CHAPTER 2 - REVIEW OF RELATED LITERATURE

In this chapter, an attempt has been made to provide an overview of Web 2.0. During literature search, many papers on Web 2.0 came across. These papers were reviewed and some of them are listed in the literature review.

1. Chawner (2008) conducted a study “Spectators, not players: information managers’ use of Web 2.0 in New Zealand” to gain insight into the Web 2.0 technologies which have been adopted by the members of the New Zealand library and information management fraternity and the factors which influenced its use. It was explained in the study that Web 2.0 tools allow user not only to read the contents of others but participate in the communication by actively commenting. Data for the study was collected through online survey. It was stated in the study that user plays many roles while using Web 2.0 tools. These are “Content Consumer – passive role, Content Commenter – reactive role, Comment Creator – proactive role, and Content Collector – current awareness role. It was also stated in the study that tools like IM and SMS help users to communicate better in diverse environment. It was found in the survey on information managers that one-third of respondents were interested in using new technologies.

224 responses were collected. Large numbers of respondents played passive role in the use of Web 2.0 as over 50 percent were involved in reading Blogs and 15 percent were involved in writing Blogs. The study suggested that age was the only one major factor which influenced the use of new technologies. Therefore, young generation (aged between 31-45) should be included in the projects where Web 2.0 is being implemented. The study stated that library and information management professionals are experimenting with Web 2.0 technologies. Three types of barriers were identified during the study. These were institutional barriers, personal barriers and technological barriers.

2. Linh (2008) conducted a study “A survey of the application of Web 2.0 in Australian university libraries” to find out the types of web technologies applied and their use. The study provides overall picture of Web 2.0 application in Australian university libraries. The study was based on content analysis and interviews. Data for the study
was collected by accessing websites of many Australian University libraries. A total of 32 universities from Australia (26) and New Zealand (6) formed the total population. The study found that only four technologies (RSS, Blogs, IM and podcast) were used in these libraries for specific purposes. 64 percent of libraries applied RSS which was the most commonly used technology and IM was the least used technology. More than a third of libraries used Blog and less than a fifth of libraries employed Podcasts. RSS was mostly used to provide “New books information”. 25 libraries used RSS for this purpose. RSS was also used to provide “New e-Journals” and “Library news and events”. 22 libraries used RSS for these purposes. Blogs were used by 16 libraries to provide library services, news and events followed by research tools and new books by 14 libraries. IM (10.6 percent) was used for advice on library skills by 10 libraries which was followed by guidance with resource (9 libraries). It was observed in the study that Australian university libraries have experienced changes in technologies. Therefore, these libraries have been providing services using ICT tools as these technologies have “created new wave of technologies” and attracted users towards the library and its service. The study also revealed that at least two-thirds libraries have adopted one or more Web 2.0 technologies. RSS was used by maximum and IM was minimum libraries. These tools were used for particular purposes. Majority of Blogs were administered by liaison librarians. They used free-based Blog services such as Bloglines, Wordpress and Blogspot. It was also found that some libraries have more than one Blog. The study revealed that use of Web 2.0 technologies was still at an early stage. Author suggested that Blogs can take the place of Wikis as Blogs are easy to maintain whereas Wikis are having complicated process and difficult to maintain. RSS was used to display new books, new e-journal, new database, university news and general uses. Blogs were used for library services, news, events, new books, research tools, information literacy and general information. Podcasts were used for advice on library skills, guidance with resources, library orientation tours, library news, book reviews and study skill workshops. IM was used to provide guidance for resources, advice on library services and text-based chat (one library offered voice chat). Wikis were not being used by any Australian library. 64 percent (30 out of 47 libraries) of
the libraries applied RSS because of its popular features, 36.2 percent libraries used Blogs and 21.3 percent libraries used podcast.

3. Si, Shi and Chen (2009) conducted a study “Survey of the Application of Web 2.0 in Top 30 Chinese University Libraries” to investigate the status of Web 2.0 (RSS, Wiki, Blog, Tag/Folksonomy, IM, Podcast/Vodcast, Toolbar and Ajax) and services provided by top Chinese universities using these tools. The 30 Chinese universities (Research Center for Chinese Science Evolution, 2009) were taken as the population for the study. All 30 websites of these universities were visited to collect the data. The data was collected on the basis of availability of Web 2.0 icons. The study found that 15 (out of 30) universities were using RSS which was followed by IM (14 out of 30), Blog (3 out of 30), Wiki (1 out of 30) and the application index was 42. RSS was used for news or notification (43 percent), new books (25 percent), information push for commercial databases information (21 percent), user information (7 percent) and subject-specific information (4 percent) by university libraries. 32 percent libraries use IM for reference services. Wikis were used to create collaborative and community websites. Blog was rarely used by Chinese university libraries. The study opined that there were some barriers which influenced the user of Web 2.0. These were technology shortcomings of librarians, lack of marketing and training/orientation programme. However, it was observed that at least two third (20 out of 30) of Chinese libraries were using one or more Web 2.0 technologies.

4. Razmerita, Kirchner and Sudzina (2009) conducted a study “Personal knowledge management: The role of Web 2.0 tools for managing knowledge at individual and organizational”. The study is based on theoretically deductive nature. They opined that Facebook, MySpace, LinkedIn and Xing have gathered large user communities in recent years. The transformation has been noticed in web as users became participants in the dissemination of information. SNS sites where people of same interest share information have become popular mode for information sharing. According to the study, in 2009 there were 68,557,534 active user at Facebook.com, 58,555,800 active user registered at myspace.com, 11,274,160 active users were registered with linkedin.com, 2,639,978 users were registered with plaxo.com, 151,796 users were
registered with xing.com. Day by day, these numbers have been growing. Annual growth of Facebook was 125.60 percent, Myspace.com (5.30 percent), Linkeding.com (146.40 percent), Plaxo.com (174.70 percent) and Xing.com (95.10 percent). The data for the study was retrieved from Compete.com.

5. Peltier-Davis (2009) stated in the research paper “Web 2.0, Library 2.0, Library Users 2.0, Librarian 2.0: Innovative Services for Sustainable Libraries” that foundation of Web 2.0 are Blogs, Wikis, RSS feeds, user-added reviews, ratings, IM, Podcasts, Vodcasts, Folksonomies, Tagging, tag clouds, social bookmarking, networking sites, streaming of audio and video, community photo services and sharing of book services. Libraries are using Blogs, Wikis, RSS feeds, Podcasts, videos, photo sharing on Flickr, and IM via Meebo and Twitter. The study stated that librarians must adopt proactive approach in learning Web 2.0 tools which would help them in improving external and internal communication and services. Implementation of Web 2.0 tools is the key for their survival.

6. Si, Tan, Huang and Xing (2010) conducted a study “A Survey of Application of Web 2.0 in Chinese Provincial and Municipal Libraries” to investigate the status of Web 2.0 (RSS, Blog, Wiki, IM, tag, ajax, toolbar and SNS etc.) technologies. 50 library websites of the provincial and municipal libraries (Public libraries) were selected for population. Web survey was used to collect the data. All 50 websites of municipal libraries were visited to collect the data. The data was collected on the basis of availability of Web 2.0 icons. The study submitted that maximum, 39 percent (19 out of 50) libraries used IM followed by 30 percent RSS (15 out of 50), Blog (5 out of 50), SNS (3 out of 50) and Wiki was not used by a single library. The RSS was used for news or notification, new books, forum information and information subject push. Main purpose for using RSS was information about new books. The Blog was used for developing community websites. IM was used for reference services. The study found that more than half of Chinese provincial and municipal libraries are using one or more Web 2.0 technologies and the use of these tools is yet to be matured. It was also submitted that inadequacy of library idea, technological problems, shortcomings of librarians’ values and quality and lack of user orientation could be the reason behind
less use. The study also suggested some measures to increase the use of Web 2.0 technologies. These measures are: a) Changes in service philosophy; b) learning from the pioneer websites; c) improvement in the quality of librarians; d) training and information literacy.

7. Joint (2010) opined in the research paper “Web 2.0 and the library: a transformational technology?” that nowadays Web 2.0 tools are popular in every sphere of life but raised doubt on use of Web 2.0 tools in libraries and also focused on the changing practices of libraries. The study assessed the real transformation of digital applications in terms of creating genuine user benefit and also changing everyday library practice. Wider impact of Web 2.0 has been observed in the web but still libraries are hesitating to adopt this wonderful technology. The author was not sure about the ability of libraries to integrate Web 2.0 technologies. Further, also raised a very important issue related to the protection of information and privacy. The study found that impact of Web 2.0 can be noticed on WWW but its practical impact on library services is limited. The study raised the data protection and privacy issue. 435 people participated in his study in which 169 samples were excluded as not found fit for study. Finally, 266 responses were used for study. The majority of respondents were female (66.3 percent), aged 18-29 (80.9 percent), university members (94.1 percent), and undergraduate students (72.5 percent).

8. Zakaria, Watson and Edwards (2010) conducted a study “Investigating the use of Web 2.0 technology by Malaysian students” to investigate the student’s use of ICT technology for learning with a focus on how the students would perceive the use of Web 2.0 for learning. Universiti Teknikal Malaysia Melaka (UTeM) was selected for the study purpose. 217 students responded the survey. The study found that (91.5 percent) students owned laptop computer, (86.7 percent) mobile phone, (46.9 percent) desktop computer and (40.3 percent) owned portable media player such as iPod and MP3 player. Other technologies owned by the students were digital camera (39.8 percent), games console (19.9 percent) and handheld computer (7.1 percent). Large portion of students (more than 40 percent) already owned at least four main ICT tools that can be used for learning. Tools like IM, social networking sites, Wikis, YouTube
and Flickr were frequently used by students but tools like podcast, social Tagging and virtual were less used. Further, the study revealed that students are comfortable with ICT, online and Web 2.0 tools.

9. Rudman (2010) investigated the possible threat and safeguard while using the Web 2.0 in the study “Incremental risks in Web 2.0 applications”. The study examined the risk and threats on the networks of an organization which promotes use of Web 2.0. The study proposed that education to the web developers regarding coding of sources should be given. All codes must be tested on the basis on possible threats. A MOU should be signed with the service provider. External Service providers” and software provided by “open-source communities” should be reviewed and scanned properly. “WS-security standards and access should be controlled to the WSDL file”. Proper guidelines should be developed for use and development of software. Further, the study emphasized that users should be trained on: a) understanding of Web 2.0 and risks; b) keep abreast on internet cheating; c) awareness on security guidelines such as suspicious links, unwanted files, emails and unknown SSN friend, consultation before using unknown website etc.; d) understating of digital security and IP protection. It was also highlighted in the study that internet access to outsiders can increase probability of hackers attack on the network. The study proposed filtering, blocking access and use of anti-malware software, authentication and encryption, monitoring and review, network technology, browser settings, validation of input for safeguard of Web 2.0. The study also proposed that if the security provisions are implemented properly then data theft and hacking can be stopped.

10. Harinarayana and Raju (2010) conducted a study “Web 2.0 features in university library web sites”. The main purpose of the study was to explore recent trend in the Web 2.0 applications, types of technologies applied in the university website and purpose of implementation of these tools. 100 top ranked universities by Times Higher Education website (www.timeshighereducation.co.uk) for the period of 2007 were taken for the study. 57 (out of 100) universities found fit for survey. The selection was done on the basis: a) whether the content of the university website was in English; b) university website should have at least one Web 2.0 tool. They found that only 37
(64.91 percent) university libraries use RSS feeds for dissemination of library news, events, and announcements; 15 (26.32 percent) university libraries provided Blog space for users. IM was used by 37 libraries for providing quick reference services. The less used tools were Wikis and podcast with 1 (out of 57, 1.75 percent) and 3 three (out of 57, 5.26 percent) libraries respectively. SNS (YouTube, Facebook, MySpace, Flicker etc.) were used by only 5 universities (out of 57, 8.77 percent) and the Facebook was the most popular SNS. The study revealed that 43 percent of the top university libraries are not using these services in their libraries although these libraries were changing according the requirement of users. Very less libraries were using Blog, Wiki, podcast and vodcast. Further, they linked the emergence of dynamic websites with amazon.com, ebay.com etc. as these sites gave opportunity to the users to interact.

11. Han and Liu (2010) conducted a study “Web 2.0 applications in top Chinese university libraries” to evaluate the status and construction pattern of Web 2.0 technologies in top Chinese University and to find out the kind of Web 2.0 technologies applied in these universities. The research was completely based on the content analysis. 39 Chinese University were selected for the investigation. Later on two universities were excluded from the study and one university was included in the study. Thus the sample of the study was 38. The study revealed that 31 (81 percent) of them were using at least one kind of Web 2.0 tool. Most of them were using only one or two tools. They were surprised to know that no library was using Podcasts and Vodcasts. OPAC 2.0 was widely used by university libraries. It was used to improve OPAC service and to provide seamless access to digital collection. 71 percent (27 out of 38) libraries were using OPAC 2.0. They found that OPAC 2.0 was the integration of Web 2.0 technologies. RSS was second most used tools with 55 percent (21 out of 38) followed by Blog with 13 percent (5 out of 38) respectively. Contrary to the expectation, IM and SNS were less used. These tools shared equal numbers i.e. 11 percent (four out of 38). IM was used for a specific library service “Ask a Librarian” to reply users. They concluded that these libraries are at early stage of implementation. Finally, they reached at a conclusion that IM, Blog, SNS and Wiki are less used Web 2.0 in Chinese
University libraries whereas more than two-thirds of 38 top Chinese University libraries are using one or two Web 2.0 tools.

12. National Archives and Records Administration (NARA, 2010) conducted a study “A report of federal Web 2.0 use and record value” to assess how federal agencies are using Web 2.0 tools (Blogs, Wikis, Social Networking and other collaborative web-based technologies). Six federal agencies were interviewed. The report opined that Web 2.0 helps to collaborate, organize, edit, comment, combine, and share content online. Interactive mode is the common feature of all Web 2.0 tools. Further, the report categorized Web 2.0 tools in three categories: a) Web publishing - “allows users to post or publish content to reach a large audience and gain feedback”. These tools were Microblogging (Twitter and Plurk), Blogs (WordPress and Blogger), Wikis (Wikispaces and PBWiki), Mashups (Google Maps and Popurls); b) Social Networking - “allows users to establish connections and share information with one another”. These tools were social networking tools (Facebook and LinkedIn), social bookmarks (Delicious and Digg), virtual worlds (Second Life and OpenSim) and crowdsourcing/social voting (IdeaScale and Chaordix); c) File Sharing and storage - “Hosting service or online file storage provider specifically designed to host content”. These tools were photo libraries (Flickr and Picasa), Video Sharing (YouTube and Vimeo), Storage (Google Docs and Drop.io) and Content Management (SharePoint, and Drupal).

13. Dickson and Holley (2010) examined the use of major SNS tools by students in their paper “Social networking in academic libraries: the possibilities and the concerns”. They submitted that social networking can be used by academic libraries for outreach. However, outreach is not a new concept. They included Blog, Wikis, social media and bookmarking website in social networking sites. Further, they also named Facebook, MySpace, Twitter, Second Life, Delicious, Blogs etc. which are available free. Academic libraries use Facebook to advertise hours, location, web site information, reference service and marketing. Many libraries (Harlan Hatcher Graduate Library at University of Michigan is one of them) have integrated Facebook, catalog search function, Ask-a-Librarian, LibGuides, a WorldCat search, etc. Blogs were used to post
news, events, subject guides and user feedback. Twitter is also popular among students. Further, they opined that the main difference between web 1.0 and Web 2.0 is ability to create, publish and user participation.

14. Tripathi and Kumar (2010) conducted a study “Use of Web 2.0 tools in academic libraries: A reconnaissance of the international landscape” to the know the major Web 2.0 tools used by academic libraries and their purposes for use with characteristics. Population of the study was 277 university libraries of Australia, Canada, U.K. U.S.A. They found that Web 2.0 is effective in improving library services. RSS, IM and Blogs are popular tools. They also found that Podcasts and Vodcasts are used by a few libraries. They raised issues of copyright laws and stressed over drafting guidelines for the use of Web 2.0 technologies to avoid infringement. Their research revealed that maximum libraries use Web 2.0 technologies for displaying changes in library hours, information about new books, e-journals and events. Further they revealed that libraries are using Blogs, Wikis, RSS (really simple syndication feeds), Podcasts, Vodcasts, IM, Tagging, social networking sites, chat, streaming audio and video. IM is popular both with librarians and patron as instant messaging needs no additional software and hardware. Blogs are also popular but many of them are not updated on regular basis. They also raised issues of copyright laws and stress over drafting guidelines for the use of Web 2.0 technologies to avoid infringement. They stated that two ways communications in real time mode is the main reason behind the popularity of IM. Blog was the most used tool after IM but it is mostly used at individual level not institutional level. They found in the study that there was considerable variation in the use of Web 2.0 tools. The study stated that 211 libraries (76.2percent) had adopted at least one of the Web 2.0 tools, whereas 66 of them (23.8percent) did not use any of the Web 2.0 tools. RSS is being used to provide general and university news and other events relevant to the libraries.

15. Haneefa and Sumitha (2011) conducted a study “Perception and Use of Social Networking Sites by the Students of Calicut University” with an objective to investigate the perception and use of social networking sites by the students of Calicut University, Kerala. Quantitative research methodology was adopted. A structured
questionnaire was prepared to collect the data. Population was 867 students from different department of Calicut University. Sample of 150 students were collected for study. 134 (89.3 percent) students returned filled questionnaire. The study found that majority (75.4 percent) of the students was aware of Orkut and YouTube (62.7 percent). About half (52.2 percent) of the students were aware of Blogs. A good number of the students were aware of Facebook (38.8 percent), and Hi-5 (35.8 percent). A few (29.1 percent) students were aware of MySpace, very few students were aware of Classmate.com (16.4 percent), Friendster (11.2 percent) and Bebo (6.7 percent). Only a small percent of the students were aware of the sites like Flickr (4.5 percent), LinkedIn (3.7 percent) and Twitter (2.2 percent). The study also found that 79 (58.9 percent) got information from their friends when they were asked about the source of information about Web 2.0 tools and 62 (46.3 percent) from Internet, 33 (24.6 percent) from newspapers and magazines and 6 (4.5 percent) from their teachers. Commonly used websites were Orkut 86 (64.2 percent), YouTube 47 (35.1 percent), Blog 31(23.1 percent), Hi-5 20 (14.9 percent), MySpace 15 (11.2 percent) and Facebook 12 (8.9 percent). They were also asked about the time spent on social networking sites. The study revealed that 68 (50.7 percent) students spent less than 2 hours, 40 (29.8 percent) 2-4 hours, 11(8.2 percent) 4-6 hours and 9 (6.7 percent) more than 6 hours. Their opinion about social networking sites were also analyzed which revealed that 68 (50.7 percent) opined that these are helpful for easy communication, 64 (47.8 percent) opined it is easy for communicating with many, 77 (57.5 percent) opined that it is easy for contacting old and new friends; and 14 (10.4 percent) that it is useful for academic communication. They study also revealed that 29 (21.6 percent) faced problem due to non-availability of full-fledged internet facility, 53 (39.5 percent) due to fear of misusing personnel information, 50 (37.3 percent) due to lack of time and 65 (48.5 percent) due to lack of security and privacy while using SNSs.

16. Virkus and Bamigbola (2011) conducted a study “Students’ conceptions and experiences of Web 2.0 tools”. Phenomenography research approach was adopted for this study. The population of the study was 12 DILL students from Africa and Asia. The population included six male and six female students. Semi-structured interviews
with open-ended questions were conducted. They revealed four distinctive categories of descriptions. These were communication tools, educational tools, professional tools and multi-purpose tools. For each category of descriptions there were preferred Web 2.0 tools and required skills. They recommended that there is need of training to enhance the use of Web 2.0 tools. Study supports the incorporation of Web 2.0 in higher education, especially its inclusion in LIS education. They stated that Web 2.0 tools can be used as professional tool, multi-purpose tool, and communication and education tools. Skype, Yahoo, Messenger and Facebook were preferred tools.

17. Mahmood and Richardson (2011) conducted a study “Adoption of Web 2.0 in US academic libraries: A survey of ARL library websites”. The purpose of the study to survey the web sites of academic libraries of Association of Research Libraries regarding the adoption of Web 2.0 technologies and their uses. 100 academic libraries of ARL were surveyed. The survey was based on literature review. A checklist was prepared for the study and 95 experts (Authored books and articles) from various countries were contacted for this purpose. The study stated that website works as a single window in providing library services not only in the campus but outside the campus as well. They observed that many libraries have started using Web 2.0 application in their websites as these tools are gaining popularity in academics. The study found that Blogs, MicroBlogs, RSS, IM, SNS, Mashups, Podcasts, Vodcast were widely adopted. Tools like Wikis, Photo Sharing, and Presentation Sharing, Virtual Worlds were less used. Libraries were using these tools for sharing news, marketing their services, providing information about literacy instruction, print, digital resources and getting feedback. RSS was the most used tool followed by IM, SNS, Blog and MicroBlogs.

18. Aqil, Ahmad and Siddique (2011) stated in their paper “Web 2.0 and Libraries: Facts or Myths” that text based information was shared in the earlier version of web. Whereas Web 2.0 is interactive. “It will surely improve the quality of library services in terms of the requirement of user community”. They stated that the big difference between Web 1.0 and Web 2.0 is that the earlier web provided only one-way
communication where users were not able to respond immediately whereas Web 2.0 communication is two ways and its flow is continual.

19. Imran (2011) conducted study “Impact and application of Web 2.0 in libraries: a case study of 12 national libraries of the developed nations” to understand the major concepts, impact, purpose of use, features and technologies behind Web 2.0 in libraries. 12 National Libraries of developed countries were selected for the present study. The study evaluated the impact and Web 2.0 applications: a) RSS; b) Blogs; c) Podcasts and d) IM. The study revealed that RSS (83, 66 percent) was the most commonly used Web 2.0 tool. Reason behind the maximum use of RSS (83, 66 percent) was easiness, simplicity, clear function, easy subscription and availability of information at one place. Blog was second most used technology with 65 percent libraries (8 out of 12). Reasons behind the popularity of Blog were: a) cheap or free software; b) minimum maintenance; c) doesn’t consume much time; d) easy medium to exchange information and knowledge. IM was used by only five libraries (41, 66 percent). However, it is a good technology and can be used for virtual reference services. Podcasts was found modest as it requires libraries to have sound recorders, accompanying equipment as well as soundproof rooms and audio files normally takes time downloading. Use of these tools changed the traditional ways of information dissemination. RSS was used to display information about new book, e-journals, library news and events, general news, catalogue search etc.. Blog was used to disseminate library services, news and events, new books, information literacy, general and library information, suggestion and book reviews. Podcast was used to advice on library skills, guidance for resources, library orientation tour, searching catalogue and library news. IM was used for reference services, guidance with resources, and advice on library services.

20. McNeill, Diao and Gosper (2011) conducted a study “Student uses of technology in learning: two lenses” to explore how students use technologies in their everyday lives, whether on- or off-campus, to support their learning. The study was conducted in two phases in the Australian university. There were 32,669 students, in the university and survey was completed by 1,104. Photo elicitation method, group discussion and
interviews were also conducted. The research generated 381 photographs and dozens of
pages of interview transcripts. Most students suggested that using digital technology
enables easier and faster transferring, sharing and publishing of information and data.
Study at home using technologies was preferred by students. 87 percent of respondents
were using internet search (e.g. Google) in learning. 60 percent liked to use library
online resources. One-third of students (35 percent) were using Podcasts or webcasts
produced by lecturers, 19 percent of respondents were using social networking sites.
The study revealed that 53 percent of the 1,104 respondents indicated that they used
technologies to study on-campus, 93 percent at home, 21 percent at work and 29
percent anywhere using mobile technologies.

21. Ram, Anbu and Kataria (2011) conducted a study “Responding to user’s expectation in
the library: innovative Web 2.0 applications at JUIT Library: A case study”. They
opined that libraries are shifting from physical objects to digital and have started using
new sources and services in everyday operation. Now, use of Web 2.0 applications has
made library users able to comment and review. This is a sign of acceptability of
seamless access in the libraries. Libraries are using new technologies in providing
services to their users. They opined that static features of web paved way for Web 2.0
as it not only disseminates information but also provides interactive features where
users can also publish information and comment on information. In their opinion, Web
2.0 is an extension of web. They highlighted the dynamic, interactive, and
collaborative features of Web 2.0 tools. The study stated that new applications have
made the process of information dissemination easy. But there is a need to create
awareness among users about these applications to get maximum advantages of Web
2.0. Authors opined that these tools are helpful in reducing repetitive tasks. They also
stated that ex-students of JUIT use Facebook to communicate with LRC.

22. Majumdar (2012) conducted a study “Web 2.0 Tools in Library Web Pages: Survey of
Universities and Institutes of National Importance of West Bengal” to get insight into
the implemented Web 2.0 tools in the universities and institutes of national repute of
West Bengal. Data for this survey was collected by visiting the official sites of
universities and institutes. The population of the survey was 18 state universities, 1
central university and 3 institutes of higher learning of West Bengal to understand how Web 2.0 tools were implemented to enhance library services. List of these universities were taken from University Handbook and official web site of University Grant Commission. Web sites of these institutions were visited. Web pages of libraries and availability of Web 2.0 tools were searched. It was found that out of 18 state universities, 5 universities do not have library webpages. All 3 institutions and 1 central university were having separate library pages. Only two institutes: a) Indian Institute of Technology, Kharagpur; b) Indian Statistical Institute, Kolkata were having Web 2.0 tools facility at their library page. IIT Kharagpur was using Blog and RSS. ISI Kolkata was using RSS feed, iGoogle and MyYahoo.

23. Tyagi (2012) conducted a study “Adoption of Web 2.0 technology in higher education: A case study of universities in National Capital Region, India” to know the purpose of using Web 2.0 technologies by faculty members of selected universities of NCR. Six universities of NCR were selected for the study. Total 300 self-administered questionnaires were distributed among Professors, Associate Professors and Assistant Professors of different stream by adopting stratified sampling. 147 questionnaires were found valid. Out of 147, 43 (29.25 percent) were professors, 41 (27.89 percent) were Associate Professors, and 63 (42.86 percent) were Assistant Professors. Author opined that popularity of internet resulted in Web 2.0. Web 2.0 sites such as Flickr, Facebook, MySpace and Wikipedia have abilities to facilitate learning. The result stated that (72.09 percent) Professors use social bookmarking followed by Wikis (67.44 percent) and Blog (39.53 percent); 80.48 percent Associate Professors use social bookmarking followed by Wikis (65.85 percent) and Blogs (46.34 percent); 68.25 percent Assistant Professors uses a social bookmarking site followed by Wikis (58.73 percent) and Blogs (50.79 percent). Social bookmarking is the most frequently used Web 2.0 tools among the respondents which followed by Wikis and Blogs. A good percentage of respondents also use RSS Feed. A few percentages of respondents use Podcasting, SNS and Mashup. It was also found that faculty members are using Web 2.0 tools for different purposes. The study revealed that these tools are mostly being used for: a) web based
teaching & research (89.11 percent); b) interactive learning (92.51 percent); c) keeping abreast on related topics (93.87 percent).

24. Sarkar (2012) conducted a study “Introducing podcast in library service: an analytical study” to find out the ways in which Podcast is being used across the globe and what extent podcast is prevalent in libraries. The population of the study was public and academic libraries of four geographical regions (North America, Europe, Asia, and Australia). Content analysis methodology was used for the study and convenience sampling method was used. Non-probabilistic sampling technique was used. 310 academic and public libraries from four regions were targeted. Out of 310, 83 libraries (27 percent) use podcast. Some libraries used Podcasts in many languages to fulfill the requirements of international students. These languages were English, Arabic, Chinese, French, German, Japanese, Russian and Spanish. It was observed that various names (Webcast, Libcast, Netcast, Screencast, etc.) were used for podcast. 70 percent libraries (58 out of 83 libraries) provide links to Podcasts through the library home page. 57 percent of libraries (47 out of 83 libraries) provide instruction on how to interact with Podcasts. 25 percent libraries archive their podcast contents. 36 percent libraries provide a date of posting. 22 percent libraries provide searching option for podcast at their web sites. A total of 22 percent of libraries use a transcript of Podcasts. 52 percent of libraries (43 out of 83 libraries) use Podcasts to conduct a library orientation tour and 55 percent libraries (46 out of 83 libraries) use Podcasts to provide guidance to library facilities, like the borrowing facility, reading room facility, reprographic facility and internet facility. It was observed that 61 percent of libraries use Podcasts to guide users on library resources. 33 percent of libraries use Podcasts as tools for receiving research tips. 54 percent of libraries convey general information through podcasting. A total of 22 percent of libraries use podcasting as a platform for online book reviews and discussions such as the book review podcast series. 22 percent of libraries provide interviews / speeches through podcast. It was stated that Web 2.0 tools helps librarians in keeping update. Usage podcast was highest in the academic libraries of Australia with 48 percent followed by Europe (40 percent), North America
(21 percent) and Asia (5 percent). Author also opined that podcast can be useful in distance learning.

25. Walia and Gupta (2012) conducted a study “Application of Web 2.0 tools by national libraries of the world”. National libraries of specific subject were excluded from the study. The survey method was used with objectives: a) to find out the national libraries which have Web 2.0 technologies; b) to find out the purpose of use and c) to find out the types of Web 2.0 technologies used. 193 member countries of United Nations Organization (UNO) were targeted. During the study, it was found that 177 (91.7 percent) countries have national library. 16 countries do not have national library. Out of 177, only 125 (70.6 percent) national libraries have functional websites. Out 125, 66 national libraries had English version website out of which only 28 (42 percent) national libraries were using Web 2.0 tools. The Web 2.0 tools investigated in this study are RSS, Social Networking Sites, Blogs, MicroBlog, Social Bookmarking, Podcast / Vodcast, and Instant Messaging. Among all, RSS is the most used tool followed by SNS and MicroBlogging. Instant messaging is being used to answer the queries. Podcast and vodcast are used to provide access to audio / video of past events, presentation, tutorials and speeches. It was observed that among 66 national libraries, only 28 (42 percent) libraries used Web 2.0 technologies i.e. 52 percent libraries were not using Web 2.0 technologies. RSS was most used (25 percent) tools followed by SNS and microBlogging (16 percent), Social bookmarking (11 percent), vodcast / podcast (10 percent), Blog (9 percent), IM (7 percent) and photo-sharing (5 percent). One trend was observed that Web 2.0 was mostly used to share library news and events. 21 countries used RSS, 15 countries used SNS and 8 countries used Blogs for sharing library news and events. They study suggested that Library of Congress and British Library, National Library of USA and UK are good example of other national library in terms of Web 2.0 use. They also opined that origin of Web 2.0 made web applications dynamic which made information sharing easy. It did not replace existed technology but added some values to it. – Take print out and read

26. Li (2013) conducted a study “Study on the Web 2.0 based internet Applications in University libraries” to evaluate Web 2.0 features and the highlight the latest trends in
university libraries. Author termed Web 2.0 applications / tools as “features of web tools”. As per the study there are seven main features of Web 2.0. These features are RSS, Blog, Wiki, Podcast/Streaming video and audio content, Instant Messaging (IM), Social Bookmarking/Tagging and SNS. The study explained that at present limited use of Web 2.0 observed in university libraries. However, IM and Podcasts are being used for reference services and web based information services. Blog is used for information dissemination. Author opined that Web 2.0 has brought opportunities and challenges for libraries. RSS and IM are most used tools at the web sites of university libraries. Blog was considered best channels for communication. Collaboration and participation features made Web 2.0 popular.

27. Wanucha and Hofschire (2013) conducted a study “U. S. Public Libraries and the Use of Web Technologies, 2012 (Closer Look Report)” to find out the use of various web technologies available at the web site of U.S. public libraries. It study was a content analysis study. Random sampling was used to select the population. It also revealed that most of the U.S. Public libraries had social media accounts in 2012 and most used Web 2.0 tool was Facebook with 93 percent followed by twitter (84 percent), Blog (60 percent), Foursquare (31 percent), Pinterest (23 percent), Google+ and Tumblr ( 8 percent) each. The study stated that there has been increase in the use of Web 2.0 in U.S. public libraries and it is expected to grow continuously.

28. Thanuskodi (2013) conducted a study “Awareness of Library 2.0 Applications among Library and Information Science Professionals at Annamalai University, India” with objectives: a) to find out the awareness of librarians about library 2.0; b) librarians’ perception about Web 2.0 applications and; c) to find out the perceived factors and problems that could influence the successful implementation of Web 2.0. Survey method was used. Structured Questionnaire was used to collect data. The sample consists of 60 library and information science professionals in the Annamalai University. 42 male (70 percent) and 18 (30 percent) female professional were selected. It was opined that libraries are using Web 2.0 to enhance the usability of their websites. The study found that training, librarians’ awareness, management support and internet access are important factors while implementing Web 2.0 tools in the library. Other
factors were knowledge & skills of staffs, equipment & infrastructures, Staffs commitment & cooperation, willingness to change, time availability, proper planning, good collaboration (library & users), responses from users, maintenance, promotion / marketing strategies and budget. It was also found in the survey that 28 (46.66 percent) professionals were not aware of Web 2.0 applications employed in libraries. Remaining 5 (8.34 percent) heard but did not know to operate. 10 (10.66 percent) have seen but did not use, 17 (28.34 percent) heard and use some Web 2.0 tools. Out of 60, 37 professionals (61.66 percent) professional were of the view that training of Web 2.0 tool was important followed by 28 (15.55 percent) workshop for using Wikis, 20 (33.33 percent) workshop for using Blogs, 19 (31.66 percent) workshop for using social networking, 15 (25 percent) workshop for managing tags, 8 (13.33 percent) workshop for using IM. The study found that respondents had high level of expertise in terms of web browsers and search engines in addition to the high level of utilization in some of Web 2.0 application. Wikipedia and Blogs are most used tools among librarians. In terms of use of Web 2.0 technologies, 42 (70 percent) read Blogs, 10 (16.66 percent) add post to Blogs, 35 (58.33 percent) read Wikipedia, 19 (31.66 percent) add entries in Wikipedia, 6 (10 percent) use RSS feeds, 15 (25 percent) participate in social networking, 8 (13.33 percent) use pictures in Flickr, 5 (8.33 percent) adds pictures in Flickr. One of important finding of the study was that librarian’s awareness and training (52, 86.66) is most influencing factor for the implementation of Web 2.0 applications followed by managing support (45, 75 percent), knowledge & skills of staff (40, 66.66 percent), internet access (37, 61.66 percent), equipment & infrastructures (software & hardware etc.) (35, 58.33 percent), staff commitment & cooperation (34, 56.66 percent), promotion & marketing strategies (28, 15.55 percent), proper planning and time availability (20, 33.33 percent), good collaborations among library and users (19, 31.66 percent), response from users and maintenance (15, 25 percent), budget (8, 13.33 percent).

29. Baro, Idiodi and Godfrey (2013) conducted a survey on “Awareness and use of Web 2.0 tools by librarians in university libraries in Nigeria” to know the awareness of Web 2.0 tools among librarians of Nigerian Universities. Questionnaires were collected
form 179 librarians in 49 university libraries of Nigeria. The study found that Facebook and Twitter are most popular tools followed by IM. Further, they opined that some benefits of using Web 2.0 tools are to “communicate internationally, faster dissemination of information, and to connect with people outside the university environment”. The study revealed that 66.5 percent librarians used Web 2.0 tools for online reference services. 60.2 percent used for Library news / events. About 59.7 percent used for training resources and 55.1 percent used to share photos and videos. 51.7 percent used for social tagging and bookmarking and 46 percent used for collaborating with colleagues in other libraries and 40.9 percent used for Blogging. The study revealed that 79.5 percent librarian acquired skills through self-practice. 69.9 percent acquired through friends / colleagues and 57.4 percent acquired through workshop. Only 22.7 percent acquired through library schools. They also found that majority of the librarians (76.7 percent) indicated lack of facilities such as modern computers with internet access to use Web 2.0 tools as a major barrier. The study stated that librarians were more familiar with social networking sites, instant messaging, and media sharing sites, Blogs and Wikis. Tools like Flickr, RSS feeds, Podcasts, social bookmarking, were among the least used. The study revealed that librarians use Web 2.0 tools mostly for reference services online, library news / events, training resources image and video sharing. Lack of facilities such as computers with internet access, lack of skills and lack of time were indicated as some of the barriers in the use of Web 2.0 tools by librarians in university libraries in Nigeria.

30. Smith (2013) conducted a survey “User education in social media applications @ your library” to know how public libraries of New South Wales are educating their clientele in the use of Web 2.0 applications. There were 99 Central Library service points and 275 branches within New South Wales with total of 374 service points. Due to the time constraint it was decided to select the public libraries which were active. For this purpose their web sites were accessed and 55 public libraries were identified as population for this study. Monkey survey was used to design online survey. The study found that Facebook was preferred by the respondents to educate their users with 20 respondents (86 percent) followed by twitter (52 percent). 90 percent respondents
targeted senior adults for user education followed by adults (76 percent). 90 percent responded that they educate users by “face to face in the library” method. 45 percent libraries used online databases which contain instructions in social media, 20 percent used tutorials and 15 percent conducted trainings in the community. 85 percent libraries used in-house and website advertisement to promote these tools followed by flyers and brochure with 80 percent. Traditional tools were also used to promote Web 2.0 tools. 55 percent responded that they organized these programmes frequently. 90 percent respondent opined that these programmes are without fee. Most (90 percent) of the libraries opined they used consumer attendance which was followed (80 percent) by consumer feedback form. 60 percent respondent rated their programme ‘effective’ and 25 percent rated ‘very effective / highly effective’. 68 percent respondent did on-the job training, 36 percent opined self-educate outside. 21 percent provided formation training. Only 14 responded opined about barriers. 50 percent of respondents cited lack of staff skills/knowledge as a barrier. Other barriers included competing organisational objectives (35 percent), parent body / council policies (21 percent) and funding, time and facilities

31. Seena and Sudhier (2014) conducted a survey “Impact of Web 2.0 Technology Applications in Kerala University Library: Library Professionals’ Perspective” to assess the Web 2.0 used and required skills. Population was library professional from Kerala University library. Structured questionnaire was used for this survey. There were 130 library professionals but the questionnaires were distributed among 115 library professionals. 102 (female, 60.78 percent) and (male, 39.22 percent) filled questionnaires were returned. The study revealed that 93.14 percent preferred e-mail which has an impact on the level of Web 2.0. Social bookmarking was preferred by (37.25 percent) and RSS feeds (28.43 percent) were not much used by the professionals. The analysis showed that the reference management system (24.51 percent) and the content management system (19.61 percent) were the least used Web 2.0 technologies. Authors were of the view that integration of Web 2.0 applications with library services has become a buzz word and there is need of skilled personnel for the implementations of latest technologies. Web 2.0 has potential to improve library
services and professional development of library professionals. But library professional are not adopting Web 2.0 technologies due to lack of training, infrastructure and planning. They suggested that LIS professionals should get training for Web 2.0 tools, sufficient funds should be provided for ICT infrastructure, authorities should review policy and curriculum of LIS study should be updated. Web 2.0 has great potential to enhance the delivery of library services and can contribute in the development of library.

32. Tyagi (2012) conducted a study “Use of Web 2.0 Technology by Library Professionals: Study of Selected Engineering Colleges in Western Uttar Pradesh” to know the use of Web 2.0 by library professionals. The study adopted survey method to collect the data with the help of a structured questionnaire. Non-probability sampling (specifically accidental and purposive) techniques was used in data collection from 40 engineering college of western UP. Respondents were Librarians, Deputy Librarians, Assistant Librarians and Library Assistants. Total 120 questionnaires were distributed. 92 samples were found valid. There were 49 (53.26 percent) Librarians, 15 (16.30 percent) Deputy Librarians, 17 (18.48 percent) Assistant Librarians and 11 (11.96 percent) Library Assistants. They were asked about the tools which they use. (7.61 percent) library professionals were using Blogs and RSS feed in their respective libraries. Most popular Blog was LISlink which was used by 71 (83.69 percent) library professionals. Popular Wiki was wn.Wikipedia which was used by 43 (46.74 percent) library professionals. Most popular RSS reader was Google reader which use used by 34 (36.96 percent) library professionals. Popular SNS site was Facebook which was used by 92 (100 percent) professionals. The study also found that 31 (33.69 percent) professionals add post to the Blogs. 25 (27.17 percent) reads Blog of others and 12 (13.04 percent) had their own Blogs.

33. Wordofa (2014) conducted a study “Adoption of Web 2.0 in academic libraries of top African universities” to explore the extent of Web 2.0 adoption by libraries of top universities in Africa. The study is based of content analysis. Web sites of top 82 libraries of Sub-Saharan Africa were visited to collect data. Three university rankings were used to select these (82) universities. The study revealed that Facebook was most
widely used SNS with a strong student base. At the end of March 2012, it had 901 million users with more than 500 million of them using mobile devices for Facebook activities which is followed by Twitter with over 300 million users. Other used SNS were Myspace, LinkedIn, Google and Ning. It is found that 40 libraries out of the total 82 (49 percent) used one or more social web tools. Facebook and Twitter were most used SNSs. Blogs were the second most widely used social web tool. However, only 17 libraries (20.7 percent) had Blogs. 14 libraries (17 percent) provided online contents using RSS feeds. A total of 12 libraries (14.6 percent) used media sharing sites, primarily YouTube and Flickr to provide information literacy instruction, create library tutorials, post videos and photos of library activities. Out of 82, 42 (51 percent) libraries used Web 2.0 whereas 40 (49 percent) does not use. Eight academic libraries (9.8 percent) used IM to provide reference services and to interact with patrons. Social networks were the most widely adopted while social bookmarking and tagging were the least used applications. Web 2.0 utilization in African academic libraries is still in early stage.

34. Vanwynsberghe, Boudry, Vanderlinde and Verdegem (2014) in their research paper “Experts as facilitators for the implementation of social media in the library? A social network approach” examined role and position of social media experts in the distribution of information on social media within the library as an organization. The study was conducted in three public libraries located in Flanders. It was found that librarians are not interested in using social media tools. Its use is new in the libraries. It is being used by a selected group which has special skills. Few librarian share information with other librarians but they receive little information in return. Library professionals skilled with social media use information for other work except library. The study also suggested that there is a need of social media policy and training. Social media expert can play significant role in information flow.

35. Keloğlu-İşler and Bayram (2014) in research paper “Commodification of Knowledge Communication Mediums: From Library to Social Media” opined that Web 2.0 has increased the pace of creating and sharing information but free flow of unchecked information paved way for the emergence of ‘disinformation’, ‘misinformation’,
‘uncontrolled information’ and ‘manipulated information’. They drew attention towards quality degradation of information which resulted after the unchecked and uncontrolled flow of information.

36. Kulakli and Mahony (2014) conducted a study “Knowledge creation and sharing with Web 2.0 tools for teaching and learning roles in so-called University 2.0” to insight into the requirements in the university for Web 2.0 implementation. The research was based on published and online form of academic journals, conference papers, research reports, books and case studies. The study focused on universities specifically the U.K. higher education institutions. The selection was done on the basis of top 50 U.K. universities and top 50 World universities by Thames Higher Education (2012). The visibility of the web tools at top 50 World Universities were 41 (82 percent) Facebook, 42 (84 percent) Twitter, 4 (8 percent) Blog, 15 (30 percent) RSS, 3 (6 percent) Linkedin, 16 (32 percent) iTunes, 30 (60 percent) YouTube, 6 (12 percent) Foursquare, 1 (2 percent) Google+, 3 (6 percent) Stumbleupon, 1 (2 percent) iPhoneApp and 7 (14 percent) Flickr. Visibility of these tools at top 50 U.K. Universities were 40 (80 percent) Facebook, 41 (82 percent) Twitter, Blog 2 (4 percent), RSS 12 (24 percent), Linkedin 7 (14 percent), iTunes 8 (16 percent), YouTube 33 (66 percent), Foursquare 3 (6 percent), Google+ 3 (6 percent), Stumbleupon 2 (4 percent), iPhoneApp 1 (2 percent) and Flickr 13 (26 percent). Facebook, Twitter, YouTube, RSS are common tools in higher education institutions in the U.K. Social networking tools such as Blog, Foursquare, Google+, Stumbleupon are less favourable in the U.K. They study also revealed that Web 2.0 also assists and supports Higher Education institutions in terms of curriculum building and delivering service strategies.

37. Taylor & Francis (2014) in white paper “Use of social media by library: Current practices and future opportunities” assessed the use of social media. The white paper provided an overview of current practices which are being adopted by world-wide libraries. The study focused on three groups (U.K., India and U.S.A. based librarians). 10 individual in-depth interviews, a Twitter party and an online survey were used for the study. 497 responses were collected. The study revealed that Web 2.0 tools have potential to become useful tools for libraries and could be handy in outreach. The study
found that at present libraries are experimenting these tools. Over 70 percent of libraries are using social media tools and also feel the importance of social media tools. 60 percent libraries have had a social media account for three years or longer. 30 percent of librarians are posting at least daily. Facebook and Twitter are most popular Web 2.0 tools. Popularity of YouTube, Pinterest, and Snapchat is increasing. Study says that ResearchGate and Academia.edu have potential to become useful tool but distant from publisher and library professionals is hindrance. Further, it stated that social media tools are mostly used to promote educational activities, to build connection in the library community and to build collection tools. These tools are less used for learning and teaching activities which is expected to grow in future. These tools can be used for outreach to increase the visibility of libraries. Web 2.0 tools have extended opportunities with low cost, flexibility to build network which make them popular. 40 percent of librarians have no plan to introduce Web 2.0 tools in their libraries but 88 percent respondents felt that social media will play significant role in future. These tools can be used in getting feedback, promoting library services and products, outreach, improvement in services, communication with other departments, networking with other professionals, to increase presence in the society and self-promotion. With some advantages, these tools also possess some challenges i.e. duplicity of shared contents, commitment of library staff; technological expertise; copyright issue, infrastructure and restriction. Librarians were also asked to range the objectives behind using social media tools. Most opted options were use in promotion of events library, resources and services which gives impression that moreover these tools were used as marketing tools. There were some differences amongst librarians from India and rest. Librarians in India use these tools to attract user for physical visit whereas librarians from advanced countries are using to deliver digital contents. The study further opined that in current (web based) era, library web page / portal has become very important tools for attracting users. Through portal, users can access library catalogues, online databases, repositories etc. Benefits of these web portals can be seen in research impact, students’ attraction, media interest and commercial contacts. The study also emphasized that proper strategy must be developed for the implementation of social media tools. There are some libraries in the advanced
countries which have started providing guidelines at their website to enhance the use of social media tools. Some of the them are:-

- California State University San Marcos
  https://biblio.csusm.edu/site/social-media-guidelines
- University of Pennsylvania
- University of Maryland: Libraries Social Media Guidelines
  http://www.lib.umd.edu/about/social-media-guidelines

38. Isfandyari-Moghaddam and Hosseini-Shoor (2014) conducted a study “Factors effecting Web 2.0 adoption”. Descriptive approach was used and 39 questions under ten broad factors which effect the adoption of Web 2.0 were included in the questionnaire with two research questions: a) which factor effects most the adoption of Web 2.0 in the academic libraries of Hamedan and b) suggestions by librarians to promote the level of Web 2.0 adoption. The respondents were 47 librarians of academic and college libraries in Hamedan (Western Region of Iran). Majority of respondents were female. The 10 broad factors were feeling of need, motivation, working conditions, saving time, organizational resources, changeability, competitiveness, qualitative and quantitative growth of university disciplines, skills and users’ comfort which affect adoption of Web 2.0 tools. They found that out of 47 librarians, 44 (93.6 percent) librarians opined that working condition influenced more than other Web 2.0 adoption factors which was followed by changeability and skills (42, 89.4 percent), competitiveness and saving time (41, 87.2 percent), qualitative and quantitative growth of university disciplines (39, 84.8 percent), feeling of need (39, 83 percent) organizational resources (37, 78.7 percent), motivation (36, 76.6 percent) and users’ comfort (5, 10.6 percent). Further, librarians suggested that training courses, workshops, Web 2.0 education in LIS course can promote the adoption of Web 2.0. 27 (25 percent) respondents suggested that adoption of Web 2.0 can be promoted by holding related workshops, 13 (12 percent) by implementation of ODL, 28 (26 percent) by holding training courses, 25 (23.2 percent) by including lessons regarding Web 2.0 tools and their application in the academic courses, 12 (11.1 percent) by attracting LIS professionals and 3 (2.8 percent) by others (e.g. buying needed
software, hardware equipment, addressing the importance of adopting, using Web 2.0 tools for academic and library managers.)

39. Khan and Ansari (2014) conducted a study “Role of social networks in library and information services in India: A case study of efficiency and effectiveness” with objectives to find out the popular SNS tools, habit of use by gender and age wise, most used sites and effectiveness of these tools. They distributed 600 questionnaires. With an average of 68 percent, 408 filled in questionnaire were returned. These questionnaires were collected from the library and information science professionals of science & technology institutions. Stratified accidently random sampling was used to collect data. They found that majority of respondents 233 (57 percent) were male. Majority of younger (331, aged < 35) library professionals are more familiar with SNS. 192 (47 percent) had PG degrees and 69 (17 percent) had Doctoral degrees. 326 (80 percent) respondents used SNS on daily basis whereas 53 (13 percent) used them 2-3 times weekly, 12 (3 percent) used them 4-5 times at least every two weeks and 4 (1 percent) used only once per week. Most used services were mail (228, 56 percent) and SNS (135, 33 percent). Facebook (192, 47 percent) was most used SNS which was followed by Google+ (90, 22 percent), Twitter (49, 12 percent), Flickr (20, 5 percent), MySpace (12, 3 percent) and Beebo (4, 1 percent). Most of the respondent 171 (42 percent) used these tools to connect with friends, chat and general posting. 69 (17 percent) respondents used for searching content, 61 (15 percent) respondents used for multiple purposes, 49 (12 percent) used to visit single page of interest. 175 (43 percent) respondents were satisfied, 163 (40 percent) responded used SNS effectively whereas only 41 (10 percent) respondents were neutrally satisfied; 20 (5 percent) respondents were somewhat satisfied and 1 (3 percent) did not mention opinion. 233 (57 percent) respondents were in favor of using their library through SNS and 159 (39 percent) respondents responded negatively. To access catalog, abstracts and indexes through SNS got responses of 208 (51 percent) but 167 (41 percent) respondents feel that there is no need to search through SNS, 33 (8 percent) respondents were unsure about these activities. 188 (46 percent) respondents were in favour of interaction with their reference librarian via an SNS, but 184 (45 percent)
respondents opined that there is no need to provide such service. 37 (9 percent) respondents were unsure about reference service.

Respondents were also asked their opinion about the important information at library page. 118 (29 percent) selected general news/university news, 53 (13 percent) selected library news and events, 45 (11 percent) selected list of e-journals and databases, 41 (10 percent) selected list of books and announcements about workshops and exhibitions, 33 (8 percent) selected information regarding library instruction and 24 (6 percent) selected ability to link to their library home page on SNS.

The study also submitted that common features of social network are: a) “profile creation facility for user; b) option to send, accept and reject request; c) option to customize layout and design and; d) option for posting, commenting and liking and sending messages”. Further, they concluded that: a) SNS can be used to connect with the younger LIS generation and; b) most used SNSs are Facebook, Google+, Twitter and Flickr.

40. Lihitkar and Manohar (2014) conducted a study “Applications of Web 2.0 tools in IIT Libraries in India” to know the concept of Web 2.0 and its applications in providing library services to users. Survey method was used to conduct the survey. There were 16 IITs when the study was conducted. Structured questionnaire was prepared to collect the data. Questionnaires were sent to all 16 IIT Libraries in India. Out of 16 Libraries 15 respondents were received. The response rate was 93.75 percent in which some data were personally collected. Some responses were received by the post and some respondents sent questionnaires through Email. Data was also collected from the respective website. It was observed that out of 18, 11 IIT’s librarians learned Web 2.0 application by self-motivation. Social networking, RSS feed, Blog, Twitter, IM, YouTube, Tagging, Wiki were most used Web 2.0 tools in IITs. It was also found that 5 IIT Libraries use Blogs to display library related News & Events and 3 IITs for collection development. The study also observed that 08 (66.66 percent) of IIT’s librarians opined that Web 2.0 tools are useful for having better communication with the users. 07 (58.33 percent) Librarians opined that Web 2.0 tools are important to provide quick services to the users. Another 07 (58.33 percent) Librarians opined that Web 2.0 tools are essential for developing digital library services and 5 (41.66 percent)
Librarians opined that Web 2.0 tools are more useful tool for updating. The study found that 12 (100 percent) IIT’s Library professionals in India were co-operating to the users for providing Web 2.0 services. It was also found in the study that 09 (75 percent) Librarians of IIT’s Libraries in India were facing technical problems while using Web 2.0 tools and 03 (25 percent) of them are facing the problems. The study submitted that users of surveyed IIT Libraries used Web 2.0 tools for the following purposes:-

- 10 libraries used social networking for CAS, 1 library used to promote library services and 5 to suggest information needs;
- 5 libraries used YouTube to promote library services and 2 libraries to locate library resources;
- 8 libraries used RSS for library related news & events, 4 for e-journals / Online Databases; 6 to save users time;
- 4 libraries used Wikis for searching information and 4 allowed users to create, edit and link web pages easily and 5 for knowledge sharing;
- 6 libraries used instant clarification of users questions, 8 used for offering text based chat, 5 used for online meeting, 5 for providing virtual reference service, 5 used to guide about resources;
- 2 libraries used podcast for current News about what is going on in the library.

Authors also opined that Web 2.0 technologies provide more opportunities for communication and collaboration. Emergence of new technologies has given pace to ICT tools. Web 2.0 technologies focus on sharing information and creating contents. The main difference between web 1.0 and Web 2.0 is that the 1st version web was restricted to reading of the contents whereas the 2nd version of web i.e. Web 2.0 gives opportunities to communicate.

41. Shukla (2015) conducted a study “Assessing University Libraries in Uttar Pradesh with Emphasis to Infrastructure and Information and Communication Technology Applications” to investigate the status of university libraries (Central and State) in Uttar Pradesh in terms of collection, budget, manpower, and a special reference to ICT infrastructure. Questionnaire was used to collect data from 11 universities. The study
found that only 2 (18 percent) libraries have Facebook presence and one library has Blog (9.09 percent). The status of other ICT tools were 7 (63.7) use Wi-Fi, 6 (54.5 percent) E-mail, 5 (45.4 percent) use library website. The study suggested that “library staff should be sent frequently for training to upgrade their knowledge and skills”. University libraries should be equipped with more Information Communication Technology (ICT) facilities. There should be a provision of a special budget for development of information technology infrastructure. The study concluded that libraries in UP are lacking in ICT.

42. Hussain (2015) conducted survey “Adoption of Web 2.0 in library Associations in the presence of social media” with objective to find out the use of Web 2.0 used by various Library Associations of the world and also to know the significant facet and usage. Services provided by the Australian, African, Asian, European and American Library Associations were focused in the study. Web content analysis method was used to collect data for the study. Total 188 Library Association web sites were examined. Out of 188, 115 (61.17) Library Association have implemented Web 2.0 tools. 89.86 percent Library Associations of America, 58.62 percent Library Association of Europe, 46.15 percent Library Association of Australia, 33.33 percent Library Association of Africa have integrated Web 2.0 tools with their websites. Only 25.64 percent Library Association of Asia used these tools. Most used Social Network Sites were Facebook, Twitter and RSS feed. Web 2.0 tools like LinkedIn, Blogs and Flickr were also used.

43. Kumar (2015) conducted a study “Attentiveness of Librarian 2.0 : A survey of engineering educational librarians in Andhra Pradesh” to know their awareness on Web 2.0 tools like Blogs, Wikipedia, Social networks and Photo sharing. Survey method was used to collect data for the current study. Non probability sampling specifically accidental and purposive techniques were applied to collect primary data through the structured questionnaire. Total 25 questionnaires were distributed (randomly) to the selected sample. 19 (76 percent) valid responses were received and analyzed. During the survey period, there were 25 engineering institutions but only 19 engineering educational institutions were selected for the study. Institutions established before 2009 were included in the survey. These institutions were affiliated with JNTU (Jawaharlal Nehru Technological University). The study submitted that large numbers of
“librarians uses internet for acquiring information (94.73 percent) followed by 89.47 percent for obtaining study materials and merely 21.05 percent respondents use them for entertainment purpose. In order to judge significance of Web 2.0 in day-to-day life of LIS professionals a question asked from them. 47.39 percent librarians agreed that Web 2.0 is very essential in their life, 26.31 percent responded that Web 2.0 is essential, while 5.26 percent librarians remained neutral. Librarians were asked the purpose for using Blogs. 47.36 percent librarians use web Blogs for reading purpose, 26.31 percent use to add posts to Blogs, 5.26 percent were not aware about web Blogs. 68.42 percent Librarians opined that they read from Wikipedia, 15.78 percent add entries in Wikipedia and 10.54 percent edit entries in Wikipedia. 73.69 percent librarians had visited photo sharing websites and 26.31 percent did not have any idea about photo sharing websites. 31.57 percent access Twitter, 26.34 percent access Facebook and 5.26 percent respondents were not aware. 84.21 percent librarians use YouTube facility only for watching while 42.10 percent use it for uploading / sharing information. 94.73 percent librarians use Google reader. My Yahoo was used by 89.47 percent librarians. Librarians were also asked about the barriers which are responsible for not implementation of Web 2.0 technologies. 68.42 percent respondents’ opined lack of concern from management is the major constraint for implementing web 2.0 in the library followed by inadequate computer networking system (15.78 percent).

44. Verma and Verma (2015) conducted a comparative study “Use of Web 2.0 Technology by the Indian Institutes of Technology (IITs) and Indian Institutes of Management (IIMs): A Comparative Survey” to explain the concept and characteristics of Web 2.0 (Blogs, Wikis, Tagging and Social Bookmarking, Multimedia Sharing, Audio Blogging, Podcast, RSS, Mashups and SNS) which are being used in IITs and IIMs. They opined that web technology is strongest tool for communication and dissemination. The biggest difference between current web (Web 2.0) and old web (web 1.0) is the participation of the receiver. The Web 2.0 opens gates for many services. Web 2.0 refers to more advanced services which encourage collaboration, communication and information sharing. They included Blogs, Wikis, Tagging, Social Bookmarking, Multimedia Sharing, Audio Blogging, Podcasting, RSS, Syndications, Mashups, Social and Networking Sites in Web 2.0 tools. They opined that Web 2.0
offers many opportunities to academic institutions and their libraries to serve users crossing beyond the physical wall. Web 2.0 means participation of user in information dissemination. They found that 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. Facebook is common used tools in IIMs whereas Google+ was most common tool in it the IITs.

45. Roger (2015) conducted a study “Academic and Public Libraries’ Use of Web 2.0 Applications and Services in Mississippi” to find out the use of Web 2.0 applications, types of services used by academic and public libraries of Mississippi, most frequent used tools, types of SNSs. Content analysis approach was used to conduct the study. They opined that these tools are available free and training is not required to use these tools. Some libraries are using these tools but there is no similarity in their use. Reasons for non-similarity could be the unavailability of resources and the size of libraries. 78 websites of libraries were visited and it was found that preference was given to customized websites. Out of 78, 75 web sites featured an RSS. Blog was available at 55 (out of 78) libraries. 52 websites had Mashups, 24 websites had Media Sharing. Wiki was not used by a single library, 5 libraries offered IM and 3 libraries used Tagging.

46. Kim (2015) in research thesis “The Applicability of E-S-QUAL for Assessing the Service Quality of Social Media Services in Academic Libraries” stated that social media is a popular word. Other used terms are Web 2.0 and Library 2.0. Its adoption in libraries has increased in the last several years. Advanced features of internet and web made these terminologies popular. Libraries are facing problems while improving their services. Social media tools are a medium through which libraries can improve its services. It is very important to evaluate the user perception about social media tools as it would be beneficial for libraries.

47. Sahoo and Sharma (2015) used term social network for Web 2.0 tools in their research paper “Social Networking Tools for Library Services”. According to them Social Networking Site is an online portal or web service which induce to build social relations among group of individuals. Academic libraries can use social networking, mobile and other latest tools to respond their users. Librarian can use these tools to
interact with students, faculty and staff. Librarians should use social networking sites to attract users. They categorized social networking tools on the basis of three broad categories of library and information services:

**Information communication applications**
Tools like MySpace, Facebook, Ning, Blog, Meebo, LinkedIn and Twitter were categorized under information communication applications.

**Knowledge distribution applications**
Tools like Flickr, YouTube, TeacherTube, Second Life, Wikipedia, PBWiki, Footnote, Community Walk, SlideShare, Digg, StumbleUpon and Daft Doggy were categorized under Knowledge distribution applications.

**Knowledge organization applications**
Tools like aNobii, Del.icio.us, Netvibes, Connotea, LibraryThing and lib.rario.us were categorized under knowledge organization applications.

48. Islam and Habiba (2015) conducted a study on the “Use of social media in marketing of library and information services in Bangladesh” with objectives: a) use of social media in the marketing of library services in Bangladesh; b) to assess the problems faced by libraries while using social media; and c) seeking suggestions from library professionals for improving marketing of library services through social media. They targeted 46 libraries which included public universities (17), private universities (24) and special (5) libraries of Bangladesh. Total 55 library professionals were selected for the study. Out of 55 library professionals, 46 returned with complete details. Majority of the respondents were male 30 (65.22 percent) and 16 (34.78 percent) were female. Most of the library professionals (24, 52.17 percent) were working in the private university libraries and 17 (36.96 percent) library professional were working in public university libraries and 5 (10.87 percent) in special libraries. The study observed that 44 libraries are using social media in Bangladesh for marketing, sharing library news, events, resources and video conferencing. 36 respondents agreed that social media has become popular among libraries. The study found that majority of the libraries use Facebook (44) followed by LinkedIn (40) and SlideShare (36) for marketing their
activities. Further, they agreed that social media is important to market library resources and services. Furthermore, they found that users faced problems while using social media. These problems are electrical failure, security, privacy, lacking of advanced IT skills personnel and slow speed of internet. It is very difficult to share library resources with users without technology. They stated that Facebook and Linkedin were most used tools for marketing library services and products, sharing news, events and related activities. Due to the world wide acceptance of social media; libraries must use Web 2.0 tools to provide better services to its users. Social media can help libraries and its users in information dissemination. It could be a cost effective tool for marketing library services and related activities.

49. Mustafa, Zainuddin, Idris and Aziz (2016) conducted a study of “Social media promotional tools in academics”. The study was conducted on a Malaysian research university with two objectives: a) effect of Facebook and Twitter in promoting library services; and b) their elements in promoting library services. The study also focused on the frequency of use and purpose of using social media tools. Survey questionnaire was distributed among 50 users. 43 (86 percent) questionnaires were distributed amongst Bachelor students, 6 (12 percent) and 1 (2 percent) were distributed among Master and Ph.D. students. 30 students (60 percent) respondents were aware about the Web 2.0 whereas 20 (40 percent) were not aware about it. 31 (62 percent) were familiar with Web 2.0 applications, 11 (22 percent) were not and 8 (16 percent) were uncertain. 10 (54 percent) respondents opined that Facebook effects students awareness about the library activities and services, 5 (26 percent) responded Twitter, 1 (5 percent) Blog and RSS and 2 (10 percent) YouTube. Most effective elements were chatting with 8 (14 percent) respondents followed by 7 (12 percent) Tagging and User comments, 9 (16 percent) photo sharing, 15 (27 percent) Group Forum / Discussion and 10 (18 percent) News feed.

50. Mcmanus (2016) did research “The Implications of Web 2.0 for Academic Libraries” to assess the use of Web 2.0 in libraries. It was stated in the paper that academic libraries in U.S. are integrating Web 2.0 with library services. Further, the study stressed on the communication and collaboration of information through dynamic web and also suggested that libraries should use Facebook and Myspace to market library
services which would facilitates more interaction between users and libraries. These technologies can be used at one platform to provide library services. Reference services can be provided by using Blogs.

On the basis of reviewed literature, it is concluded that Web 2.0 tools are useful in the library. These tools can play significant role in promoting, marketing and dissemination of library services. Use of these tools can increase users’ interaction with libraries. On the other hand, users can also play significant role in information dissemination. Facebook, Blogs, RSS and Twitter are considered most preferred and popular tools among users. Most of the users are using these tools through their laptop and computers. Role of management / leadership team is important in the implementation of these tools. They should give free hand to the library professionals to use Web 2.0. Availability of suitable infrastructure is also essential. At present these tools are being used by almost every institute to promote institutional activities, news and events. It was found that some libraries are using these tools in marketing their services, displaying library timings, library news and events, current awareness services, user instruction and orientation. These tools can also be used for outreach services. There is no doubt that features like two ways communication, freedom of sharing, participation and collaboration, dissemination of information in zero time, less required infrastructure have increased its usage in general. The advantages of these tools are free availability and ease of use. A brief introduction can increase use of these tools. Therefore, a new trend has been observed i.e. integration of Web 2.0 tool at official website of institute. Still integration and use of Web 2.0 technologies with library portal / pages is at nascent stage in libraries. However, libraries in advanced countries have been using Web 2.0 technologies. These libraries have also framed polices for Web 2.0 use.

There is a need of proper check on the information which would be shared through these tools because there are some threats. Therefore, precautions cannot be ignored by an institute. Users of these tools must be protected from the possible threats. Firewall should be used to protect networks. Need of clear cut instruction to the users
should be framed. Their personal information must be protected. Users should be aware about the copyright law etc. Monitoring of post is also essential. Help from the Web 2.0 experts can be taken for implementation and protection. There is also need for guidelines and frameworks which would help institutions which wish to implement Web 2.0 tools at library web pages. There is also a need that the Web 2.0 should be included in LIS curriculum. So that library professional can use these tools in providing library services. Use of these tools in educational setup is still at an initial stage. However, there are some libraries which are getting maximum benefit after implementing and using these tools.
REFERENCES


