Chapter 2

REVIEW OF LITERATURE

2.1 Introduction

The investigator has carried out the research by selection of the topic going through the literature published in Library and Information Science Abstracts (LISA), Library, Information Science & Technology Abstracts (LISTA), Emerald, J-Gate, Directory of Open Access Journals (DOAJ), Education Network Australia (EdNA) and various other Internet resources. Investigator has also examined many printed national and international journals and books related to the study. By reading the literature from the above sources a set of objectives were framed.

2.2 Review of literature

This chapter, analyses the studies from earlier dates to the present days related to the Web 2.0 technologies and libraries. The review of literature has been presented under following headings.

- General literature on Web 2.0 technologies
- Web 2.0 technologies and library and information science education
- Web 2.0 technologies and libraries
- Comparative studies in Web 2.0 technologies.

2.2.1 General literature on Web 2.0 technologies

Most of the early articles and discussions are about the meaning of Web 2.0 and its applications. Web 2.0 can be defined in terms of its features and specific technologies, or social impact. O'Reilly (2005) the founder and CEO of O'Reilly Media Inc. generalizes that “Web 2.0 is the web as platform” and applications of Web 2.0 are based on that platform. In other words, Web 2.0 applications based on the web (previous
generation of Web or Web 1.0) to create a new communication environment. Meanwhile, in an attempt to explain the meaning of Web 2.0, is a second wave that covers web tools and services such as weblogs, wikis, Ajax, RSS, and tagging. These allow web users to generate, describe, post, harvest, search, annotate and exchange online content in various forms ranging from music, bookmarks to photographs and documents (Linh, 2008).

Explaining the terms of social impact, Miller quotes the words of his colleague, a technologist, describes that “Web 2.0 is an attitude not a technology” (Miller, 2005; Naik, 2008) and confirms that Web 2.0 is about a social phenomenon, not just about networked social experiences but about the distribution and creation of web content itself. It is characterized by open communication, decentralization of authority, and freedom to share and reuse content. These two authors agree that Web 2.0 is not purely a technology. Singh and Kaur (2008) also show the latest buzzword in the Internet world is “Web 2.0.” Web 2.0 is all about interaction, collaboration, and social networking. It is more dynamic and fluid and no longer just static pages of information. Liz Blumson (n.d.) gives an introduction of Web 2.0 technologies and libraries here he explained all types of popular Web 2.0 technologies such as RSS, blogs, social networking, bookmarking, mashups etc. and mentioned the changed from the early web to Web 2.0.

It could be seen that the majority of the early literature defines and discusses Web 2.0 and its applications. The authors present their different viewpoints about Web 2.0 that it is either as a technical issue or a social phenomenon. However, most of them agree that Web 2.0 is a new generation of the web that enables users to participate in processes of creating, exchanging and sharing information (O'Reilly, 2005 & Miller, 2005). In a Caribbean perspective, the authors explained about the how to face the challenges of Web 2.0 tools like blogs, social networks, communication tools etc (Wood, 2013). Further more studies discussed about the Web 2.0 consists of a wide range of technologies and services such as wikis, weblogs, RSS, Ajax, instant messaging. Among them, RSS will be the mainstream in the next few years, thanks to its simplicity when Web 2.0 is more strongly applied in different fields, including the
library (Singh & Kaur, 2008; McKeon & Thompson, 2008; Linh, 2008 & Chua & Goh, 2010).

A few studies discussed on improving browsability of archive catalogues using Web 2.0. Web 2.0 tools which could potentially improve browsability have been identified and a snapshot has been taken in their use across the sample catalogues (Gresham and Higgins, 2012). Some of the articles done by the application of the Web 2.0 in government websites as well as whether the presence of Web 2.0 applications correlates with the perceived quality of government websites (Chua, Goh & Ang, 2012).

### 2.2.2 Web 2.0 technologies and LIS education

This part discusses the Web 2.0 technologies in library and information science (LIS) education. A few studies investigate the use of Web 2.0 tools and their use by Greek Library Science and Information Systems (LSIS) students. The study shows the use of these tools by students both in their everyday life and in relation to their studies and examined the knowledge and further explored the use of Web 2.0 tools in the educational process. The same researcher published another extended article to find out the Greek Library and Information Science (LIS) and what students want from their studies concerning the use of Web 2.0 in education. This research revealed that most of the students are aware of the majority of Web 2.0 tools. Thus, they are willing to attend training concerning Web 2.0 because they believe this will enrich their knowledge on the subject (Garoufallou & Charitopoulou, 2011). Virkus (2008) also shows the use of Web 2.0 technologies in LIS education experiences at the Tallinn University, Estonia. Web 2.0 is influencing the way in which people learn access information and communicate with one another. Experiences with open and distance learning and e-learning have transformed teaching and learning, provided new alternative delivery modes, and helped to reach new target groups. Recently the library functionaries have been experimenting with Web 2.0 technologies and a few have successfully adopted them in teaching and learning.
LIS education is using Web 2.0 to decolonize trans-cultural learning zones in higher education. The article written by Henk Eijkman, explained in the context of the massification and internationalization of higher education, how Web 2.0 and its socially oriented knowledge system (episteme) has the potential to counter the current neo-colonial disprivileging of non-mainstream knowledge systems and discourses, that the socially oriented knowledge system or episteme of Web 2.0 enables educators to create postcolonial, meaning more epistemic ally inclusive, trans-cultural learning zones in which no one knowledge system or discourse is automatically privileged (Eijkman, 2009).

2.2.3 Web 2.0 technologies and libraries

The majority of early literature about Web 2.0 appeared online, usually written by technologists and bloggers but later publications are research based articles or books. Many recent publications are “how-to” guides that help librarians to implement Web 2.0 applications (The Scottish Library and Information Council and the Chartered Institute of Library and Information Professionals in Scotland) and (Kelly 2009) Some of them focus on different technologies and services of Web 2.0, most of them focus on only one or several of those in relation to the library.

In a newly published book by Bradley (2007) provided an insight about Web 2.0, new trends, services and opportunities for libraries. He mentions almost all aspects of Web 2.0 in the library such as RSS, weblogs, podcasts, instant messaging and other technologies. Holmberg, Huvila, Kronqvist-Berg and Wide’n-Wulff (2009) written an article entitled “What is Library 2.0?” The study defines both theoretically and empirically the concept of Library 2.0 and the study resulted in a model of Library 2.0, containing seven building-blocks of the phenomenon: interactivity, users, participation, libraries and library services, web and Web 2.0, social aspects, technology and tools, provides basis for discussing the future evolution of the notion and its implications for library and information science research and library practices. Stephens and Collins (2007) say that the concepts of Web 2.0/Library 2.0 is increasing among the library community. This outlines specific uses and applications of Web 2.0 tools within the
library environment to illustrate the Library 2.0 concept. Casey and Savastinuk (2007) in this book gave the framework of the Web 2.0 in the library, participatory services on the Web, incorporating technology, a 2.0 world and describe how the library 2.0 uses the Web 2.0. Besides this, Hanson and Cervone (2007) present practical guides in the book and mentioning Web 2.0 in the library in a narrower but more detailed scope, the authors provide practical advice and detailed examples of Web 2.0. According to them, four major interactive technologies of Web 2.0 in the library are Wikis, blogs, RSS, instant messaging and podcasts. Many other authors also hold the same ideas (Farkas, 2007; Godwin and Parker, 2008; Sauers, 2006).

A few studies explain the adoption of Web 2.0 technologies by the Pakistani librarians in their professional and personal lives. This study find out the skill level of Internet use and perceived ease of Web 2.0 use have a significant effect on the frequency, lack of computer literacy and lower availability of computers and Internet facilities were the major hindrances of Web 2.0 adoption by librarians and awareness and training programs could enable librarians to cope with Web 2.0 technologies. (Arif& Mahmood, 2010)

2.2.3.1 Web 2.0 technologies in academic and public libraries

Most of the articles published recently on use of Web 2.0 technologies by the various types of libraries like school, academic, public or university libraries. Consequently, Bonanno (2010) explained what Web 2.0 applications were being used by school libraries for their library & information services and generally basic information of Web 2.0 and its applications of school libraries, for what purposes these applications are used, why use these technologies are all well explained.

Linh (2008) conducted a survey on the overall picture of the application of Web 2.0 technologies in Australian university libraries. It shows the overall picture of the application of Web 2.0 technologies under selected university libraries in China as well as their function, features and user interface (Chen et al, 2009; Han & Liu, 2009). In Nigeria a study was conducted on student awareness and use of Web 2.0 tools by
librarians in university libraries. The study draws an overall picture of Web 2.0 applications in Nigerian university libraries and attempts to provide helpful information to better understand how librarians elsewhere are utilizing Web 2.0 technologies in rendering library services (Baro, Idiodi & Godfrey, 2013). A case study responding to the user’s expectation in the library: Innovative Web 2.0 applications at Jaypee University of Information Technologies Library provide an insight into the implementation of some of the innovative Web 2.0 applications at Jaypee University of Information Technology with exploring the expectations of the users and their awareness and usage of such applications. (Ram, Paul Anbu & Kataria, 2011).

Some of the studies have been conducted to find out the Web 2.0 applications in public and academic library websites. It has been done mainly in three parts like Web 2.0 applications prevalent in libraries, ways of Web 2.0 applications being used in libraries and the presence of Web 2.0 applications enhances the quality of library websites. The authors found RSS and blogs are widely adopted by academic libraries while users widely utilized the bookmark function (Chua & Goh, 2010; Kim & Abbas, 2010). Svensson (2007) discussed Web 2.0 technologies activity in the library sphere has focused on public and academic libraries. A survey conducted by Chew (2009) examines the South East Asia (SEA) region have implemented Web 2.0 technologies and the author found that most academic libraries rather than public libraries were using Web 2.0 technologies. Harinarayana and Vasantha Raju (2010) explored the application of Web 2.0 and Library 2.0 features as exemplified through top 100 university library web sites around the world. Another study carried out with the intention of examining instruction and help services in the academic library websites and web pages in Sri Lanka. It is found that no academic library websites utilized Web 2.0 elements for library instructions and help services.

Xu, Ouyang and Chu (2009) discussed the applications of Web 2.0 in academic libraries in New York State. The study reveals that major academic libraries located in Australia, Canada, the U.K. and U.S.A. have adopted Web 2.0 tools for enhancing library services (Tripathi and Sunil Kumar, 2010).
2.2.3.2 Web 2.0 in national libraries

Gatenby (2007) described the ways of Web incorporation of features as being illustrated by a project called People Australia and other collaborative project with Flickr (National Library of Australia). The National Library of Wales published a strategy for the web that integrates Web 2.0 with the existing web portfolio. Bevan (2009) stated that outlines a strategic research approach and discussed some of the results which may help individuals who want to use emerging Web technologies and approaches. Haneefa and AnjanaVenugopal (2010) examined Web 2.0 technologies using 28 national library websites of Asian countries during 2009. Crook (2009) showed that National Library of Australia is the lead institution for digital archiving and preservation in Australia. As our archives and our archiving abilities increase by using new technologies and Web 2.0 applications like YouTube and MySpace. Web 2.0 has had an impact on library web sites making them more interactive with users, giving rise to the term Library 2.0. What is meant by Web 2.0 tools is generally understood but the degree of implementation of these tools in libraries is largely unknown. This study reports on the implementation of these tools in national libraries all over the world in order to give an objective measure of the impact of Web 2.0 on library web sites (Buigues-Garcia and Gimenez-Chornet, 2011).

Kannikaparameshwari (2010) conducted a study of Web 2.0 technologies in national libraries. The study, they do not focus on Web 2.0 and its applications in the national library but concentrate on evaluation of the usage, usability and the utilities of Web 2.0. Recently in 2012 Walia and Gupta (2012) conducted a study on application of Web 2.0 tools by national libraries. This study cover only national libraries of the world which are general in nature and the national libraries of specific subjects are excluded and full version of these websites were available in English or both English and their native language.
2.2.4 Specific tools of Web 2.0 technologies and libraries

2.2.4.1 Wikis

Crofts (2011) explained how Wikis can be utilized as a collaborative tool in the library. Laughton (2010) analyzed the usage and benefits of Wikis in the library as a tool to improve information literacy and used as an alternative to a popular learning content management system (LCMS) in an e-learning environment. Ellis-Barrett (2006); Grace (2009) and Smith, Mills and Myers (2009) analyzed Wikis in relation to libraries. Stephens concentrates on the history, benefits and functions of Wikis while Ellis-Barrett, Grace and Smith et al discuss basic and advanced Wiki features by describing case studies of real world library and library related Wiki applications. Besides this, Alley (2007) examined Wikis as a new collaborative electronic platform available to all types of libraries and the author introduces the potential application of Wikis in academic libraries.

2.2.4.2 Blog

Davison –Turley (2005) explained the major tool of the Web 2.0 that is blogging. Oguz and Holt (2010) investigated a number of aspects relating to blogs such as the appearance of blogs, purpose of blogs, ways to find blogs and the applications of blogs in the library. The matters of building and managing a library blog are also discussed. More specifically, Clyde (2004) and Linh (2008) conducted a content analysis research on how blogs are deployed in different types of libraries and explains why there are not many libraries using blogs effectively.

Similarly, Blair and Level (2008) analyzed the subject-based blog and to suggest unique evaluation techniques for libraries and the potential of blogs for libraries and librarians. He also discussed the ways to identify various forms of blogs as well as the application of blogs for a wide range of library services. Specifically, MacRitchie (2011) explored the use of blogs as a platform for providing collaborative reference services. The authors also discussed technical issues of blogs and point out related matters of
blogs in reference services. Meanwhile, Mariano (2010) surveyed a number of library blogs and examines their content to determine their value and usefulness to librarianship. In a recent article on Weblog describes Web 2.0 is, about sharing not just creating, about collaborating not consuming, and about participating, not just publishing (Naik, 2008).

2.2.4.3 Really Simple Syndication (RSS)

RSS is also one of the Web 2.0 technologies that interest researchers. Wusteman (2004) analyses the emergence of RSS as an updating information tool. The author indicates its potential for the library and asserts its importance for communication in libraries. RSS is one of the best powerful information management tool (Davison-Turley, 2005). A range of matters relating to RSS are discussed by Andrade and Zaghloul (2010) who presents the benefits of RSS and how to apply RSS in libraries. Also, Chen (2009) introduces an implementation of RSS and clarifies the purposes of using RSS in libraries. Sarkar (2012) study discusses the implementation of RSS in the libraries across the continents and examines the characteristics of RSS used in libraries and investigate its purposes of use. RSS feeds used for Information retrieval purposes, filtering leads to more precise RSS feeds and extending the filtering phrase with synonym semantic can increase the number of relevant feeds from 3-5 times. The system documented here has been found to be able to help RSS feeds subscribers to browse fewer items with a higher matching rate (Tseng & Ng, 2007). Most important articles, RSS application in libraries and Information Centers introduce the RSS feeds, their uses and functions, considerations for library fields, explains the applications of RSS feeds in the library, advantages and disadvantages etc…. (Bansode, Dahibhate & Ingale, 2009).

Celikabas (2004) explained the RSS and how it serves the libraries? His work examines RDF Site Summary or Rich Site Summary (RSS) feeds a means of distributing news or other web content from an online publisher to users and clarify the outlines of RSS background and XML-based structure. It explains RSS feed readers and web-based content aggregators, the two chief tools used for reading RSS feeds. Lists some advantages of RSS use and some reputable RSS feed sources, also known as RSS feed directories. Offers suggestions for potential library uses of RSS including: general
communications and marketing; library user education (via book lists); current awareness services (via table of content analysis for journals); and augmenting of reference services.

2.2.4.4 Instant Messaging

Linh (2008) surveyed the usage of instant messaging as a technology for virtual reference services in libraries. Particularly, Ruppel and Fagan (2002) conducted a survey on the use of instant messaging for reference services in a Southern Illinois University Carbondale’s Morris Library. A range of issues from implementation instant messaging and instant messaging software for administrative and staff training is analyzed.

2.2.4.5 Podcasts

Bierman and Valentino (2011) discovered how many American Research Libraries produce podcasts on what subjects they are produced, and how those podcasts are promoted. Sarkar (2012) introduced podcast in library. It provides an overview of the application of podcast in academic and public libraries, focusing on its purposes and characteristic features.

2.2.4.6 Mashups

Rorissa (2010) described the social/collaborative tagging has altered the traditional roles of the indexer and user. Matthews et al. (2010) showed traditional subject indexing and classification are considered infeasible in many digital collections. The authors investigated the ways of enhancing social tagging via knowledge organization systems, with a view to improving the quality of tags for increased information discovery and retrieval performance. Other Web 2.0 technologies such as webcast or mashups seem to be of not much interest to the researchers as they are little discussed.
2.2.4.7 Folksonomy

The study on the social bookmarking in academic libraries reveals the use of social bookmarking which allows users and organizations to create accounts for bookmarking online content, provide academic library tools to collaborate and network, organize and share electronic resources and teach information literacy and the use of Web 2.0 tools, including combinations of these applications, will allow academic libraries to find more innovative ways to provide interactive and user-oriented reference services (Redden, 2010). A few researchers explored in the context of Web 2.0 and folksonomies in a library. Folksonomies seem to have a beneficial effect on users’ involvement as active library participants as well as encourage users to browse the catalogue in more depth.

2.2.5 Comparative studies in Web 2.0 technologies

Very little research based literature is available on comparison between Web 2.0 technology tools. Naik and Shivalingaiah (2008) examined the differences between Web 1.0, Web 2.0 and Web 3.0. The authors focused on the semantic wave embraces three stages of Internet growth. The first stage, Web 1.0, was about connecting information and getting on the net. Web 2.0 is about connecting people putting the “I” in user interface, and the “we” into a web of social participation. The next stage, Web 3.0, is starting now. Chicioreanu (2011) conducted a comparative study on integrating Web 2.0 technologies in teaching activities in technical and vocational education. It is found that the teachers who teach technical disciplines versus teachers who teach human disciplines and also it reveals the impact of integrating these Web 2.0 applications in teaching activity.

Fuchs-Kittowski et al. (2009) described the comparative analysis of several quantitative empirical studies on the use of Web 2.0 in enterprises. Connell (2004) compared blogs, Wikis, and discussion boards as collaborative learning tools. During the last few years a number of articles devoted about the use of Wikis and blogs within higher education and continuing professional development are becoming increasingly popular. Dohn (2010) examined the utilizing Web 2.0 including Wikis and blogs in
educational practices which are presented like flexible learning, competencies, pedagogical advantages, learner motivation, and ease of participation. Booth(2007) focused comparison either between competing Web 2.0 technologies, e.g. blog versus Wiki or between a Web 2.0 technology and either paper-based or digital precursor.

López et al. (2010) studied a low overall presence of Web 2.0 tools on museum websites, as museums in five countries (Italy, France, Spain, England, and the USA) have adopted Web 2.0 tools on their websites. They tried to find out the significant differences or compare with the use of Web 2.0 tools among countries and categories. Chaurasia (2011) deals with the Web 2.0 technologies that used in education and a comparative study is being done to show the variation of usage and adoption of web2.0 technologies for educational purpose. The author has examined that the status of Web 2.0 applications usage in education sectors is inadequate in the Arab World, as compared to western universities.

In general, the applications of Web 2.0 in libraries are mentioned, discussed and analyzed at different levels. The library community has just begun applying this new technology in the library. As synthesized above, there are quite a lot of general publications on Web 2.0 or single Web 2.0 technologies. However, there are few research-based literatures that focus on a survey and evaluation of applications of Web 2.0 in national libraries. And there is no specific, research-based on comparative literature studies. Thus, there are a lot of studies which should be carried out in the field of Web 2.0 technologies, its adoption, comparison and evaluation studies. The present study will show effective and reasonable ways of using Web 2.0 in national libraries.

2.3 Summary

The literature for reviews collected from different sources like books, journals, and Internet. Many of articles theoretically defined, what is Web 2.0? how it is working? what are all the various tools? the usefulness of Web 2.0 and adoption of this technology in the library field, what are its advantages etc. A few articles practically describe and
experiments the use of Web 2.0 technologies in the libraries particularly they are deployed in the field of academic and university libraries, but one or two articles only deploy the use of Web 2.0 in the national libraries.

Some articles explain the each single Web 2.0 tools such as RSS, Blog, Social networking, and YouTube etc work. Web 2.0 tools applications are not limited to the academic websites; it is also implemented in government websites and various types of commercial websites. Web 2.0 tools are really versatile tools for connecting users to the library and if it is applying libraries the purpose of giving services, the libraries receiving the best results.
References


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