

Use of Web 2.0 Technology by the Indian Institutes of Technology (IITs) and Indian Institutes of Management (IIMs): A Comparative Survey

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ABSTRACT

In present digital era web become a very powerful tool for communication and interaction with other. Use of web 2.0 technology make closer to everyone. It is an up gradation of traditional web and offer many more advanced features and services to the users. Now many institutions of India as well abroad are using this web 2.0 technologies for communication and share their information. This paper discusses the concepts and characteristics of web 2.0 followed by the use of Web 2.0 technologies by IITs and IIMs, leading institutions of engineering and management of India. The survey shows that all the IIM's and many IIT's are using Web 2.0 tools now.

Keywords: Web 2.0, Blogs, Wikis, RSS, Social Networking Sites.

Introduction

Today we are living in an ICT era where web technology becomes a strongest tool for communication and dissemination of information. The traditional web or web 1.0 have only one way communication facility in which users can read information provided by webmasters. With the emergence of Web 2.0 technology provided the facility of two way communication. The web has no more all about websites and search engines but now it means that a network which is shareable, accessible, high speed of accessibility and more storage capacity. Web 2.0 technology acts as a platform which offers many more services on comparison to traditional web technology. It refers to more advanced services which encourage collaboration, communication and information sharing. There are many tools of web 2.0 technologies such as: Blogs, Wikis, Tagging and Social Bookmarking, Multimedia Sharing and audio Blogging and Podcasting, RSS and Syndications, Mashups, Social Networking Sites etc. which offers a variety of services for the users.

Web 2.0

The term web 2.0 was coined by Tim O' Reilly and Dale Dougherty of O'Reilly media in 2004. Web 2.0 principles and technology offer many opportunities to academic institutions and their libraries to serve their existing audiences better and to reach out beyond the walls. The term web 2.0 is associated with web application that facilitates participatory information



dissemination inter operability, user's centred design and collaboration with the World Wide Web (WWW). There is no proper, exact and standard definition for web 2.0 and it is the term given to describe a second generation of the World Wide Web that is focused on the ability for people to collaborate and share information online.

Key Features of Web 2.0:

Some key features of web 2.0 are as follows:

1. It allows users to arrange their information according to their needs and wants; this is also known as social tagging.
2. The web2.0 has rich user experience because it uses AJAX (Asynchronous JavaScript + XML).
3. The traditional web model was one way in which the information provided by the site owner and the users are the ultimate receivers but in web 2.0 the users also contribute in the information production by the means of evaluation, review and commenting, etc.
4. The web 2.0 contents are easily shared, reuse, redistributed and edited.
5. The single information may be accessed or shared by the multiple users through sharing, hyperlinking, tagging, etc.

Tools and Techniques of Web 2.0.

a) Blogs

The term Blog or Web-log was first coined by Jorn Barger in 1997 that means a simple webpage which contains brief statements of entries, opinions, information, personal diaries, links, etc. which called posts, arranged in chronological order with most recent are first.

b) Wikis

Wikis are the web pages or contains a set of web pages which are easily edited or updated by the users. It has history function through which users can easily restore previous versions or components of the wiki. There is restricting access to registered users only.

c) Tagging and Social Bookmarking

Tag means adding information to a digital object, so tags enrich the qualities of any digital object such as photos, videos, web pages, e-documents, etc. user can easily add information to their digital objects online and make it more useful. Social bookmarking allows users to create a list of bookmarks and favourites online,

d) Multimedia Sharing

Multimedia sharing means sharing of photos, videos, audios, etc among the users online, YouTube (video), Flickr (photos) and Odeo (podcasts) are the famous multimedia sharing websites. They can upload videos and photos directly through their camera and phones at anytime, anywhere. After that they can tag, manage, categorize, edit, and share their contents online.

e) Audio blogging and Podcasting

The term Podcasting was first coined by Ben Hammersley in a The Guardian article on 12 February, 2004. Podcasting are episodic audio recordings of talks, interviews, lectures, etc which may be played on any online multimedia devices.

f) RSS and Syndication

The first version of RSS was created by Dan Libby and Ramanathan V. Guha on March 1999 known as Rich Site Summary. In September 2002, Dave Winer released RSS 2.0



and renamed as Really Simple Syndication. Without visiting to the websites users get their updates. The updates are termed as feeds and were collected in feed format.

g) Mashups

Mashups is a technology that merges two or more services or technology to create a new service or technology. Mashups have an active role in the evolution of Web 2.0.

h) Social Networking Sites

Social Networking Sites are those sites which allow their users to build social relations on the Web. It is the web based service which provides users to interact virtually and share their thoughts in the forms of comments, likes, messages, tags, etc. here users can upload photos, videos.

Review of Literature

A number of studies have been conducted in field of library and information science related to web 2.0 applications in different type of institutions and web 2.0 technologies. **Tyagi** (2012) conducted a study on the use of web 2.0 technology by engineering college library professionals in engineering collages of western UP and resolved that library professionals having good skill in usage of internet and many of them are using web 2.0 technologies because they were motivated towards the new technology. **Majumdar**(2012) conducted a survey about use of web 2.0 tool in library web page in West Bengal and revealed that IIT, Kharagpur and ISI, Kolkata have applied web 2.0 tools in their respective library webpage and none of the state universities has applied web 2.0 tools in their webpage. **Rashmi and Neelu**(2014) highlighted the prospective of web 2.0 and library 2.0 in context of academic libraries. The theory of web 2.0 such as social networks and social networking sites and academic library 2.0 is defined, also the possible tools & technology discussed which is useful for library 2.0.

Manoj and Nitesh (2014) discussed in their paper that the libraries and information professionals use web 2.0 applications as a tool to bridge the gap between the libraries and the users. With new and more interactive services the libraries can easily provide better services and attracts more users towards it and open the gates for the new opportunities for the libraries. Web 2.0 is a library response to the larger social technology changes going on right now and explains the various web 2.0 tools and techniques and their implications in the libraries. **Shukla** (2014) conducted a comparative survey about use of web 2.0 in central university and IITs and concluded that majority (72%) of the library websites of central universities of India have not used application of library 2.0 in their websites. There are about 11.63% central universities that don't have a library webpage and only 16% library websites have used library 2.0 applications in their websites for the users. In an another study, **Manoj and Nitesh** (2014) conducted a survey about use of web 2.0 technologies by central universities and find that some of the central universities in India are using web 2.0 technologies for promotion of their institution and bidirectional sharing of information, videos, images, news, etc. and suggested that to reach their users libraries must have to use these web 2.0 tools **Anjali and Sharad** (2014) did a survey about use of web 2.0 technology in libraries of top university of world and concluded that majority of university libraries are utilizing web 2.0 technologies for promotion of library services and sharing the information, videos, images, ideas, News etc.



Indian Institutes of Technology (IITs):

The Indian Institutes of Technology (IITs) are autonomous public institutes of higher education in India. They are governed by the Institutes of Technology Act, 1961 which has declared them as “Institutions of National Importance”, and lays down their powers, duties, framework for governance etc. under the Institutes of Technology Act, 1961. There are sixteen IITs as listed on MHRD website (<http://mhrd.gov.in/print/iits>).

Table 1: List of Indian Institutes of Technology

S.No.	Name of Indian Institutes of Technology
1	Indian Institute of Technology, Gandhinagar, Gujarat
2	Indian Institute of Technology, Bhubaneswar, Odisha
3	Indian Institute of Technology, Chennai, Madras
4	Indian Institute of Technology, Guwahati, Assam
5	Indian Institute of Technology, Indore, MadhyaPradesh
6	Indian Institute of Technology, Kanpur, UttarPradesh
7	Indian Institute of Technology, Jodhpur, Rajasthan
8	Indian Institute of Technology, Kharagpur, West Bengal
9	Indian Institute of Technology, Hyderabad, Telangana
10	Indian Institute of Technology, Mumbai, Maharashtra
11	Indian Institute of Technology, Patna, Bihar
12	Indian Institute of Technology, New Delhi
13	Indian Institute of Technology, Ropar, Punjab
14	Indian Institute of Technology, Mandi, HimachalPradesh
15	Indian Institute of Technology, Roorkee, Uttarakhand
16	Indian Institute of Technology, Varanasi, UttarPradesh

Indian Institutes of Management (IIMs)

The Indian Institutes of Management (IIMs) are a group of 13 public, autonomous institutes of management education and research in India. Each IIM is autonomous and exercises independent control over its day-to-day operations and the administration of all IIMs and the overall strategy of IIMs are overseen by the IIM council. The IIM Council is headed by India's Minister of Human Resource Development and consists of the chairpersons and directors of all IIMs and senior officials from the Ministry of Human Resource Development of the Government of India. At present there are 13 IIMs as listed on MHRD website (<http://mhrd.gov.in/print/iims>).

Table 2: List of Indian Institutes of Management (IIMs)

SN	Name of Indian Institute of Management
1.	Indian Institute of Management, Ahmedabad
2.	Indian Institute of Management, Bangalore
3.	Indian Institute of Management, Raipur
4.	Indian Institute of Management, Rohtak
5.	Indian Institute of Management, Ranchi
6.	Indian Institute of Management, Kozhikode
7.	Indian Institute of Management, Kolkata
8.	Indian Institute of Management, Lucknow



9.	Indian Institute of Management, Indore
10.	Indian Institute of Management, Udaipur
11.	Rajiv Gandhi Indian Institute of Management, Shillong
12.	Indian Institute of Management, Tiruchirappalli
13.	Indian Institute of Management, Kashipur

Objectives of the Study:

The present study has following objectives:

- To know the awareness of web 2.0 technology and its tools by the IIT's and IIM's
- To know the usage of web 2.0 and number of tools used by the IIT's and IIM's
- To compare the usability of Web 2.0 technology between the IIT's and IIM's.

Methodology

In the present study, the list of IITs and IIMs were collected from Ministry of Human Resource Development (MHRD) website (<http://mhrd.gov.in/print/2153>) as on 18.06.2015 and all the IITs and IIMs websites was personally visited by the authors. An observation method was used for collection of data and tables and graphs have been prepared for the analysis and interpretation of the data to draw the result.

Data Analysis and Interpretation

Table-3: Use of Web 2.0 tools in the IIMs

Name of the Institute	Facebook	Twitter	Google +	LinkedIn	You Tube	Blog	Wikipedia	Wordpress	Total
IIM, Ahemdabad	Yes	-	-	-	-	-	-	-	1
IIM, Bangalore	Yes	-	Yes	-	-	-	-	-	2
IIM, Culcutta	Yes	Yes	-	Yes	Yes	-	-	-	4
IIM, Lucknow	Yes	Yes	-	Yes	-	-	-	-	3
IIM, Indore	Yes	-	-	Yes	-	-	-	-	2
IIM, Kozhikode	Yes	Yes	Yes	-	-	Yes	-	-	4
IIM, Shillong	Yes	Yes	Yes	-	Yes	-	-	-	4
IIM, Rohtak	-	-	Yes	-	Yes	-	-	-	2
IIM, Raipur	Yes	Yes	-	Yes	Yes	Yes	-	-	5
IIM, Ranchi	Yes	Yes	Yes	-	-	Yes	Yes	-	5
IIM, Tiruchirappalli	Yes	Yes	Yes	Yes	Yes	Yes	-	-	6
IIM, Kashipur	Yes	Yes	-	-	-	-	-	Yes	3
IIM, Udaipur	Yes	Yes	Yes	Yes	-	-	-	Yes	5
Total	12	9	7	6	5	4	1	2	

('-' means not using)

Table-3 shows the tools of web 2.0 which are used by IIMs and it resolved that all IIMs are aware with web 2.0 tools because they all are using this tools. The maximum tools (6) are used by IIM Tiruchirappalli followed by IIM Raipur, Ranchi and Udaipur (5 each). IIM Culcutta, IIM Kozhikode and IIT Shilong are using 4 web 2.0 tools and IIM kashipur & IIM Lucknow are using 3 tools. IIM Ahemdabad is using only one web 2.0 tool and IIM Bangalore is using 2 tools.



Figure-2: Commonly used Web 2.0 tools by IIMs

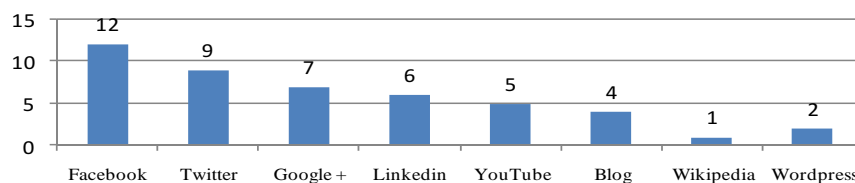


Figure-2 shows the most popular web 2.0 tools used by IIMs and it resolved that face book is the most popular web 2.0 tool because all IIMs except IIM Rohtak are using this tool. The second most popular tool is Twitter and 9 IIMs use it which folloed by Google+ (7) and LinkedIn (6). YouTube and Blog are also popular tools and 5 & 4 IIMs are using it respectively.

Table No. 4: Use of Web 2.0 tools in the IITs

Name of the Institute	Facebook	Twitter	Google+	LinkedIn	YouTube	Blog	Wikipedia	Wordpress	RSS	Total
IIT, Kharagpur	-*	-	-	-	-	-	-	-	-	0
IIT, Bombay	Yes	Yes	Yes	Yes	Yes	-	-	-	Yes	6
IIT, Madras	Yes	Yes	Yes	Yes	-	-	-	-	-	4
IIT, Delhi	-	-	-	-	Yes	-	-	-	Yes	2
IIT, Guwahati	-	-	-	-	-	-	-	-	-	0
IIT, Roorkee	Yes	Yes	Yes	Yes	-	Yes	-	-	-	5
IIT, Hyderabad	-	Yes	-	-	Yes	Yes	-	Yes	Yes	5
IIT, Jodhpur	-	-	Yes	-	-	Yes	-	-	-	2
IIT, Ropar	-	-	-	-	-	-	-	-	-	0
IIT, Mandi	Yes	-	-	-	-	-	-	-	-	1
IIT, Indore	-	-	Yes	-	-	-	Yes	-	Yes	3
IIT, Patna	-	-	-	-	-	-	-	-	-	0
IIT, Gandhinagar	Yes	Yes	Yes	-	Yes	-	-	-	-	4
IIT, Bhubnaeswar	-	-	-	-	Yes	-	-	-	-	1
IIT (BHU), Varanasi	-	-	-	-	-	-	-	-	-	0
Total	5	5	6	3	5	3	1	1	4	

('-' means not using)

Note: At the sime of study IIT kanpur website could not be open to collect te data that why it is excluded from this study.

Table-4 shows the tools of web 2.0 which was used by IITs and it resolved that only 10 IITs are using web 2.0 tools and 5 IITs (Kharagur, Guwahati, Ropaer, Patana and BHU) do not use any web 2.0 tool at present . The maximum tools are used by IIT Bombay followed by IIT Roorkee and IIT Hyderabad. IIT Madras and IIT Gandhinagar are using 4 and IIT Indore using 3 web 2.0 tools at present. IIT Delhi and IIT Jodhpur are using 2 web 2.0 tools while IIT Mandi is using only 1 web 2.0 tool.



Figure-4: Commonly used web 2.0 tools by IITs

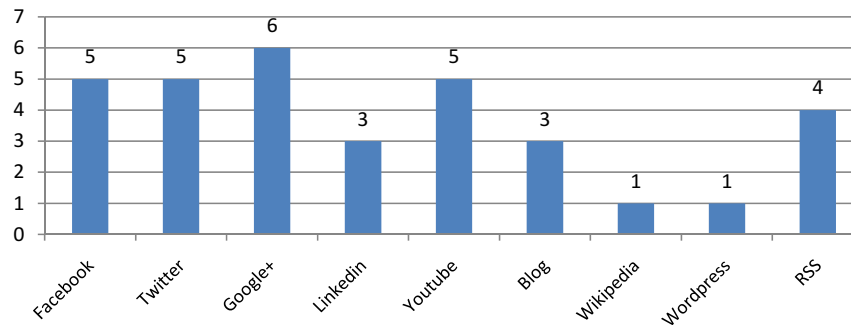


Figure-4 shows the most popular web 2.0 tools used by IITs and it resolved that Google+ is the most popular web 2.0 tool because it is used by 6 IITs out of 15 IITs. Face book, Twitter and YouTube are another popular web 2.0 tools because 5 IITs are using these tools which are followed by RSS (4), Linkdin (3) and Blog (3). Wikidedia and Wordpress is used by only 1 IIT.

Figure-5: Comparative analysis web 2.0 tools used by IITs and IIMs

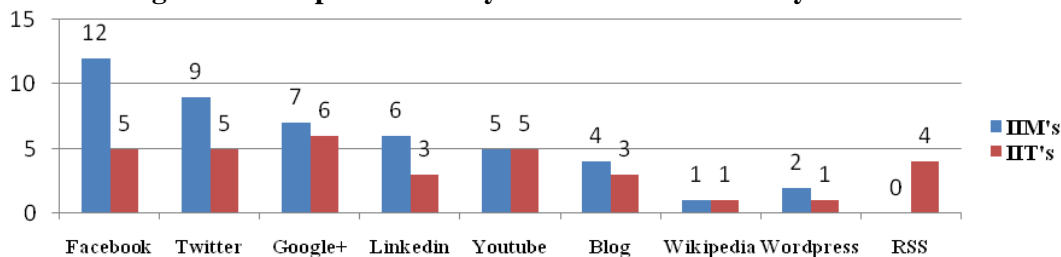


Figure-5 shows the comparative usage of web 2.0 tools by IIMs and IITs and resolve that both the institutions are using web 2.0 technology but their preferred tools are differ from each others. The IIMs are using more web 2.0 tools in comparison to IITs. Analysis shows that 12 IIMs are using facebook and only 5 IITs use it, 9 IIMs are using Twitter and only 5 IIT use it, 6 IIMs are using LinkedInand only 3 IITs are using this tool. IITs are superseding in use of RSS feed and 4 IITs are using this tool while IIMs does not use this tool at all. In use of other web 2.0 tools IIMs and IITs are almost similar.

Major Findings

The present study has following findings:

1. IIMs are more aware about web 2.0 technology in comparison to IITs because All 13 IIMs are using this technology while only 10 IITs are using web 2.0 tools at present.
2. Among selected IIMs and IITs, IIM Tiruchirappalli and IIT Bombay are using maximum i.e. 06 (six) Web 2.0 tools.
3. From the all IIMs, Facebook is most popular web 2.0 tool while in IITs Google+ is most common use web 2.0 tool.
4. The IIM's are more aware about Web 2.0 tools and they are effectively using it.
5. Recently established many IIMs and IITs are using web 2.0 technology and many of them are using more than one web 2.0 technologies which show their interest towards these tools.



Conclusion:

Web 2.0 technology has endless opportunities, it is the responsibilities of the academic institutions and information centres how they use it. The present study states that all the IIM's are using web 2.0 technologies for promotions of their institutions and multi-directional sharing of information, videos, images, news, etc. for different academic purposes. The Web 2.0 tools offer many opportunities to the students and researchers to share their information speedily at a single click. The web 2.0 provides a great opportunity to all academic institutions and organizations to use these tools to stay connected with their academic community and provide a variety of services.

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