

WEB 2.0 TOOLS IN NORTHERN AND SOUTHERN UNIVERSITY LIBRARIES OF INDIA: A COMPARATIVE STUDY

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Abstract: The World is in the state of extreme revolution of technology. One of the successful revolutions on internet is invention of web 2.0. There are a good number of library users who are using the web to access information and web-based services in libraries. In this paper the efforts have been taken to highlight and explore each and every aspect relating to Web 2.0 technologies in northern and southern university libraries in India.

While analyzing the collected data, the results indicate that there is little acceptance of Web 2.0 tools in University Libraries of India. The first generation of the worldwide web enabled libraries to offer their services to the users beyond their walls, but the applications of Web 2.0 have opened new opportunities for libraries as they allowed them to involve users in their activities and solicit their feedback for improvement in services.

The implementation of Web 2.0 applications in University library websites in India is still far from reaching the optimum penetration. The need in the present century is to hold current technology and make familiar the worth patrons to the upcoming technologies in order to compete in the information explosion world. Libraries must adopt new coming technologies and their applications in which both Library Professionals and Patrons can work together in pushing the limits of what is possible whilst ensuring that core services continue to operate reliably.

Keywords: Web 2.0, Social networking site, Northern & Southern University,

1.0 Introduction:

Internet is on its boom. New coming technologies have made every corner of life effective and one cannot think an efficient output without these technologies. 'Web 2.0' is one of the most significant technology. It is a hot story out on the blogosphere right now. Web 2.0 technologies have vital impact on the higher education sector as well on the libraries all over world. Tim O'Reilly invented the term Web 2.0 in 2004.

O'Reilly (2006) defined Web 2.0 as: "WEB 2.0 is the business revolution in the computer industry caused by the move to the internet as platform, and an attempt to understand the rules for success on that new platform. Chief among those rules is this: Build applications that harness network effects to get better the more people use them".

To know about the term Web 2.0, it is better to start from its principles which include community, conversation, participation, sense of experience and sharing (**Collins, 2007**):

- **Community:** Open conversation can lead to a sense of community and belonging within social sites.
- **Conversation:** Patron participation discussion and feedback are welcomed and encouraged.
- **Participation:** New information is created via collaboration between patrons. Everyone can create content; idea and knowledge for freely and are remixed and reused.

- **Experience:** Engagement with other patrons and the community as a whole is rewarding and provides some type of fulfillment.
- **Sharing:** Users can post about as much or as little of their lives as possible.

Many Web 2.0 technologies like blogs, micro blogs, wikis, syndication of content through RSS, social bookmarking, media sharing, networking sites and other social software artifacts were incorporated in teaching and learning process in higher education. These technologies provide many unique and powerful information sharing and collaborative features in teaching as well as with colleagues, administrative and libraries' staff (**Grosseck, 2009**).

An increasing number of library users are using the web to access information (**Zickuhr, Rainie, and Purcell, 2013**), and the use of web-based services in libraries has risen drastically over the years (**Zickuhr and Rainie, 2014**). Several studies have revealed that although print materials are still popular within universities, an increasing number of university students use web resources for their research (**Lukasiewicz, 2007; Grudzien and Casey, 2008; Kichuk, 2010**). The emergence of use of web 2.0 tools and their subsequent application in libraries has provided librarians with greater opportunities to improve the efficiency and effectiveness of library services.

Libraries have usually been early and enthusiastic adopters of new information technologies and they have welcomed Web 2.0 with the same zeal (**Mahmood and Richardson, 2011**). Libraries of all types have embraced Web 2.0 technologies as a method of promoting themselves within the users' community (**Dickson and Holley, 2010**); to communicate with patrons (**Phillips, 2011**); to educate library users (**Mahmood and Richardson, 2011**); and for information dissemination (**Jayasuriya and Brillantine, 2007**) among other uses. The major Web 2.0 technologies used today for networking by libraries are blogs, Wikis, RSS (Really Simple Syndication), social tagging services, IM (Instant messaging), and social networking sites (**Chu, 2009; Chua and Goh, 2010; Dickson and Holley, 2010**).

The traditional role of informational professionals was to provide access to collection in the libraries. To provide services in emerging environment, libraries adopted Web 2.0 technologies with new nomenclature 'Library 2.0'. First time **Michael Casey (2006)** coined the term "Library 2.0". The concept of Library 2.0 means to take ideas and concepts from Web 2.0 and adopt them in library environment (**Needleman, 2007**). With the induction of Web portals, wikis, blogs and instant messaging, the methods of information and knowledge sharing have been changed. These emerging tools require new skills to manage information (**Philips, 2001**). The Web 2.0 environment helps library patrons to access information, develop insight and generate knowledge. To meet the growing needs of the patrons, **Heinrichs and Lim (2009)** suggested that libraries needed to hire skilled librarians to provide expanded services to create and disseminate knowledge in the digital age.

2.0 Problem Statement

Web 2.0 has been strongly applied in different sectors and fields. However, it has not been a widely applied technology in the library community. The implications of this revolution in the Web are enormous. Librarians are only beginning to acknowledge and write about it, primarily in the "biblioblogosphere" (weblogs written by librarians). Journals and other more traditional literature have yet to fully address the concept. The current study is under taken to explore the impact and use of web 2.0 in libraries and their use in northern and southern Indian University libraries.

3.0 Objectives of the Study:

The main objectives of this study are

- To explore the adoption of Web 2.0 technologies in northern and southern university libraries in India.
- To identify web tools used by the university libraries
- To examine purpose of web 2.0 use in university libraries
- To examine the characteristic features of the web 2.0 tools used in the university libraries.
- To discuss the impact of web 2.0 on libraries
- To examine and identify which zone between Northern and Southern university libraries in India is highly Web 2.0 oriented.

4.0 Scope:

The present study is confined to Northern and Southern university libraries of India. 50% of the libraries each from North and South are taken into consideration.

5.0 Methodology:

Indian libraries were selected for study. The data was collected by means of checklist. Based on data collected from the checklist, statistical techniques are used to analyze data. The checklist is converted into Microsoft Excel spreadsheets. Each checkpoint in the checklist was assigned a value either 1 or 0 (yes or no answers). These values were input directly in a spreadsheet and then the "SUM" function of Excel was used to calculate the overall weighting, types, purposes and features of Web 2.0 technologies in the libraries.

6.0 Literature Review:

Across the world, a number of studies have been conducted on the topic of Web 2.0 tools and its usage in the libraries. A brief review of literature is presented in the following broad headings:

- **Web 2.0 at global level**
- **Application of Web 2.0 Technologies in Indian Context**

7.0 Web 2.0 at Global Level

Technological advancement compelled libraries to adopt interactive online media for their survival (**Maxymuk, 2007**). The increasing trend of social networking sites' usage affected the traditional approach to organize information on the Internet (**Tonta, 2008**). Web 2.0 provided innovative and interesting resources for librarians to serve their users as quickly and effectively as possible with new ways (**Bradley, 2007**). In the similar way, **Keralapura (2009)** stressed that information technology influenced the functions of libraries and changed the information seeking behavior of readers. Being self-motivated and service minded, this was the responsibility of librarians to incorporate IT based resources and services to satisfy the customers in a better way.

Web 2.0 is a new phenomenon for libraries there are a few studies on the content surveys of library websites regarding the adoption of these technologies. **Tripathi and Kumar (2010)** surveyed the contents of 277 university library websites in Australia, Canada, the UK and the USA. They found that instant messaging was the most popular Web 2.0 tool, used in 43.7 percent of libraries. Other tools included blogs (33.2 percent) and RSS (31.4 percent). Purposes for which Web 2.0 technologies used were also studied. **Kim and Abbas (2010)** surveyed websites of a small sample of 230 academic libraries worldwide. The technologies found were RSS (73 percent), blog (65 percent), personalized content (30 percent), podcast (27 percent), bookmark (22 percent), wiki (20 percent), Twitter (15 percent), folksonomy (13 percent) and tagging (12 percent). Another international study was conducted by **Harinarayana and Raju (2010)**. They selected 100 universities from the lists of world university rankings. Fifty-seven universities were offering at least one Web 2.0 service. The content analysis of these 57 websites revealed that RSS and IM were used by 37 libraries and blogs were offered by 15 libraries. Wiki, podcast and vodcast were among the least used technologies. **Chua and Goh (2010)** studied 120 public and academic library websites from North America, Europe and Asia. The findings suggested that the order of popularity of Web 2.0 applications implemented was: blogs, RSS, instant messaging, social networking services, wikis, and social tagging applications.

In North America, **Liu (2008)** investigated websites of 111 ARL member libraries and found RSS, blogs, wikis, podcasts and personal bookmarks/tagging in use in various libraries. **Xu et al. (2009)** visited the websites of 81 academic libraries in New York State. They found that only 42 percent of institutions had introduced Web 2.0 tools to their libraries. Instant messaging was the most frequently used tool. Other Web 2.0 technologies found were blogs, RSS, tagging, wikis, SNS and podcasts, respectively, in order of frequency.

8.0 Application of Web 2.0 Technologies in Indian Context:

Indian libraries are far away from Web 2.0 technologies. The review of literature reveals that not a single comprehensive study was conducted towards examining the library websites and their use of web 2.0 technologies in the libraries. A limited literature existed with respect to usage of Web 2.0 technologies for example usage of social networks and blogging in the country. **Kannikaparameshwari (2009)** in her research paper "Evaluation of Web 2.0

Technologies Application in Selected Indian Libraries” Found In comparison to the mean index (1.21), in the 3 out of 28 libraries (14.29%) that used Web 2.0 technologies. Commonly using RSS Web 2.0 technologies (10.71%) in three libraries and blog were used only in one library that is IIT Kharagpur Central Library other 25 libraries were not using any type of web 2.0 technologies

It could be seen that at least 15% of selected Indian libraries have deployed one or more Web 2.0 technologies. However the application indexes of Indian libraries, using Web 2.0 technology was obtained 1.21 points and the index was found to be 16.6 and least was 9.1 points.

In a survey of academic libraries in New Jersey, USA and Hong Kong, China, **Nesta and Mi (2011)** found that instant messaging, blogs, RSS, Facebook, and Twitter were used but the students’ participation in these technologies was low. This trend is consistent with the findings of a study that was later carried out in India by **Tyagi (2012)** which revealed that the usage of Web 2.0 tools is not very significant amongst university students. Wiki and social networking sites were the most commonly used tools by the respondents. The studies reveal that tools with high degree of educational value such as blog, RSS, social bookmarking and audio or video, etc., are not yet popular among the academic communities.

However, this is not the case with other state libraries in India, for example the library of Kashmir University prohibits the usage of Facebook within the library. A similar observation was made by **Ram et al. (2011)** who found that some universities in India have imposed an outright ban on the use of social networking sites.

It is striking to note that awareness and actual use of these tools by university students for academic purposes still remains low. A study that was carried out by **Ram et al. (2011)** in India revealed that awareness of web 2.0 tools by students was generally low. A substantial number of students (44.51%) indicated that they never used them in their learning activities.

Overall, the literature review shows that Web 2.0 technologies offer a variety of opportunities in academic libraries. Their interactivity, ease of use, functionality, and flexibility has made them powerful tools. Libraries have the opportunity to reap maximum benefits from these tools. However, research shows that there is still a gap on the availability of web 2.0 tools and their utilization. Reviewed literature reveals that most of the libraries haven’t utilized the services of web 2.0 tools because of the lack of skills, lack of awareness, and improper design and implementation. Thus due to these factors the Web 2.0 based services have resulted in low usage in academic libraries.

9.0 Data Analysis and Data Interpretation:

Data was collected from the websites of the institutions and the same is analyzed as under:

TABLE 1

Libraries undertaken for the study

Zones	Central	State	Deemed	Private	Total
North	11	53	23	7	92
South	6	45	27	1	79

171 universities were studied for achieving the objectives of present study. An overview and scope of the Universities is presented in table 1.

Comparison among Various Web 2.0 Tools Used In Northern and Southern India

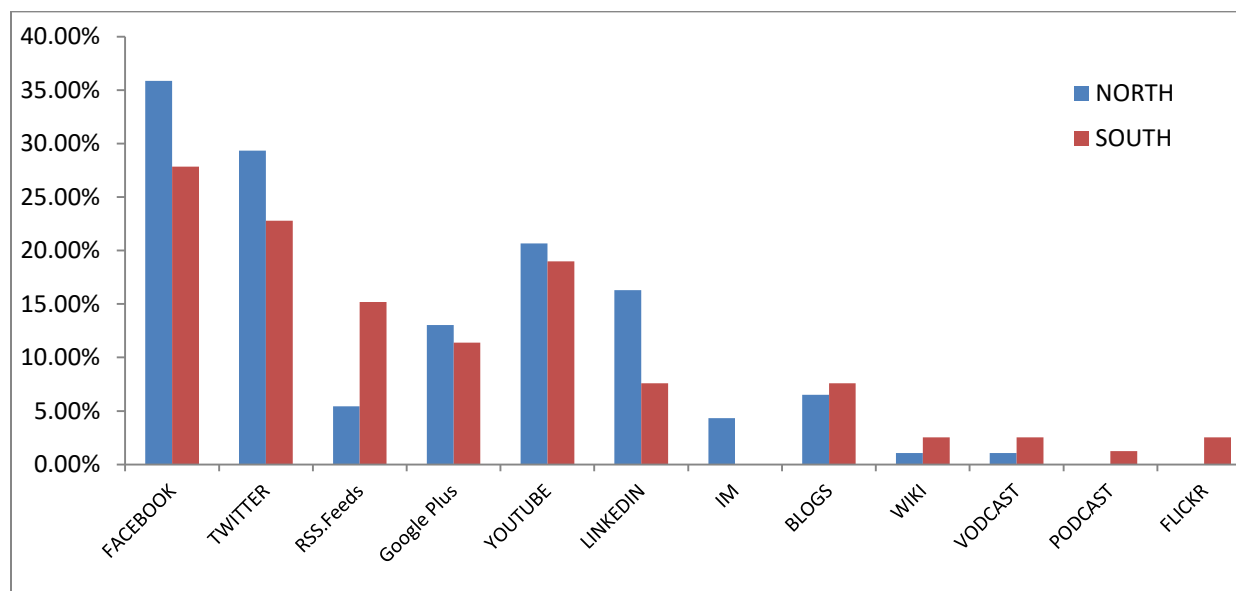


Fig: 13 Comparison Among Various Web 2.0 Tools

From Fig25, it is evident that Facebook is the most popular web tool used by 36% university libraries in northern India while in southern India by 27% university libraries, Followed by Twitter with 29% in north and is 23% in south ;YouTube with 21% in north and 19% in south; LinkedIn with 16.30% in North and 8% in south; RSS feeds with 5.43% in north and 15% in south; Google Plus with 13% in north and 11.39% in southern university libraries. It can be seen that the rest of the tools aren't that popular, neither in northern Indian university libraries nor in southern Indian university libraries.

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Application of Web 2.0 Tools among Northern Indian States at University Level

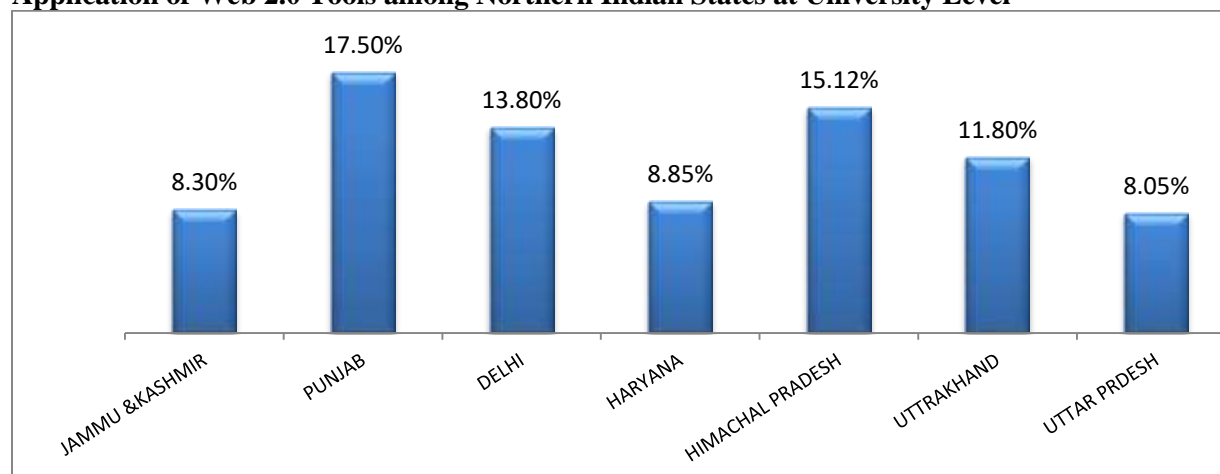


Fig.25 Usage of Web Tools among various states at University level in Northern India.

It is quite evident from the Fig (25) in Northern India among various states; Punjab topped the table (35,86%) University Libraries using the Web 2.0 technology followed by Himachal Pradesh with (15.12), Delhi with (13.80%), Uttarakhand with (11.80%) and Haryana with (8.85) while Jammu Kashmir and Uttar Pradesh were at the bottom of the table. That too with a meager percentage of (8.30) for Jammu Kashmir and (8.05) for Uttar Pradesh.

Application of Web 2.0 tools among Southern Indian states at University Level

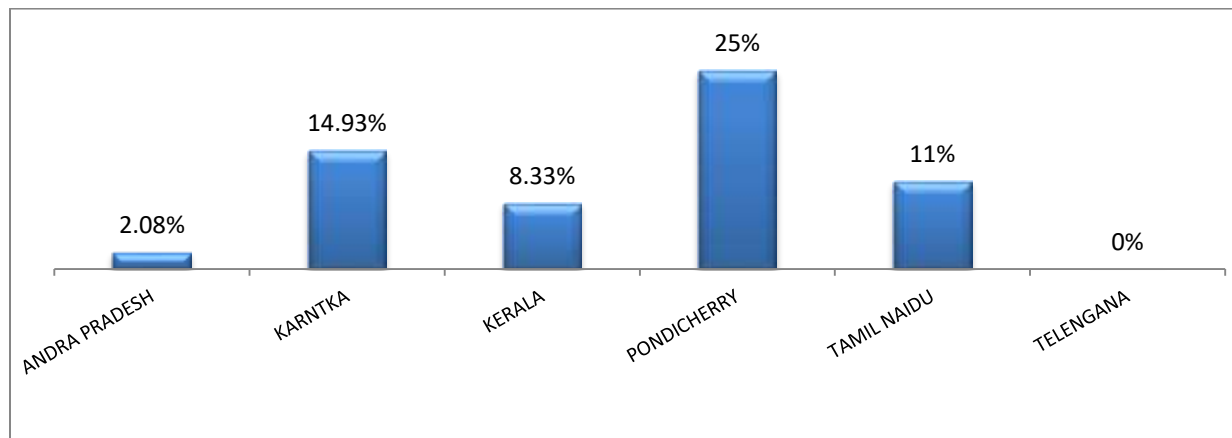


Fig.26 Usage of Web Tools among various states at university level in Southern India.

It is quite evident from the Fig(26) in Southern India among various states; Pondicherry topped the table (25%) University Libraries using the Web 2.0 technology. (Here it must be taken into consideration that in Pondicherry there are only Two universities). It is followed by Karnataka with (14.93%), Tamil Naidu with (11%), Kerala with (8.33%) and Andhra Pradesh with (2.08%) while Telengana is at the bottom of the table with (0%). (The reason behind Telengana's backwardness may be because it is a newly born state as well it is comprised of the tribal population with least literacy rate.)

Web 2.0 Tools Usage in Northern and Southern University Libraries: Comparison

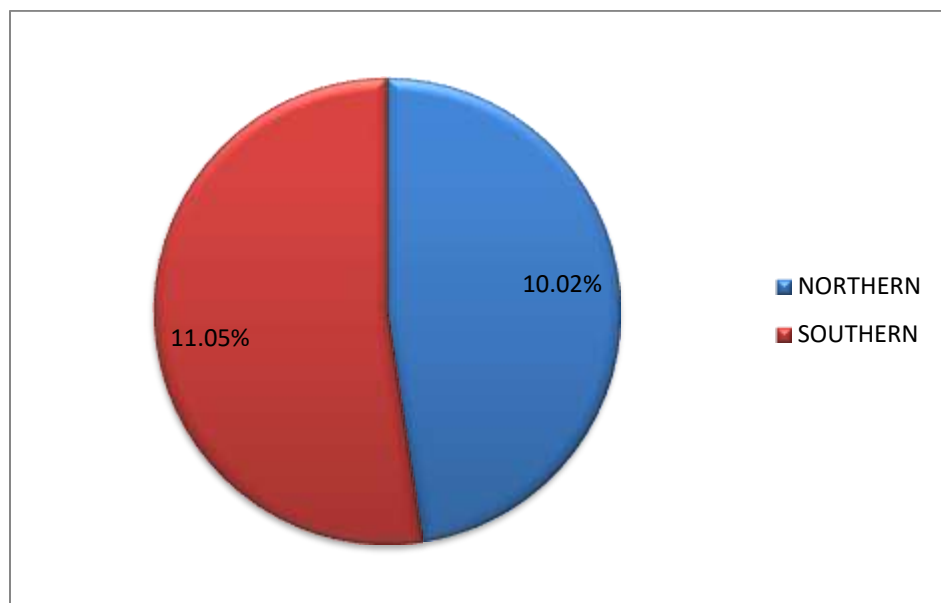


Fig 27 A comparison b/w Northern and Southern Indian Universities.

It is evident from the Fig (27) that only 10% web 2.0 Tools are being used by University libraries of Northern India and similarly only 11% web Tools are being used by the University Libraries of Southern India.

10.0 Suggestions:

After this study we would like to provide few suggestions for implementing of Web 2.0 Technologies in Indian libraries

- In India, an information professional doesn't seem to be interested in implementing the Web 2.0 technologies. So please focus on implementing Web 2.0 technologies.
- In developing countries like India one of the reasons of not implementing the web 2.0 Technologies would be lack of financial resources, so UGC should provide much more Financial Support to the university libraries
- The web 2.0 technologies are very useful for user-centred references service in university Libraries. So it is necessary to implementing web 2.0 tools.
- Library professionals should cope up with new technologies to provide more and more web services to their users.
- There are large number of University libraries both in Northern and southern India which are yet to adopt new technologies. They need to be innovative.

11.0 Conclusion:

- The results of this study indicate a very little acceptance of various Web 2.0 tools in University Libraries of the India. The first generation of the worldwide web enabled libraries to offer their services to the users beyond their walls. Now the applications of Web 2.0 have opened new avenues for libraries as they allowed them to involve users in their activities and solicit their feedback for improvement in services.

The data suggest that

- ✓ In northern Indian Universities; It is found that 42 University libraries (45.65%) had adopted at least three of the Web 2.0 tools.
- ✓ In Southern Indian Universities; It is found that 30 University libraries (38%) had adopted at least three of the Web 2.0 tools academic library has adopted some form of Web 2.0

The implementation of Web 2.0 application in University library websites in the India is still far from reaching the optimum penetration. In conclusion, it is time for libraries to adopt a new relationship between libraries and Web 2.0 applications in which both Library Professionals and Patrons collaborate and work together in pushing the limits of what is possible whilst ensuring that core services continue to operate reliably.

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