and databases on trial. Web 2.0 applications are available at library page.

IIM Lucknow has separate library page which provides relevant information keeping users requirement in mind. Web 2.0 applications are available at library page.

IIM Khozhikode has separate library portal which provides enough information about library facilities, services, e-journals, databases, e-books and Greenstone digital library. It has Ebsco discovery service (one search) and Ask Librarian features also. The web page is well designed. Web 2.0 applications are not present at library page.

IIM Shillong has separate library page. Library information is being provided in a single page where web 2.0 applications are not present.

IIM Ranchi has separate library web page which provides information on e-journals, e-databases, e-books, e-dissertation one search, and brief introduction of library. Web 2.0 tools are available at page.

IIM Raipur has separate page which is well designed and provides all relevant information. It provides my Athens, remote access (RemoteXs) and discovery services to its users. Web 2.0 applications are not present at page.

IIM Trichy has separate portal which provides information on electronic resources, books, new arrivals etc. It provides access to resource gateway, company information, Industry and countries, e-Journals, e-Shodh Sindhu. The portal is well designed. Web 2.0 applications are not present at page.

IIM Udaipur has single page where links are being provided to get more information on library resources such as ProQuest, print collection, e-journals, databases and institutional repository. Web 2.0 application are available at page;

IIM Kashipur has well designed library page which provides access to Ebsco discovery service, information about library resources (e-journals, e-books, e-database, and print collection), Ebsco A to Z trial, OPAC, download forms facility, institutional repositories, ask a librarian etc. Web 2.0 applications are not available at page;

CONCLUSION

Availability status of web 2.0 applications at IIMs (13) website and library pages produces gloomy picture. However, availability of separate library pages gives satisfaction as library web page is being considered the face of a library. It is high time for IIM leadership and librarian to consider web 2.0 applications as a new medium of communication as it provides freedom to end user to participate or react in a better way in zero time. There is a need to evaluate the use of web 2.0 applications in libraries. Many advantages can be taken by implementing and using these tools. Most of us are using these tools in our personal life for sharing events, news, profile, meetings with professional and friends and relatives, visits, personal and professional achievements etc. These tools are being used by many libraries around the world to provide efficient services and facilities. Web 2.0 applications have potential to encourage users to participate in library activities.

The question arises why these tools are being neglected? Why leadership of reputed institutions are not implementing web 2.0 applications at their library pages. Are these tools not having potential to become a useful tool in academics? Can these tools not be used to disseminate information and market library services and facilities? Do these tools have potential to provide outreach services? Linh (2008) stated that the library community has just begun applying this new technology in the library. "There is little research that focuses on the evaluation of Web 2.0 applications in the library". To answer these queries, a depth study of IIMs libraries is required.

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