



## Web 2.0 Tools in Higher Education

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### Abstract

**Purpose:** The paper explores the use of Web 2.0 tools by the faculty of Government Degree Colleges of Jammu Division, J&K (India).

**Methodology:** The data was collected from a sample of 300 participants using questionnaire as a data gathering tool.

**Findings:** The study concludes that the potential use of Web 2.0 in higher education has not been optimally explored and utilized.

**Keywords:** Information Technology (IT); Web 2.0; Social media; Web 2.0; Communication and Information; Academia.

**Paper type:** Research

### Introduction

Information sharing, teaching and learning process creates a culture for academic excellence enriching future. However, with the unprecedented growth in technology the conventional academic environment has been transformed into a dynamic internet culture. The advent of internet services has initiated the transformation process to the second generation of web services. They are referred as Web 2.0 which is triggering a new wave of services and technologies that offers a social networking and online applications where people actively collaborate and share knowledge through to and fro direction. Hence, from an educational perspective, online social networking is capable of maintaining a symbiotic relation among faculty and college students with regard to information exchange. This is also important because the learning environment of the college itself is a social system of individual interaction within a shared academic context (Hwang, Kessler & Francesco, 2004). Therefore, the higher education being a powerful tool to build knowledge-based society is cutting edge by embracing the challenges that future holds. Based on the functionality of such information sharing tools, these can be categorised into interactive sharing tools (such as social networking sites like Facebook, Twitter, LinkedIn, etc), Blogs, Forums, Wikis (e.g. Blogger, Wordpress, Wikipedia, etc.), text searching (Folksonomy e.g. Library Thing, Delicious, Good Reads, etc.), media sharing (Youtube, Flickr, etc.) and content delivery (RSS feeds) (Ebner, Lienhardt, Rohs & Meyer, 2010). However, the use of current and emerging social networking technologies offers neomillennial learners the flexibility and ability to create learning communities, and revisit content as needed. These emerging technologies are clearly

moving us in the education community closer towards Tim Berner-Lee's ideal of using the Web as "an information space through which people can communicate by sharing their knowledge in a pool" (**Baird & Fisher, 2005**). Social media, social networks and social communities all represent a new form of collaboration and communication adding value to the productivity of education system and also van guarding information system (**Ebner, Lienhardt, Rohs & Meyer, 2010**). Social networking websites such as Myspace, Bebo and Facebook allow users to create and manage their own online profile and build social networks with friends and other users (e.g. by messaging, chatting, emailing, blogging, sharing files and participating in discussion groups). Social networking also occurs on user-generated websites such as YouTube and Flickr where original content (e.g. video, music and other creative material) can be posted and shared online (**Australian Communications and Media Authority, n.d**). While commenting upon the same **Steinfeld, Ellison, Lampe and Vitak (2012)** highlight that online social network sites, because of their focus on relationship formation and maintenance, have been extensively studied through the lens of social capital. Besides, online social networking has been deeply embedded in the young people lifestyle, especially college students who occupy a large proportion of the total population of online social networking website users (**Goodwin, Kennedy & Vetere, 2010**). **Boyd and Ellison (2008)** state that most sites support the maintenance of pre-existing social networks, but others help strangers connect based on shared interests, political views, or activities. Some sites cater to diverse audiences, while others attract people based on common language or shared racial, sexual, religious, or nationality-based identities. Sites also vary in the extent to which they incorporate new information and communication tools, such as mobile connectivity, blogging, and photo/video-sharing.

According to a new eMarketer report, "*Worldwide Social Network Users: 2013 Forecast and Comparative Estimates*" (**as cited in Kaila, 2013**), the number of social network users in India will be more than double and reach close to 283 million users by 2017. Social networking sites like Facebook, Twitter, YouTube, Pinterest, etc. and interaction with friends, relatives, colleagues and community, live chat, status updates, image as well as video-sharing are some of the major activities by Indians that spend close to 30 minutes every day online on the different social networks.

### **Review of literature**

**Alexander (2006)** considers Web 2.0 as a new wave of innovation for teaching and learning. The great diffusion of Web 2.0 is having a tremendous effect and change on the way people search, find,

collaboratively develop and consume information and knowledge. Education and learning are not an exception of Web 2.0 trends, as the number of Web 2.0 empowered e-learning environments are booming (Sigala, 2007). Commenting on Web 2.0, Greenhow, Robelia & Hughes (2009) feel that it bridges the conversations in learning and teaching. Hicks & Graber (2010) stresses on Web 2.0 and how it can support intellectual teaching and learning objectives in an academic library. A review of studies that have examined the integration of Web 2.0 tools into E-Learning 2.0 within built environment educational programs is undertaken by Wang, Love, Curtin, Klinc, Kim & Davis (2012). Mtega, Benard & Dettu (2013) investigated the perceptions of students and lecturers on Web 2.0 as learning and teaching tools and identified the commonly used web 2.0 tools; determined how the tools facilitate teaching and learning; assessed the appropriateness of features of the commonly used web 2.0 tools in teaching and learning and; determined the challenges associated with the usage of the tools in teaching and learning in higher education environments. Gokhale and Chandra (2009) discuss the emergence of Web 2.0 technologies in terms of e-learning. Bates (2010) focuses on integrating educational principles of virtual learning with the application of Web 2.0 technologies. He argues that these tools provide an opportunity for new design models for education and training that will better prepare citizens and workers for a knowledge-based society. It rejects, though, the notion that these tools of themselves will revolutionize education and make formal institutions redundant. DePietro (2013) is of the view that with Web 2.0, there is an exchange of messages, visions, facts, fictions, contemplations, accusations, exclamations and declarations buzzing around a network of computers that connects students to the world, fast. Abdelsalam, Gamal, Reddick & Saeed (2013) examine the use and perception of Web 2.0 technologies for research collaborations in public universities in Egypt.

### Problem

The transition of knowledge society to a global society needs to keep track of every new innovation. Academia as a component of the knowledge society needs to know the utility of Web 2.0 in the education sector. This study is an effort to unfurl the practices of Web 2.0 by faculty of Government Degree Colleges of Jammu Division, India (J&K).

### Objectives

The main objectives of the study are:

- To explore the most preferred Web 2.0 tools used by the faculty.
- To explore the usage pattern of Web 2.0.
- To identify the interaction pattern and purpose of using Web 2.0.

## Methodology

The study is descriptive in nature and survey-based. To make a homogenous group a desired sample in proportion of 300 representatives out of 646 responses (46%) was selected randomly picking up the names of faculty members blind-folded so that chance of biased selection could be avoided.

A semi-structured questionnaire designed included 13 items pertaining to "usage of social networking services" such as the most preferred social networking services, reasons of preference, number of friends and groups on Web 2.0, place of accessing, periodicity and frequency of usage, devices used and interaction pattern purposes of using Web 2.0.

## Data analysis and interpretation

### General analysis

Out of 300 participants, 147 (49%) were males and 153 (51%) females. In younger age group (25-34 years), there were more females (70; 23.33%), while in the older age group ( $\geq 45$  years), there were more males (46; 15.33%). The middle age group (35-44 years) had equal number of male and female participants (49; 16.33%). 107 (35.67%) respondents were *Postgraduates*; 87 (29%) had *Master of Philosophy (M.Phil)* and 106 (35.33%) were *Doctorates*. Participants from urban areas were predominant (188; 62.67%), while those from rural areas were significantly in minority (112; 37.33%).

### Most widely used Web 2.0 tools and reasons thereof

69.99% have their profile in *Facebook*, while 8.67%, 2.34% and 1.33% are members of *Google Plus*, *Twitter* and *LinkedIn* respectively. Most of the respondents (41.01%) prefer the sites for being more popular among their colleagues, friends and relatives for sharing diverse information while as 26.67% opt for these sites for professional/academic reasons and 16.33% follow these sites for entertainment (**Table 1**).

**Table 1: Most widely used Web 2.0 tools and reason thereof**

Variables	Findings (N=300) (n%)				
	Facebook	LinkedIn	Twitter	Google Plus	None
Most used Web 2.0 tools	210 (69.99%)	6 (1.33%)	7 (2.34%)	26 (8.67%)	51 (17%)
Reason for Web 2.0 selection	Professional/Academic	Most popular	Entertainment		No-Response
	80 (26.67%)	123 (41.01%)	46 (16.33%)		51 (17%)

### Groups, friends on Web 2.0 tools profile and place of accessing Web 2.0 tools

Majority of the respondents (52.33%) do not support the idea of joining Web 2.0 communities/groups while as 21% respondents are members of 1 to 10 Web 2.0 groups, followed by 1.66% who are members of 11 to 20 Web 2.0 groups. Only four (1.33%) young respondents had  $\geq 21$  Web 2.0 communities/groups on their profile.

However, the respondents in the present study are lot more gregarious in nature with more than 80% having friends on their Web 2.0 profile. About 43.01% participants have 1 to 50 friends, 22.33% have  $\geq 101$  friends and 16% have 51 to 100 friends on their Web 2.0 profile.

Majority of the participants (73.67%) access Web 2.0 from home, while only 6.67% use their work place to access them (**Table 2**).

**Table 2: Groups, friends on Web .2.0 profile and place of accessing Web 2.0**

Variables	Findings (N=300) (n%)			
	None	1-10	11-20	$\geq 21$
Web 2.0 groups/ communities joined	167 (52.33)	124 (21)	5 (1.66)	4 (1.33)
Friends on Web 2.0 profile	None	1-50	51-100	$\geq 101$
	56 (18.67)	129 (43.01)	48 (16)	67 (22.33)
Place of accessing Web 2.0	Work place/ Library	Home	Cyber-cafe	No response
	20 (6.67)	221 (73.67)	7 (2.33)	52 (17.33)

### Periodicity, frequency, hours spent on Web 2.0 and devices used to access Web 2.0

Most of the respondents use Web 2.0 for more than one year but less than 5 years (47.67%) followed by those who use Web 2.0 for  $\leq 1$  year (20.67%). There are only 13.67% respondents who use Web 2.0 for  $\geq 5$  years.

Most of the respondents (61%) use Web 2.0 occasionally while as 20.34% report the use of Web 2.0 every day and about 18.66% report that they have never used Web 2.0.

There are 20% respondents who spent about 1 hour on Web 2.0 while as 3.33% spent about 6 hours. There was one female respondent, addicted to Web 2.0, who spend 12 hours.

Laptop is the most preferred device used to access Web 2.0 (42%), followed by pocket devices (17%) and personal computer (16.34%). About 11.34% respondents report the use of all three types of devices (**Table 3**).

**Table 3: Periodicity, frequency, hours spent on Web 2.0 and devices used to access Web 2.0**

Variables	Findings (N=300) (n%)				
Period of using Web 2.0 (year)	≤1	>1 year	≥5 years	No response	
	62 (20.67)	143 (47.67)	41 (13.67)	54 (18)	
Frequency of Web 2.0 use	Daily	Occasionally	Never		
	61 (20.34)	183 (61)	56 (18.66)		
Hours per day spent on Web 2.0	About 1 hour	About 6 hours	About 12 hours	No response	
	60 (20)	10 (3.33)	1 (0.33)	229 (76.33)	
Devices used for accessing Web 2.0	Personal computer	Laptop	Pocket devices	All	No response
	46 (16.34)	126 (42)	51 (17)	34 (11.33)	43 (14.33)

**Interest in categories of Web 2.0 and useful features of Web 2.0**

"Education" is the most preferred category of Web 2.0 used by 42.67% respondents, while "general" and "entertainment" categories are preferred by 28% and 15.33% respondents respectively.

"Information sharing" feature is indicated by the respondents to be more useful (69%), followed by "multimedia" (10.67%) and "application" (5%) (Table 4).

**Table 4: Interest in categories of Web 2.0 and useful features of Web 2.0**

Variables	Findings (N=300) (n%)			
Categories of Web 2.0 interested in	Educational	General	Entertainment	No response
	128 (42.67)	80 (28)	46 (15.33)	42 (14)
Useful features of Web 2.0	Information sharing	Multimedia	Application	No response
	207 (69)	32 (10.67)	15 (5)	46 (15.33)

**Using Web 2.0 communicate most with and topics discussed with students and colleagues**

In response to type of topics liked by the faculty members for discussion on Web 2.0, 32.67% and 25.67% preferred discussing topics related to academics with students and colleagues respectively, while others opt for personal communication (23.33%) or entertainment (16%) with colleagues.

**Table 5: Using Web 2.0 communicate most with and topics discussed with students and colleagues**

Variables	Findings (N=300) (n%)				
	Colleagues	Students	Friends	All	No response
Communicate most with	79 (26.33)	2 (0.67)	94 (31.33)	70 (23.33)	55 (18.33)
Topics discussed with students	<b>Academics</b>	<b>Entertainment</b>	<b>Personal</b>	<b>No response</b>	
	98 (32.67)	7 (2.33)	0	195 (65)	
Topics discussed with colleagues	<b>Academics</b>	<b>Entertainment</b>	<b>Personal</b>	<b>No response</b>	
	77 (25.67)	48 (16)	73 (24.33)	102 (34)	

### Discussion and Conclusion

The study specifies that there is no significant difference between the gender in the use of Web 2.0 since Web 2.0 is dotting every sphere and even educational sectors have been benefitted out of them irrespective of gender. Gender difference has no impact on the use of Web 2.0 because social media has surged globally in recent years. Age plays a significant role in the use of Web 2.0 which is evident from the findings of the study. The highly qualified respondents are more prominent users of Web 2.0 and also the respondents from urban areas were highly influenced by the Web 2.0. The closeness of urban population with the technology can be highly attributed to this.

Facebook finds more popularity as it is more popular at global level and also the users all over the globe are more for it. *Facebook* offers several options for communicating with others. Users can interact by sending private messages, similar to emailing. Communication may also occur in groups, which *Facebook* members can create and join. Groups may be formed on any topic. Offline social interactions can be facilitated through *Facebook* by creating invitations to events, or online notifications for meetings, parties and other gatherings (Pempek, Yermolayeva & Calvert, 2009).

*Popularity* of Web 2.0 remains the priority in comparison to *educational/academic* usage which needs to be thought seriously. More efforts need to be taken for enhancing the usage of Web 2.0 for educational purpose.

Collaboration with 1-10 Web 2.0 tools remains priority of majority of the respondents with friend circles dotting the profiles. Home remains priority for accessing Web 2.0. The familiarity with Web 2.0 ranges between 1-5 years with an occasional use for majority of participants. Laptop remains the most preferred device used for accessing Web 2.0. This is in consonance with the findings of Singh and Gill (2011). Though attaining education remains priority for majority of respondents for

accessing Web 2.0 but popularity of Web 2.0 overshadows the academic endeavours. However, despite the high popularity of personal use of online social media, a low percentage of respondents use them for educational purposes. Even **Hew (2011)** supports that online social media is being used for personal reasons, but rarely for educational or learning purposes. Participants many a times also discuss the academic topics via SNS's. **Chen & Bryer (2012)** also showcase the Web 2.0 tools are used for the discussion of career development.

The study has brought out that the potential of Web 2.0 in higher education has not been optimally explored and utilized. To promote the use of Web 2.0, hosting of popular Web 2.0 links on college websites should be undertaken and managed. It can provide route for open discussions and information allowing social interaction, thereby facilitating knowledge building and sharing. Web 2.0 will complement the effect of the institutes' formal website. If this is achieved, then Web 2.0 may function as a platform motivating informal learning by fruitful communication between the academic community and the students.

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