

## Use of Web 2.0 Tools among LIS Professionals for managing and sharing of Knowledge in Private Engineering College Libraries of Odisha

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### ABSTRACT

*Web 2.0 tools have brought dynamic changes in the processes of knowledge management and sharing. These tools have intensively motivated the Library and Information Science (LIS) Professionals working in different libraries and information centers throughout the world. Now a day almost all LIS professionals are aware of these tools for blogging, content sharing and other activities like, online discussions and etc. The present study is an assessment of LIS professionals' awareness and use of Web 2.0 tools in different private engineering college libraries of Odisha. The investigators have used five point Likert scale to measure the intensity of data. Study reveals that Social Networking Sites (SNS), Instant Messaging, blogs are the most popular tools used by the LIS professionals. The co-relation between female and male professionals in perceptions to Web 2.0 tools found no significance difference. Again it is observed that lack of IT infrastructures, internet connectivity and lack of time are the main constraint for effective sharing of knowledge in private engineering college libraries.*

**Keywords:** Web 2.0 Tools, Knowledge Sharing, LIS professionals, IT Infrastructures, Blog, Instant Messaging, Podcast, RSS Feeds and SNS.

### INTRODUCTION

The term Web2.0 refers to the second generation development and design of the web that aims to facilitate communication and to secure information sharing, interoperability and user centered design. Web 2.0 concepts have led to the development and evolution of web-based communities, hosted services and applications such as social networking sites, wikis, blogs, and folksonomies (Tripathy, 2010). Libraries should improve their knowledge management in all of the key areas of library services. To cope with the exponential growth in human knowledge, libraries need to develop their resources, access and sharing strategies from printed to electronic and digital resources (Sharma, 2010). So, the service and responsibility areas of LIS professionals have increased to a more challenging dimension due

to emergence of these web tools. They need to be cope up with these tools for managing and sharing of knowledge in library and information centers.

There are a number of web-based services and applications that demonstrate the foundations of the web 2.0 concept, and they are already being used to a certain extent in education. These are not really technologies as such, but services (or user processes) built using the building blocks of the technologies and open standards that underpin the Internet and the Web. These include blogs, wikis, multimedia sharing services, content syndication, podcasting and content tagging services (Anderson, 2007).

The internet and web technology has changed the way people interact, communicate, share and acquire knowledge. With the evolution of internet and communication technology, Web 2.0 tools have evolved in to a dynamic, interactive and collaborative platform that facilitates exchange of knowledge and information amongst its users (Thanuskodi, 2011). The use of web 2.0 tools in libraries has significantly attracted the users' community. Reaching the users remotely, online discussion, virtual communication, interactive course contents has brought a great impact in the library services.

Here are web definitions of some selected web 2.0 tools in the present study;

Web 2.0 Tools	Web Attributes
Blogs	These are personal websites that allow the blogger (author of the blog) to exchange ideas among the participating users.
Instant Messaging	This allows real time communication between two individuals or between several individuals.
Podcasting	The podcast is a digital recording is commonly in the form of an audio MP3 file but it may also include other formats, including video.
RSS	RSS feeds update users about the additions or changes which take place on websites of interest, providing updates from one source instead of accessing individual websites.
SNS	Social Networking sites, that facilitate meeting people, finding like minds, sharing content etc.
Vodcasts	Vodcasts as a series of digital media files, which are released episodically. A vodcasts only is used videos on demand.

Wikis

These are similar to blogs but allow the text on the website to be edited by others, with the creation of a common document that can be shared between individuals.

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## LITERATURE REVIEW

So many research articles and references sources has been referred for better understanding of Web 2.0 tools and its use in managing and sharing of knowledge in the library field. Web 2.0 tools as a “web-based platform which allows users to gain access, contribute, describe, harvest, tag, annotate and book mark web mediated content in various formats, such as text, video, pictures and graphs (Macaskills and Owen, 2006). Levy stated about implications of Web 2.0 tools that, Web 2.0 is bringing a new wave that should be adopted in knowledge management processes. A lot can be learned, whether in the distribution of control or in adoption by using the Youngers or even by adopting tools as it is (Levy, 2009). Adequate budget, well equipped library with new technologies and networks, proper training programs for staffs are the important points which can help for better implementation of knowledge management in libraries (Raja, 2009). Tripathy and Kumar acknowledged in their study about the strength of Web 2.0 tools in improving library services for users (Tripathy, 2010). Really Simple Syndication (RSS), Instant Messaging (IM) and blogs are popular tools in academic libraries. Husain and Nazim pointed an important thing in their study that, Management of Knowledge helps an organization to improve the quality of services. Again the perceptions of knowledge management among LIS professionals are varied and they mostly view knowledge management as the management of the recorded knowledge, rather sharing and using tacit knowledge embedded in employees, (Husain, 2013).

## OBJECTIVES OF THE STUDY

- i. To know the LIS professionals’ awareness and frequency of use of web 2.0 tools in private degree engineering college libraries of Odisha;
- ii. To identify the preferred web 2.0 tools used among the LIS professionals and its ranking based on respondents' choice;
- iii. To identify the respondents’ potential use of web 2.0 tools for managing and sharing of knowledge and to find out the constraints prevailing with it; and

- iv. To elicit respondents perception of usefulness for using of Web 2.0 tools and its correlation in managing and sharing of knowledge in private engineering college libraries Odisha;

## METHODOLOGY

In the present study, a total of 177 structured questionnaires were distributed randomly among the LIS professionals working in all private degree engineering college libraries (affiliated to BPUT, Rourkela and approved by AICTE, New Delhi) of Odisha. Out of them, only 122 (68.9%) respondents returned their filled questionnaires to the investigators. Received data were organized according to the gender, designation and professional experience furnished by the respondents. Some statistical methods like percentage, mean and co-relation were applied using an excel spread sheet for analysis and interpretation of the obtained data.

## DATA ANALYSIS & DISCUSSION

Five point Likert scale has been used to co-relate the data. The measuring scale used in the study were in increasing weightage order where, 1= Strongly disagree, 2= disagree, 3= somewhat agree, 4= agree and 5=strongly agree statement. The findings of the analysis were depicted as follows;

### ***Demographic presentation:***

Table-1 depicts the demographic presentation of the respondents. A total of 122 LIS professionals took part in the survey where, highest 73(59.8%) are male and 49(40.2%) are female respondents. The respondents were distributed by their profession, qualification, professional experience etc. It is observed that by their profession highest 58(47.5%) are Asst. Librarians, followed by 35(28.6%) are Librarian and 29(23.9%) are Sr. Professional Asst. By qualification highest 71(58.1%) are M. Lib holders, followed by 39(32.1%) B.Lib and only 12(9.8%) are Ph.D and M.Phil holders. Similarly, by professional experience, highest 60(49.2%) are within the professional experience of 5-10 years and lowest 5(4.2%) respondents are within the experience range of 15-more years.

Table-1: Demographic presentation of the Respondents

<i>Grouping of Respondents by Category</i>	<i>Response (n=122)</i>	<i>Percentage (%)</i>
<b><u>By Gender</u></b>		
Female	49	40.2
Male	73	59.8
<b><u>By Profession</u></b>		
Librarian	35	28.6
Asst. Librarian	58	47.5
Sr. Professional Asst.	29	23.9
<b><u>By Qualification</u></b>		
Ph.D/ M.Phil	12	9.8
M.Lib	71	58.1
B.Lib	39	32.1
<b><u>By Experience</u></b>		
0-5 years	34	27.8
5-10 years	60	49.2
10-15 years	23	18.8
15- more years	5	4.2

**Awareness of Web 2.0 Tools:**

In the table-2 , the investigators have used Likert scale to measure the familiarity of web 2.0 tools among the LIS professionals. The measuring scales followed were in an increasing weightage order and the formula used to find out the weightage mean was;

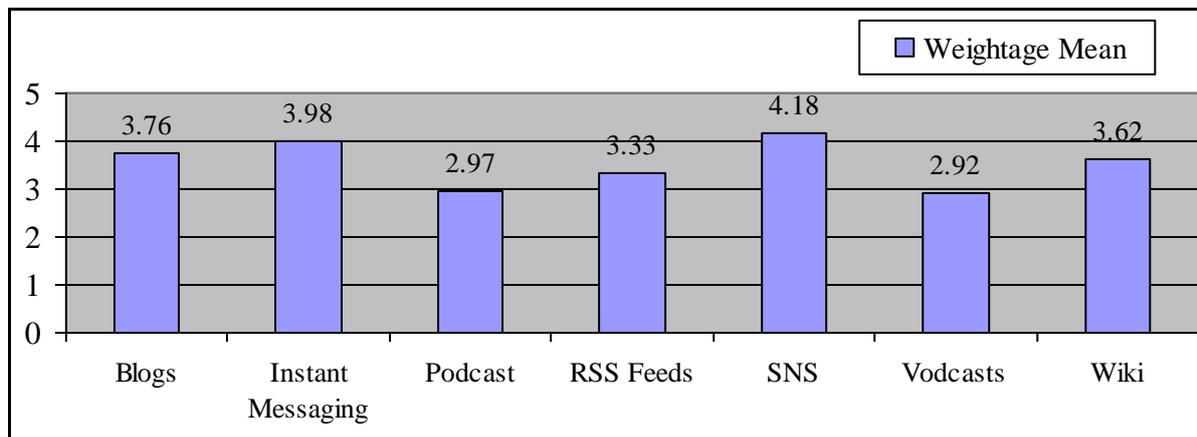
$$\text{Weightage Mean} = \frac{\{(1 \times 1) + (2 \times 2) + (3 \times 3) + (4 \times 4) + (5 \times 5)\}}{n}$$

So, the analysis reveals that, LIS professionals are strongly aware of SNS with highest (4.18) weightage mean followed by Instant Messaging with (3.98) weightage mean. Similarly, Blogs, Wiki and RSS Feeds have been responded with (3.76), (3.62) and (3.33) weightage mean respectively. The low responses has come to Vodcasts with (2.92) weightage mean..

Table-2: Awareness of Web 2.0 Tools (n=122)

<b>Web 2.0 Tools</b>	<b>Strongly Not aware(x1)</b>	<b>Not Aware(x2)</b>	<b>Somewhat Aware(x3)</b>	<b>Aware (x4)</b>	<b>Strongly Aware(x5)</b>	<b>Weighted Mean</b>
Blogs	12	9	11	54	36	3.76
Instant Messaging	9	4	23	30	56	3.98
Podcast	17	25	41	22	17	2.97

RSS Feeds	13	14	32	45	18	3.33
SNS	7	6	15	23	71	4.18
Vodcasts	17	24	40	33	8	2.92
Wiki	14	11	21	37	39	3.62



(Figure-1: Awareness of Web 2.0 Tools)

#### **Frequency of use of Web 2.0 Tools:**

Web 2.0 tools are most frequently and widely used tools among the LIS professionals throughout the world. In the present study, the investigators have used Likert Scale to measure the frequency of accessing of web 2.0 tools by the LIS professionals in private engineering college libraries of Odisha. In the table-3, investigators have given more weightage of responses received in Daily access point where as it gradually decreases towards once in a week, once in 15 days, once in a month, occasionally and up to never. So, study reveals that, SNS is most frequently daily accessed tools with 81(66.41%) responses and it is followed by Instant Messaging with 69(56.54%) responses. Blogs is accessed by highest 53(43.44%) professionals in daily basis and Wiki is accessed by highest 33(27.03%) professionals in once in daily basis. Similarly, 79(64.79%) LIS professionals viewed that, they never use Vodcasts for managing and sharing of knowledge followed by Podcast with 66(54.09%).

Table-3: Frequency of use of web 2.0 tools among the LIS professionals ( $n=122$ )

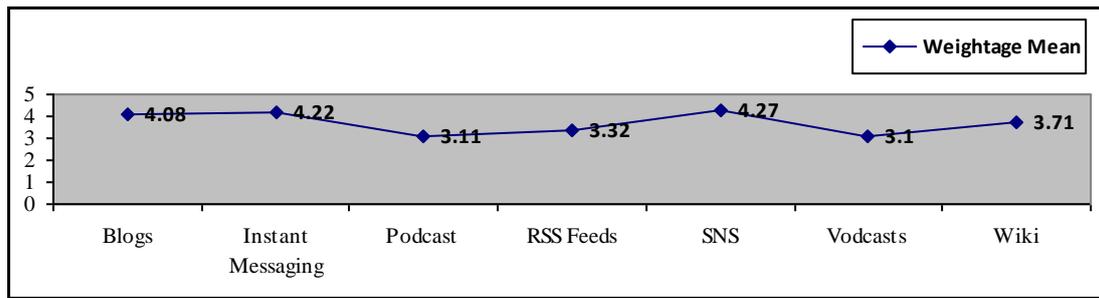
Web 2.0 Tools	Never	Occasionally	Once in a Month	Once in 15 days	Daily
Blogs	11(9.02%)	10(8.19%)	14(11.48%)	34(27.87%)	53(43.44%)
Instant Messaging	18(14.79%)	13(10.67%)	6(4.91%)	16(13.11%)	69(56.54%)
Podcast	66(54.09%)	11(9.02%)	18(14.77%)	12(9.84%)	15(12.28%)
RSS Feeds	52(42.63%)	9(7.38%)	32(26.22%)	12(9.84%)	17(13.93%)
SNS	16(13.11%)	6(4.91%)	9(7.38%)	10(8.19%)	81(66.41%)
Vodcasts	79(64.79%)	20(16.39%)	7(5.73%)	7(5.73%)	9(7.36%)
Wiki	29(23.75%)	17(13.99%)	18(14.79%)	25(20.44%)	33(27.03%)

**Preferred Web 2.0 Tools and its ranking:**

Table-4, depicts the most preferred web 2.0 tools used by LIS professionals. The analysis says that, amongst the most preferred web 2.0 tools used by LIS professionals SNS has ranked as 1<sup>st</sup> with highest (4.27) weightage mean. To the next of SNS, Instant Messaging and Blogs have been ranked as 2<sup>nd</sup> and 3<sup>rd</sup> respectively with (4.22) and (4.08) weightage mean. Amongst these all provided web 2.0 tools, Vodcasts has been ranked as least preferred tools with 7<sup>th</sup> rank (3.10) weightage mean.

Table-4: Preferred Web 2.0 Tools and its Ranking based on respondents' choice ( $n=122$ )

Web 2.0 Tools	Strongly Not Preferred(1)	Not Preferred(2)	Somewhat Preferred(3)	Preferred (4)	Strongly preferred(5)	Weightage (Mean)	Ranking
Blogs	5	3	9	65	40	4.08	3rd
Instant Messaging	5	6	23	53	56	4.22	2nd
Podcast	12	11	60	29	10	3.11	6th
RSS Feeds	12	11	41	41	17	3.32	5th
SNS	5	7	2	43	65	4.27	1st
Vodcasts	12	9	63	30	8	3.10	7th
Wiki	5	7	39	38	33	3.71	4th



(Figure-2: Preferred Web 2.0 Tools and its ranking)

### Potential Use of Web 2.0 tools for sharing of knowledge:

Regarding potential use of web 2.0 tools for managing and sharing of knowledge some perceptions were conceived to elicit respondents' views on potential use of web tools. Results show that (table-5) Posting personal views, has received highest responses with (4.06) weightage mean, whereas Group Mailing with (4.17) weightage mean and Update New Knowledge with (3.72) weightage mean. On the other hand it is found that, Multimedia Content Creation and Manage Knowledge Online have received very low responses from respondents with (3.28) and (3.38) weightage mean respectively.

Table-5: Potential use of Web 2.0 Tools for managing and sharing of knowledge ( $n=122$ )

Purpose of Use of web 2.0 tools	Strongly Disagree(1)	Disagree (2)	Somewhat Disagree(3)	Agree (4)	Strongly Agree(5)	Weightage (mean)
Online Discussion	7	8	67	27	20	3.54
Group mailing	5	10	17	42	53	4.17
Multimedia Content Creation	12	9	46	42	13	3.28
Manage Knowledge Online	13	14	41	21	33	3.38
Posting personal views	7	7	15	45	50	4.06
Update New Knowledge	13	8	26	33	43	3.72

### Constraints of sharing knowledge in Web 2.0 environment:

Table-6 reveals the respondents' view on constraints prevailing with managing and sharing of knowledge in Web 2.0 environments. Lack of IT infrastructure was viewed as main hindrance in sharing of knowledge in private engineering college libraries with (4.25) weightage mean. Again it was found that unwillingness of the professional is the second hindrance for sharing knowledge with (4.11) weightage mean. Similarly, Lack of Time and

Lack of Internet connectivity have been viewed as constraint for sharing of knowledge with (4.06) and (3.77) weightage mean respectively. Restrictions from institutions has been viewed with lowest response as a hindrance for sharing of knowledge with (2.04) weightage mean.

Table-6: Constraints of managing and sharing of Knowledge in Web 2.0 environment ( $n=122$ )

Constraints	Strongly Disagree(1)	Disagree (2)	Somewhat Agree(3)	Agree (4)	Strongly Agree(5)	Weightage (Mean)
Lack of Internet Connectivity	11	8	26	29	48	3.77
Lack of IT Infrastructures	5	4	18	23	72	4.25
Lack of IT Knowledge of the professional	7	67	24	15	9	2.60
Lack of Time	8	6	15	34	59	4.06
Unwillingness of professional	5	9	8	45	55	4.11
Restrictions from Institutions	49	34	25	12	2	2.04

### *Correlation of LIS Professionals' perceptions to usefulness of Web 2.0 Tools*

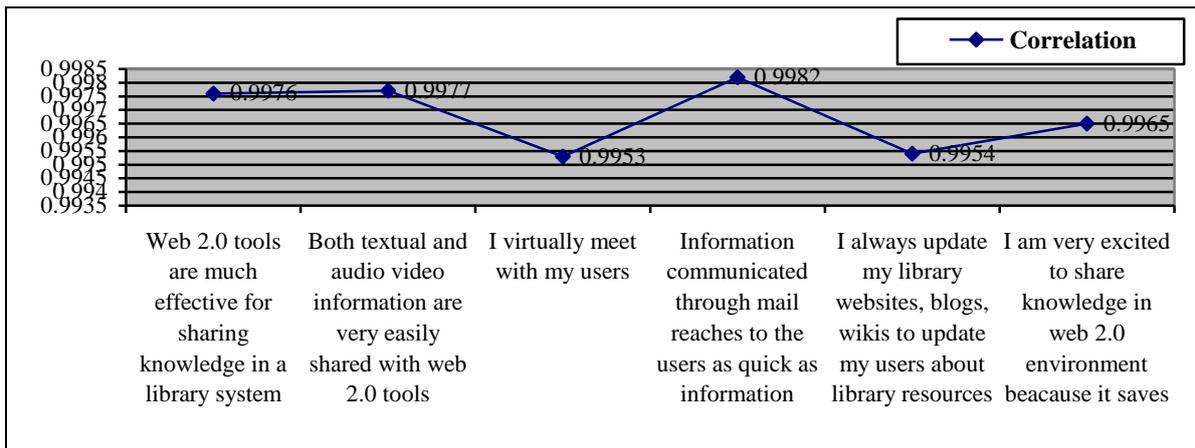
The table-7, depicts the correlation strength of LIS professionals' in term of usefulness of web 2.0 tools for sharing of knowledge in engineering college libraries. Study reveals a strong relationship between female and male respondents in perceptions to the usefulness of web 2.0 tools. The correlation coefficient ranges from 0.9953-0.9982, which indicates a strong correlation ship and proves the usefulness of web 2.0 tools for managing and sharing of knowledge in engineering college libraries of Odisha.

Table-7: Correlation of LIS professionals' perceptions to usefulness of Web 2.0 Tools ( $n=122$ )

Aspects	Gender	1	2	3	4	5	Correlation
Web 2.0 tools are much effective for sharing knowledge in a library system	Female	5	5	14	19	6	0.9976
	Male	8	7	20	29	9	
Both textual and audio video information are very easily shared with web 2.0 tools	Female	4	3	18	11	13	0.9977
	Male	7	4	27	16	19	
I virtually meet with my users	Female	6	2	18	20	3	0.9953
	Male	10	3	25	31	4	
Information communicated through mail reaches to the users as quick as	Female	3	6	13	20	7	0.9982

information circulated over the notice board	Male	4	8	19	31	11	
I always update my library websites, blogs, wikis to update my users about library resources and services	Female	9	7	10	19	4	0.9954
	Male	14	10	16	28	5	
I am very excited to share knowledge in web 2.0 environment because it saves my time	Female	3	12	17	10	7	0.9965
	Male	5	17	26	15	10	

Note: x1= Strongly disagree, x2= Disagree, x3= Somewhat agree, x4= Agree, x5= Strongly agree



(Figure-3: Correlation of LIS Professionals' perceptions to Web 2.0 Tools)

## CONCLUSION & FINDINGS

The findings of the present study are summarized as follows;

- i. LIS professionals are aware of web 2.0 tools such as SNS, Instant Messaging, Blogs, Wiki etc. It is seen that, SNS is most frequently daily accessed tools with 81(66.41%) responses and it is followed by Instant Messaging with 69(56.54%) responses.
- ii. SNS ranks as 1st among all preferred web 2.0 tools with highest (4.27) weightage mean by the LIS professionals;
- iii. LIS professionals viewed web 2.0 tools as potential for posting their personal views and opinion, group mailing and updating new knowledge etc. Similarly lack of IT infrastructures and unwillingness of the LIS professionals are the two main hindrances in sharing of knowledge in engineering college libraries of Odisha.

- iv. The correlation coefficient ranges from 0.9953-0.9982, which indicates a strong correlation ship and proves the usefulness of web 2.0 tools for managing and sharing of knowledge in engineering college libraries.

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