Use of Web2.0 Technology by Faculty Members of National Institute of Technology (NIT), Srinagar

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Abstract

Web 2.0 Technology has revolutionized academic process since the last decade or so. Use of web 2.0 tools has highly altered the scenario of present tech savvy education. Present paper reveals the popularity of the web2.0 tools and Social networking sites among the faculty members of National Institute of Technology (NIT), Srinagar. Questionnaire is used as a tool to gather the data related to the problem. Analysis of datareflects that faculty members of NIT are not fully aware about the use of web 2.0 technologies. Findings of the study reveal that majority of faculty members are usingFacebook,YouTube and Wiki in their day to day activities. Female faculty members are using web2.0 tools more frequently as compared to their male colleagues. It is suggested that in order to create awareness among the faculty members, NIT authorities are supposed to play a pivotal role by organizing different programs for faculty members to educate them about the use and utilization of Web 2.0 technology in academic activities.

1.Introduction

Information is regarded as a valuable asset in the modern world and its importance in overall progress and prosperity of all facets in human life is recognized by every intellectual. Engineers and technologists need information for solving their technical problems. Managers need more and more information for taking managerial decisions. Similarly teachers and students need information to keep themselves fully abreast with the latest developments in their respective fields. Modern society incessantly produces and uses information. Information diffuses through society in many ways. In the contemporary information age, information is being generated in large quantities and this large amount of information is creating what we call as information explosion, information pollution, information overloadand information anxiety like challenges. Due to information explosion, people are facing numerous problems in accessing precise and relevant information. With the impact of new technologies, most people are interested in accessing information with the aid of technologies because of faster accessibility and availability.Individuals use different sources of information varying from print sources to digital ones. Advent of internet has

provided great opportunities for people to have access to large number of information sourcesgenerated both at national and international level in order to keep themselves well aware and up-to-date about the latest trends and developments in their field . As such Internet has become a very rich source of information. There are different tools and technologies related to internet and these technologies are extensively used for sharing and dissemination of information. One such technology is Web 2.0. Web 2.0 Technology enable users to develop a collaborative virtual society to share information interactively. Web 2.0 tools include social networking sites like Facebook, Twitter, YouTube, Blogs etc. These tools have gained popularity in the world as these are applied for sharing information by anyone, anywhere and at anytime. Present paper also focuses popularity and use of Web 2.0 tools by the faculty members of the National Institute of Technology (NIT), Srinagar.

2. Objectives

Objectives of the present study are:
- To gain in-depth understanding of how faculty members currently obtain information.
- To know the popularity of web2.0 among the faculty members.
- To examine the use of web2.0 tools by the faculty members

3.Scope

Scope of the study is confined toFaculty (Teachers) in National Institute of Technology, Srinagar (Jammu and Kashmir).NIT is the primer institute imparting education and training in the field of engineering and allied fields. Earlier it was known by the name "Regional Engineering College" but now it is known by the name "National Institute of Technology".

4.Methodology

Descriptive methodology isadopted to achieve the objectives of the study. A well framed questionnaire is used for collecting data related to the problem. One hundred and ten (110) questionnaires were distributed among Faculty members. However, only eighty-one responded, making an overall response rate of 73.63%.

5. Review of Literature

Traditionally, new releases of computer software have featured versions numbering along the lines of 1.0, 2.0, 2.2 and so on, and the phrase 'Web 2.0' references this. Web 2.0 is a new trend in communication technology. The term "Web2.0" is widely defined and interpreted, Web 2.0 was reportedly first conceptualized and made popular by Tim O'Reilly and Dale Dougherty of O'Reilly media in 2004 **(Wikipedia, 2012).**According to **O'Reilly (2009)** Web 2.0 is a set of social, economic, and technology trends that collectively form the basis for the next generation of the internet – a more mature, distinct medium characterized by user participation, openness, and network effect. It allows internet users to transition from the static to the dynamic web technologies both in using and developing web applications. Based on the easier access to the internet through computers, cellular, and handheld devices, Web 2.0 tools enable users to develop a collaborative virtual society to share information interactively and interoperably. Web 2.0 technologies allow users to develop user-centered web applications to participate, add, control, and share information interactively **(O'Reilly, 2005).**Examples of Web 2.0 include socialnetworking

sites, blogs, wikis, video sharing sites, podcasts, hosted services, web applications, mash-ups and RSS, that provide web-based communities and programs, web applications and services, web hosting, audio-video sharing, social-networking, and many more services.Tim O'Reilly, the founder and CEO of O'Reilly Media Inc. generalizes "Web 2.0 is the web as platform" and applications of Web 2.0 are based on that platform **(O'Reilly, 2009).**The term "Web 2.0" is associated with web applications that facilitate participatory information sharing, interoperability, user-centered design, and collaboration on the World Wide Web. Web 2.0 is not a specific application or technology, but explains two paradigm shifts within Information Technology, 'user-generated content' and 'thin client computing'. User-generated content refers to social networking sites such as Facebook, MySpace and YouTube, blogs, and any web application that enables users to create elaborate, personal web pages without any prior technical programming knowledge. User-generated content of Web 2.0 is changing the way we use the Internet. Thin Client Computing refers to data and applications that are housed on a web server, providing the user with universal access to information from any computer.The Web 2.0 applications hold profound potentials in education because of their

open nature, ease of use and support for effective collaboration and communication. They change the traditional view of human knowledge and open up more opportunities in teaching and learning. Today, many teachers are exploring the use of Web 2.0 tools into teaching and learning **(Yeun, 2010).**The faculty members are responding to the increasing importance and visibility of Web2.0 tool. Web 2.0 is proving to be engines of change for teaching and learning. These tools help faculty members to their materials; enhance services towards the users and internal functions. The application of these tools also increases demand for services in virtual environment. The use of web2.0 tools by faculty members is for serving the users in a better manner and attracting the potential users towards the new technologies of teaching and learning **(Miller, 2006).**Web 2.0 is a collaborative web development platform that refers to the cumulative changes in the ways software developers and end-users achieve benefits from the web (Hossain&Aydin, 2011). Unlike Web 1.0, which was akin to a source or means of communicating information, Web 2.0 provides a way to create information, and consequently knowledge. The rapid evolution of Web 2.0 applications is offering new possibilities and perspectives in business, government and health sectors, education and other public domains (Virkus&Bamigbola, 2011). Some of the web2.0 tools are briefly discussed here.

A blog (sometimes referred to as a weblog) is a Web publishing tool that allows authors to quickly and easily self-publish text, artwork, links to other blogs or Web sites, and a whole array of other content. The term was coined by Jorn Barger in 1997 and refers to a simple Webpage consisting of brief paragraphs of opinion, information, personal diary entries, or links, called posts, organized chronologically with the most recent first **(Anderson, 2007).**

A Wiki is a collaborative web page that allows users to create and easily edit any number of interlinked web pages using a traditional web browser. A wiki can be developed through the WYSIWYG (what you see is what you get) format that allows users to view its contents very similar to the end result while it is created. Wikis allow users to have different levels of access to edit or delete content. Wikipedia, the online encyclopedia, is a great example of a wiki that is created and constantly developed by its users. Wikipedia's users are able to modify encyclopedia entries by creating a reviewer and editing structure **(Alexander, 2006).**Wikis are gaining popularity among the academic circles.

RSS stands for Really Simple Syndication. Also called web feeds, RSS is a content delivery vehicle. It is the format used when you want to syndicate news and other web content. When it distributes the

content it is called a feed. RSS feed readers aggregate news headlines, blog posts, articles, and other dynamic content from across the web, all in a single convenient preview and reading environment.These applications provide a convenient way for users to subscribe to their favourite web sites and to monitor each new item posted **(Wilson,2008).**

Twitter is a social networking micro-blogging site that allows learners to"follow" others brief messages. For knowledge management and e-learning,Twitter allows a person to ask a question to co-workers. By following thecommunication thread, other users are able to see answers and solutions. Anorganization can collect all the "Tweets" (messages) in a database to sort,categorize, and share. An employee can use Twitter to follow a mentor, connectto experts, test new ideas, and maintain discussions after an e-learning course.Web 2.0 technologies provide teachers with new ways to engage students in a meaningful way; it shows that education is a constantly evolving entity. Whether it is participating in a class discussion, or participating in a forum discussion, the technologies available to students in a Web 2.0 classroom does increase the amount they participate, it has the potential to change teaching and learning, and it presents us with important questions to reach audiences far beyond our classroom walls. These tools are needed in the classroom to prepare both students and teachers for the shift in learning; they allow teachers to give students the control they need over their learning to be successful as learning expands beyond the classroom **(Collins, 2009).** Many of tools, namely blogs, wikis, tagging/ bookmarking, podcasts, RSS have strong implications to change the teaching practices and collaboration. Teachers can also introduce these tools to their current teaching practices to engage students as active collaborators in their learning; hence the tools can make the teachers more efficient in teaching. Blog is the most powerful tool for sharing ideas; wikis are most useful to facilitate group planning and collaborative construction of knowledge; podcasts are useful for publishing audio recordings of interviews, speeches etc., while RSS feeds make it easy for teachers and students to track updates on websites, posts on blogs, collaborations on wikis, and audio recordings on podcasts **(Linh, 2008).** Wiki is a web-based collaborative tool available to faculty and staff to create and manage private and public content for instruction, and academic activities for sharing information among students and colleagues **(Curtis, Johnson & Meredith, 2010).**

6.Data Analysis
Data collected from the respondents under the scope of the present study has been analyzed through proper statistical techniques and is presented under different headings as under:

6.1 Faculty Affiliation
Faculty members included in the present study belongs to different disciplines. Table 1 indicates the affiliation of faculty members to disciplines being taught in NIT.

Table 1
Faculty Affiliation

S. No	Name of Department	Total
1	Chemistry and Chemical Engineering	13 (16.04)*
2	Civil Engineering	12 (14.81)
3	Computer Science and IT	11 (13.58)
4	Mechanical Engineering	11 (13.58)
5	Electronic and Communication	8 (9.87)
6	Electrical Engineering	7 (8.64)
7	Humanities and Social Science	6 (7.40)
8	Physics	5 (6.17)
9	Metallurgical Engineering	4 (4.93)
10	Mathematics	4 (4.93)
	Total	**81**

*Data in parenthesis indicates percentage

Table 1 reveals that majority of faculty members included in present study belongs to Chemistry and Chemical Engineering(16.04%)followed by Civil Engineering (14.81%) and the least number of faculty members belongs to Mathematics and Metallurgical Engineering each having (4.93%).

6.2 Gender
Data gathered from Respondents when analyzed indicates that 54(66.66%) were male and 27(33.33%) were female included in present study.

6.3 Faculty Position
Faculty members under the scope of present study belongs to different positions. Position wise distribution of faculty members is indicated in Table 2.From Table 2 it is evident that majority of the respondents 75.30% are Assistant Professors. 14.81% respondents are Associate Professors and 9.87% are Professors.

Table 2
Position of Faculty Members

Position	Total No.
Professors	8 (9.87)*
Associates Professors	12 (14.81)
Assistant Professors	61 (75.30)
Total	**81 (100)**

*Data in parenthesis indicates percentage

6.4 Use of Web 2.0

Responses collected from the faculty about the use of web 2.0 tools is presented in Table 3.

Table 3
SNS's & Web Tools Used

S. No.	Web 2.0 Tools	No. of Users		Total
		Male	Female	
1	Facebook	38 (70.37)	24 (88.88)	62 (76.54)*
2	Twitter	9 (16.66)	7 (25.92)	16 (19.75)
3	YouTube	17 (31.48)	13 (48.14)	30 (37.03)
4	Orkut	2 (3.70)	6 (22.22)	8 (9.87)
5	RSS Feeds	1 (1.85)	1 (3.70)	2 (2.46)
6	Slide share	1 (1.85)	1 (3.70)	2 (2.46)
7	Wikis	11 (20.37)	10 (37.03)	21 (25.92)
8	Blogs	4 (7.40)	7 (25.92)	11 (13.58)
9	Don't use any one	13 (24.07)	2 (7.40)	15 (18.51)

*Data in parenthesis indicates percentage

It is evident from Table 3that among the respondents the most popular social networking site isFacebook as majority of the faculty members i.e., 76.54 % make use of it. Data also reveals that female faculty members are using Facebook more than male faculty members (Table3). Next popular web tool is YouTube and it is used by (37.03 %) faculty members. Here again female faculty

members are using YouTube more than the male faculty members.Wikis come at 3rd position as 25.92% faculty members are using it. Twitter is used by 19.75%of the faculty members. Blogs are used by 13.58% of faculty members of NIT. Orkut is not too much popular among the faculty members as only 9.87% are using Orkut. Other social networking tools like RSS feeds and Slide share are used by (2.46%) faculty members. Further more from the study it is clear that (18.51%) have never accessed these Web Tools as shown in table 3.

6.5Perceptionabout Web 2.0 Tools
In response to the question regarding perception of faculty members towards social networking site and other Web Tools used, data collected is presented in Table 4.

Table 4
Perception of Faculty

Nature of Perception	No. of Users		Total
	Male	Female	
These are good for research and education	15 (27.77)	9 (33.33)	24 (29.62)*
These are good for recreation	12 (22.22)	4 (14.81)	16 (19.75)
These are good for communication	24 (44.44)	20 (74.07)	44 (54.32)

*Data in parenthesis indicates percentage

Ass is evident from the Table 4, majority of faculty members (54.32%) feel that Web 2.0 tools are good for communication, followed by (29.62%) faculty members who have the perception that these are good for research and education. 19.75% faculty members are of the notion that these tools are good sources for recreation and entertainment.

6.7Usage of Social Networking Sites (SNS)
Social Networking Sites are used for different persons for different purposes. In response to the question "for what purpose you are using SNS", respondents highlighted different purposes and the same is indicated in table 5.

Table 5
Use of Social Networking

Purpose of Usage	No. of Respondents		Total
	Male	**Female**	
For sharing information.	27 (50)	16 (59.25)	43 (53.08)*
To communicate with peers.	29 (53.70)	16 (59.25)	45 (55.55)
For entertainment	19 (35.18)	13 (48.14)	32 (39.50)
To supplement course content.	5 (9.25)	3 (11.11)	8 (9.87)
To support in class presentation	16 (29.62)	13 (48.14)	29 (35.80)
To write collaborative research paper	12 22.22	3 (11.11)	15 (18.51)

*Data in parenthesis indicates percentage

From Table 5 it is evident that faculty members differ in usage Web 2.0 technology. Majority of respondents (55.55%) use it as a communication channel for communicating their ideas, feelings with their peers.53.08% of respondents use Web 2.0 technology for sharing information while as 39.50% of faculty members use this technology for entertainment purposes.35.80% of respondents are using these technologies for supporting class presentationand 18.51% use it for writing collaborative research papers.

6.8 Perception about Usefulness of Web 2.0 Technologies
Respondents differ in their perceptions about the usefulness of web 2.0 technologies as is evident from the table 6.

Table 6
Usefulness of Social Networking Sites

Tools	Useful	Neutral	Not useful
Facebook	23 (28.39)	17 (20.98)	41 (50.61)
Twitter	20 (24.69)	17 (20.98)	44 (54.32)
YouTube	40 (49.38)	10 (12.34)	31 (38.27)
Blogs	29 (35.34)	17 (20.98)	35 (43.20)
RSS Feeds	18 (22.22)	15 (18.51)	48 (59.25)
Slide share	29 (35.80)	9 (11.11)	43 (53.08)
Wikis	35 (43.20)	11 (13.58)	35 (43.20)

*Data in parenthesis indicates percentage

From Table 6, it is evident that faculty members differ in their opinion regarding the usefulness of Web 2.0 tools. Some of the observations in this regard are:
Facebook: Data collected from respondents reveals that majority of faculty members (50.61%) are of the perception that Facebook is not useful at all. However, 28.39% of faculty members feel that Facebook is useful.About Twittermajority of

respondents (54.32%) feel that it is not useful while as 24.69% of faculty members agree that twitter is useful.Regarding YouTube majority of respondents (49.38%) agree that it is useful while as (38.27%) respondents agree that it is not at useful.Data collected from the respondents indicates that majority of faculty members (43.20%) are of the perception that blogs are not useful followed by (35.80%) who think that this web tool is useful. About RSS Feedsmajority of faculty members (59.25%) are of the perception that this technology is not useful andabout 22.22% of faculty members think that it is useful. Regarding Slide Share majority of respondents (53.08%) agree that this Web Tool is not useful while 35.80% of faculty are of the perception that this Web Tool is useful. About Wikis 43.20% faculty members are of the perception that Wikis are "useful" and same percentage of faculty members feel that wikis are "not useful". However, 11.11% faculty members are not in a position to decide whether Wikis are useful or not useful.

7. Findings

Some of the findings of the study are:

a) Faculty members of NIT, Srinagar are using different Web 2.0 tools and technologies. However the mostly used technologies include:

(i) Facebook by 76.54% faculty members

(ii) YouTube by 37.03% faculty members and

(iii) Wiki by 25.92% faculty members.

b) Analyzed data showed that the female faculty members are using web 2.0 technologies morethan the male colleagues.

c) Majority of faculty members (54.32%) are of the opinion that Web 2.0 technologies are the best channels of communication. They use these technologies for communicating their ideas with their peers.

e) Regarding the usefulness of these web tools the data collected when analyzed reveals that majority of faculty members are of the perception that web 2.0 technologies like Facebook, Twitter, Blogs, RSS and Slide Share are not useful, whereas YouTube is useful. However the perception about the Wiki is different as (43.20%) of faculty members think that this web tool is useful and same percentage are of the perception that it is not useful.

8. Conclusion

The internet has revolutionized the concept of information. When we have a glimpse in the past, finding information was a lengthy, convoluted process. Today, not only do individuals and computers produce thousands of gigabytes of information a minute, but this information is also networked collectively, which further increases the amount of information produced. A very large proportion of human knowledge can thus be accessed within seconds by anyone and through a variety of devices. It is evident from the findings of the study that Web2.0 toolsare not much popular among the faculty members of the NIT, Srinagar. However, it is evident from the review of literature that social networking has gained much popularity among the youth of different nations and they are using these sites more frequently. It is suggested that NIT authorities must take appropriate measures for giving full exposure to the teachers in using web 2.0 tools in teaching and research assignments. Library authorities of the institution can play a pivotal role in creating awareness about Web 2.0 technologies by organizing different programsthrough information literacy initiatives. Web2.0 tools can bring revolution in the academic and research sphere of the institution when utilized systematically.

References

1. Alexander, B. (2006). Web 2.0: A new way of innovation for teaching and learning. *Educause Review, 41*(2), 32-44.

2. Anderson, P. (2007). What is Web 2.0? Ideas, technologies and implications for education. *JISC Technology and Standards Watch*. Retrieved from http://www.jisc.ac.uk/media/documents/techwatch/tsw0701b.pdf.

3. Collins, Halverson. (2009). *Rethinking Education in the age of Technology,*Retrieved fromhttp://www.llk.media.mit.edu/courses/readings/Collins-Rethinking-Education.pdf

4. Curtis, C; Jhonson, T. & Meredith, R. (2010). Introducing to NUY Wikis. *Connect.*Retrieved fromhttp://www.w4.stern.nyu.edu/emplibrary/techstrategy.pdf.

5. Hossain, Md. Mokter, &AydinHasan, (2011) "A Web 2.0-based collaborative model for multicultural education", *Multicultural Education & Technology Journal*, 5 (2), pp.116 - 128

6. Linh N.C. (2008). A survey of the application of Web 2.0 in Australasian university libraries. *Lib. Hi Technol.,* 26(4), 630–653. DOI: 10.1108/07378830 8109209550

7. Miller, P. (2006). Introducing the Library 2.0. *Recorded telephone conference, talking with Talis series*. Retrieved from http://talk.talis.com/archives2006/02/introducing_the.html

8. O'Reilly, T. (2005), ''Web 2.0: compact definition'', DOI: 10.1108/00242531 011023871

9. O'Reilly, Tim. (2009). *what is Web 2.0.*

Retrieved fromhttp://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web- 20.html

10. Virkus, Sirje&Bamigbola, Alice A., (2011). Students' conceptions and experiences of Web 2.0 tools, *New Library World*. 112(11/12), pp.479 – 489

11. Wikipedia (2012). Web 2.0, *Wikipedia, the free encyclopedia*. Retrieved from http://en.wikipedia.org/wiki/Web_2.0

12. Yuen, Steve. (2010). Teachers use and perception of web2.0 technologies in Teachingand Learning. *Learning Technologies*.Retrieved fromhttp://scyuen.wordpress.com/2010/04/04/teacher,s-use-and-perception-of-web-2.0-technology-in-teaching-and-learning/

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