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Academic Library Websites in Rajasthan: an analysis of Content

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Academic Library Websites in Rajasthan: an analysis of Content

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Abstract: Services are the most growing and the fast changing segment of academic libraries nowadays. Survey of web sites of 52 academic, libraries, i.e. government, deemed self-financed universities and research centres libraries of Rajasthan based on 133-item checklist. The purpose of this paper is to investigate library web sites in Rajasthan, to analyse their content and navigational strengths and weaknesses and to give recommendations for developing better web sites and quality assessment studies.

Introduction:

Academic libraries are nowadays using web environment to provide high quality information for their users mostly in digital format, but their most important role lies in numerous and enriched library services.

The Internet and web technologies created a new and unprecedented environment to governments, businesses, educational institutions, and individuals enabling them to webcast any information using multimedia tools. The World Wide Web (WWW) can provide information about anything, anyone, and anywhere. It seems that everyone is on the WWW, especially information sources and resource providers. It has also changed the concepts of "time-honoured" and scholarly visits to physical libraries with desktop access to library resources and services available virtually. Libraries have always tried to use the most recent available technologies for information collection and preservation and have adopted web sites in this era of technology boom.[1]

The World Wide Web (WWW) can provide information about anything, anyone, and anywhere. It seems that everyone is on the WWW, especially information sources and resource providers. It has also changed the concepts of "time-honoured" and scholarly visits to physical libraries with desktop access to library resources and services available virtually. Libraries have always tried to use the most recent available technologies for information collection and preservation and have adopted web sites in this era of technology boom. Nielsen and Tahir[2] record how links can transform a web site into "a house in which every single window is also a door".

The development of library web sites started in the 1990s. As soon as Mosaic, the world's first web browser, was released in 1993 academic health science libraries began developing web sites[3] (Brower, 2004). Vaughan[4] describes the development of the library web site at the University of Nevada-Las Vegas (UNLV) Libraries, which became operational in 1996. Today, very few libraries are without a presence on the web. As the number of library web sites grew, it was necessary to evaluate them.

According to Lee[5], the designing of a library web site is an evolutionary process. As "good" design principles continue to evolve, so too should library web sites and web site evaluation should be incorporated into general web management principles. Ward and Mervar[6] stated that a library's web site is a powerful gateway that can provide information to patrons, but

often users access Google or other sources for information even though library web sites provide more authentic, reliable and organised information and internet sources than the "general" internet.

Previous analyses of library web site content have viewed a number of factors related to navigation, access, speed, general library information, mission statements, collection, resources and services, catalogue access, electronic resources, contact information and other interactive services such as RSS feeds, chats with a librarian etc.

Academic libraries in Rajasthan:

It is a universal fact that knowledge is the foundation for the growth of economic activities, income and employment opportunities for the development, application and adaptation of new advancements to enhance the quality of life. The human capital model in theories of Economic development / growth shows that a rise in the level of education brings a rise in the efficiency of all factors of production. Educated people use capital more efficiently; they think innovative forms of production embrace change and quickly learn new skills.

Education allows developing modern market based economy to raise living standards. Therefore, outlays on education should be perceived as an investment and should not be construed only as expenditure. Hence, multi dimensional efforts are being made for enlarging access to relevant and quality higher education to all.

Education and literacy are the two most important factors affecting the progress of a nation and State. In Rajasthan, literacy rate in Census 2011 has been computed as the number of persons literate 7 and above years of age. According to the provisional results of Census 2011 shows that, the literacy rate of India stands at 74.04 percent. Amongst all the States, it is highest in case of Kerala (93.91 percent) and lowest in case of Bihar (63.82 percent). The literacy rate of Rajasthan is 67.06 percent. The total, male and female literacy of Rajasthan are lower than the national average. (Wikipedia) [7]

In Rajasthan, academic libraries began computerizing their library operations only after the year 2000. There are number of academic & research institutions in Rajasthan that have computerised libraries and about 50 of them are part of e-resources consortia or network.[8]

Currently, Rajasthan has over 90,000 schools, 64 engineering colleges, 40 polytechnics, 430 ITIs, 75 MBA institutes, 1 Central University, 1 IIT, 15 Government Universities, 8 Deemed Universities, 25 Private universities and 10 Research Centres. A shift system is followed in the polytechnics and ITIs. As for seats, the State has 20,755 graduate engineering seats, 6,890 diploma seats, and 43,824 ITI seats. These are much lesser than the number of seats in other States like Maharashtra, Tamil Nadu and Andhra Pradesh (AP), as the table below shows. Also, Rajasthan's literacy rate is lower than the national average; it has a literacy rate of 60.41 percent as compared with the national average of 64.84 percent.[9]

Earlier Studies: a review:

There have been a number of studies that focus on the library websites and most of the studies are about the performance and evaluation and usability of library websites with a little importance given to the content analysis. Previous analyses of library web site content have

viewed a number of factors related to navigation, access, speed, general library information, mission statements, collection, resources and services, catalogue access, electronic resources, contact information and other interactive services such as RSS feeds, chats with a librarian etc.

Nielsen and Tahir[10] stated that an institution's homepage is its face to the world, its building's lobby, and the company receptionist. Brower[11] analysed academic health library web sites' contents and navigational elements. These elements included general information about the library, library web site aids and tools, library services, library resources and navigational metrics through many questions. Michalec[12] conducted a content analysis of art library web sites. He analysed content, contact details, hours of operations, information about the library collections, the library web page location on the parent organisation web site, and number of clicks required to navigate library information. He also analysed the availability of search engine links, internet subject resources, local resources, electronic databases, and links to reference assistance along with other basic library-related information contents.

Lee[13] added to this list links to other internet resources, internal electronic database services, external electronic database services, language, instructional support, loading speed and marketing techniques for evaluating the academic library web sites in Malaysia.

Shelstad[14] (2005) suggested the following main areas for redesigning the University of Wyoming's American Heritage Center (AHC) web site:

- general information about the AHC such as hours, location, and staff;
- a section on what's new on the site;
- a Telnet connection to the catalogue;
- online exhibits;
- facts about different departments, their functions and services; and
- a page with links to other archival, library, history, and affiliated sites.

Although a body of literature pertaining to the systematic study of Web sites' content and structure is developing[15] (Cohen & Still 1999), it seems that studies of the content of library and information Web sites are studied rarely. The need to write cognitive guidelines for the design of better home pages based on an experiment was pointed out by Dalal et al.[16] (2000). Huizingh[17] (2000) mentioned how little is known about Web site design and presented a framework consisting of two parts: content and design. He used this framework to investigate how different groups of corporations use the Web. While the above two studies are about other subject fields. McGillis and Toms[18] (2001) and Battleson, Booth, and Weintrop [19](2001) reported on usability studies of academic library Web sites.

Some authors have looked at selected services as links on academic library Web sites. Bao[20] (2000) looked at how academic libraries provide links to commercial databases and remote access to those resources. Coffta and Schoen[21] (2000) examined Web sites from four- and five-year colleges and universities to find out about interlibrary loan policies, contact information, and holdings. Stacy-Bates[22] (2000) examined design characteristics of ready reference and e-mail reference pages from ARL libraries. Stacy-Bates noted that "librarians

must carefully plan the site content and design to serve patrons for whom the Web has become a central source of information"

Karp and Karp[23] offered guidelines about the web designing. Though not directly related to web credibility, adopting those guidelines will help to improve a website. The guidelines explain intelligent use of graphic elements and design that can add greatly to the attractiveness of a web page. Mangala Hirwade[24] evaluated the websites of Indian universities with special reference to their library's web pages. Two hundred and seventy three Indian universities were selected for this study. Out of these, 91 (59.87 per cent) have included information about their libraries in their websites. Major findings and suggestions were presented and directory of Indian university websites were created as a by-product of the study.

Raward[25] developed a 100 questions based checklist for best practice design principles for academic library websites using a usability index checklist (UIC) with the help of Human Computer Interface (HCI) literature. Holly[26] dealt with the need, challenges, tools and methods for library web content management and provided several case studies of library websites. Schaffner[27] emphasised the need for good library web interface and online public access catalogues (OPAC). Dinkelman and Stacy-Bates[28] examined the availability and access mechanism of electronic books available in the websites of academic libraries in Association of Research Libraries (ARL) and provided useful suggestions to improve it. Similar effort has been made by Rich and Rabine[29] for electronic serials in academic library websites and Ganski[30] for e-resources in theological library websites. Kruegar et al[31] adapted web usability techniques to assess student's awareness of their library websites by using a web browser. They categorised various approaches according to student's preference and revealed that forty five percent of the students utilized the library websites as first tool of choice.

Objectives of the study:

Following objectives have been set for this study, which is mentioned below:

- To design a scale for content awareness evaluation for academic library websites;
- To establish criteria for content analysis for evaluating academic library websites;
- To measure the aesthetic value, accuracy, navigation, currency, accessibility and user friendliness;
- To assess the relevancy and quality of graphics, animations which used in the academic libraries in Rajasthan;
- To find out the services and facilities provided on the academic library websites in Rajasthan and;
- To suggest measures for improvement of academic library websites in Rajasthan.

Methodology:

This study was conducted in multi-phases. A web-based survey was conducted to locate and evaluate the contents of web sites.

In the first step, a survey was conducted to prepare a list of academic institutions in Rajasthan. In the absence of any directory of library web sites in Rajasthan, information was collected through searching and browsing the web. The library websites of universities, deemed universities, self-financed institutions and research institutes were identified from Google, Wikipedia and other resources. During this process a number of academic library web sites or web pages appeared. Few universities and institutions did not have library webpage which were not selected for the study. This resulted of 52 websites, which contained at least one page for analysis and these are listed along with the relevant web site in Table I.

In second phase, related literature was reviewed and a few good websites were accessed to develop a three package checklist for analysis of the academic library websites in Rajasthan. The checklist was based on studies conducted by Nielsen and Tahir[32] (2002), Brower[33] (2004), Michalec[34] (2006), Qutab[35], (2009) and Lee[36] (2001). A few library websites, e.g. Library of Congress, British Library and Ohio University library and IITs library websites were also visited to get an idea of library web site content and features.

The exact 133 checklist criteria are included in the tables given in the sub-sections in the following section. These features were matched with each other and duplicates were removed from the tabulated data. The similar features (concepts) were grouped at a place.

- Accessibility & Speed
- Navigation
- Authority and Accuracy
- Currency
- Website aid and tools
- Library general Information
- Library resources
- Library collection
- Information on e-resources
- Library services and technical services
- Information on different library sections
- Link to e-resources
- Value added services
- Language

The content survey was conducted during October-December 2012. In the next phase, selected library web sites were analysed. The population of the study contained 52 academic libraries, i.e. Universities and research institutes which are located in different cities of Rajasthan.

Analysis:

While studying the library websites it was found that no library website contained all items on the checklist. However, a few websites, such as Malviya National Institute of Technology, University of Rajasthan, IIT Rajasthan, Banasthali University and Birla Institute of Technology contained a good number of items included the checklist.

Table 1:List of the academic libraries in Rajasthan (Access on November, 2012)

No.	Name of the Universities/institutions	URL of the academic library	Rank	Score
1.	Malaviya National Institute of Technology	http://www.mnit.ac.in/new/facilities/library.php	1	105
2.	University of Rajasthan	http://www.uniraj.ac.in/	1	104
3.	Indian Institute of Technology	http://iitj.ac.in/library/	2	103
4.	Banasthali University	http://www.banasthali.org/banasthali/wcms/en/home/library/campusilib/index.html	2	103
5.	Birla Institute of Technology and Science	http://www.bits-pilani.ac.in/library	3	100
6.	JK Lakshmipat University	http://www.jklu.edu.in/lrc_about.aspx	4	89
7.	Central University of Rajasthan	http://www.curaj.ac.in/Default.aspx?PageId=90	5	80
8.	IIS University	http://library.iisuniv.ac.in/	6	78
9.	LNM Institute of Information Technology	http://www.lnmiit.ac.in/index.php?option=com_content&view=article&id=167&Itemid=236	7	76
10.	Mohanlal Sukhadia University	http://mlsu.ac.in/beta/category.php?catid=16&pageid=346&page=Library	8	72
11.	CSIR-Central Electronics Engineering Research Institute	http://www.ceeri.res.in/	9	71
12.	Indian Institute of Health Management Research	http://www.jaipur.iihmr.org/About_IIHMR/frmLibrary.aspx	10	70
13.	Rajasthan Technical University	http://www.rtu.ac.in/departments/Statistics_library.pdf	11	67
14.	Mewar University	http://mewaruniversity.org/pages/Infrastructure.aspx	12	66
15.	Rajasthan Sanskrit University	http://www.jrrsanskrituniversity.ac.in/library.pdf	13	64
16.	Suresh Gyan Vihar University	http://gyanvihar.org/library.aspx	13	64
17.	Jagannath University	http://www.jagannathuniversity.org/StaticPages/Library.aspx	14	61
18.	NIIMS University	http://nimsuniversity.org/why-us/lifeatnims/central-library/	15	60
19.	Mody Institute of Technology and Science	http://www.mitsuniversity.ac.in/library.aspx	16	59
20.	Maharana Pratap University of Agriculture & Technology	http://www.mpuat.ac.in/index.php?id=53&type=DP	17	58
21.	Maharshi Dayanand Saraswati University	http://www.mdsuajmer.ac.in/mdslibrary.htm	18	57
22.	Central Arid Zone Research Institute	http://www.cazri.res.in/libinfo.php	19	51
23.	National Law University	http://www.nlujodhpur.ac.in/infrastructure.php	20	48
24.	Vardhaman Mahaveer Open University	http://vmou.ac.in/Library.asp	20	48
25.	Shri Jagdish Prasad Jhabermal Tiberewal University	http://www.jjtu.ac.in/Library.aspx?FrontEndMenuId= 57&ParentMenuId=55	20	48

26.	Shridhar University	http://www.shridharuniversity.ac.in/library.aspx	20	48
27.	Jaipur National University	http://www.jnujaipur.ac.in/salient_features/library.aspx	21	44
28.	Manipal University	http://www.jaipur.manipal.edu/Infrastructure/Libraries/Pages/CampusFacilities.aspx	21	44
29.	NIIT University	http://www.niituniversity.in/overview/infrastructure/library-facilities/	21	44
30.	National Research Centre on Camel	http://www.nrccamel.res.in/library.php	21	44
31.	Arid forest Research Institute	http://afri.res.in/library.php	22	41
32.	University of Kota	http://www.uok.ac.in/library-introduction.html	23	39
33.	Jain Vishva Bharati University	http://jvbi.ac.in/central-library.html	24	39
34.	Rajasthan Ayurved University	http://www.raujodhpur.org/campus.html	25	37
35.	Central Sheep & Wool Research Institute	http://www.cswri.res.in/library.asp	25	37
36.	Jodhpur National University	http://jodhpurnationaluniversity.com/infra.htm	26	35
37.	Mahatma Jyoti Rao Phoole University	http://mjrpuniversity.com/mjrp/public/frmsubmenu.aspx?cid=5&submenuid=237&MNAME=Library%20and%20Reading%20Facility	26	35
38.	Central Institute for Arid Horticulture	http://www.ciah.ernet.in/library.htm	27	34
39.	Jayoti Vidyapeeth Women's University	http://www.jvwomensuniv.com/academic_tool.php	28	33
40.	Mahatma Gandhi University of Medical Sciences & Technology	http://www.mgmch.org/images/library-page.jpg	29	32
41.	National Research Centre on Rapeseed-Mustard	http://www.drmr.res.in/library.html	29	32
42.	Institute of Advanced Studies in Education	http://www.iaseuniversity.org.in/faciltyLabHostel.asp	30	31
43.	Raffles University	http://www.rafflesuniversity.edu.in/library%20as%20resource%20centre	30	31
44.	Jai Narain Vyas University	http://www.jnvu.edu.in/library.php	31	29
45.	Pacific Academy of Higher Education & Research University	http://www.pahersociety.org/infrastructure.html	32	28
46.	Singhania University	http://singhaniauniversity.co.in/	33	27
47.	Bhagvant University	http://www.bhagwantuniversity.com/student_facilities.htm	34	26
48.	Pratap University	http://pratapuniversity.in/library.php	35	25
49.	National Research Centre on Seed Spices	http://www.nrcss.org.in/images/Library.pdf	35	25
50.	Dr. K N Modi University	http://www.dknmu.org/	36	24
51.	Sunrise University	http://sunriseuniversity.in/infrastructure.html	36	24
52.	Rajasthan Oriental Research Institute	http://www.rori.nic.in/main.htm	37	23

6.1 Accessibility & Speed:

Accessibility and page-loading speed of any web site is important, and can be accessed through various parameters. It is ideal for any user to find information about the library of an organisation via the homepage of the parent organisation and within three "clicks". Appearance of some useful text within eight seconds of time is believed acceptable with minimum dead links and completely constructed web pages. The homepages of all the organizations (100 percent) provides links to their library websites or pages. A link on the parent organization's homepage under the title "library" was found on 85 percent of the websites while the remaining 15 percent, library links under the other headings. Library pages on the parent organisation were found to be within three clicks on 54 percent of the web sites, with 100 percent visibility within eight seconds. Only 21 percent of libraries had pages "under construction" and 44 percent had some links that were dead or wrong. Access for outside users was provided by 100 percent of the web sites, as can be seen in Table 2.

Table 2:Accessibility and Speed

Rank	Items	Frequency	%	
1	User can see something within 8 seconds	52	100%	
1	The web site can be accessed publicly (no fees, registration or application required to enter the site)	52	100%	
2	Link on parent organisation website homepage	50	96%	
3	Information about library can be found from link with "Library" title Information about library can be found from link with facilities/ resources/ infrastructure	44	85%	
4	Not more than three clicks from homepage	28	54%	
5	Are there dead links	23	44%	
6	Under construction (few pages)	11	21%	n=52

6.2 Navigation:

Navigation is vital for users to route their search within a web site. This can be achieved by proper titles, a location map and returning options to the homepage from any page of the web site. In 90 percent of cases, the web pages described the location of the current page, and in 52 percent of the library web sites there were graphics (banner or library pictures) while only 31 percent presented a text-only version of the web site. It was interesting to note that even though there are low speed Internet connections, most of the library web sites go for graphic versions shown in table 3.

Table 3:Navigation

Rank	Items	Frequency	%	
1	Home link on every page of website	49	94%	
2	Page title describes content or location in site structure	47	90%	
3	Page title appears in the top window bar	42	81%	
4	Use of Graphics/ pictures / charts	27	52%	
5	Text-only version	16	31%	n=52

6.3 Authority and Accuracy:

Anyone can create a Website. It is important to find out the author's identity and his or her qualifications or expertise in order to determine the credibility and reliability of the information. It aims to describe who created the web page; can you contact him/her?

It is found from the data that 98 percent of libraries are providing their contact information on the websites while 92 percent of libraries having well written and understandable text. 50 percent libraries are providing links to other credible websites, i.e. government organizations, laboratories etc.

Table 4:Authority and Accuracy

Rank	Items	Frequency	%	
1	There is a phone number and postal address to contact for further information. (Just an e-mail address is not sufficient)	51	98%	
2	Is the text well written and understandable? (no grammatical, typing, or spelling mistakes)	48	92%	
3	Are there links to other credible websites?	26	50%	n=52

6.4 Currency:

Currency and authority of information are judged by a web site's copyright and updating date and assures the end users about the current and significant state of posted information. Copyright information (date and copyright owner) was provided by 77 percent of the libraries. 71 percent libraries are updated frequently However, only 31 percent of the library web pages showed the last updating date which was not less than six months previously, as can be seen in Table 5. The information is current and timely enough to meet the users need was shown in 62% percent libraries. However, only 13% libraries stated about the data was gathered presented in graphs/ charts and tables.

Table 5:Currency

Rank	Items	Frequency	%	
1	Copyright information	40	77%	
2	The web site is updated frequently.	37	71%	
3	The information is current and timely enough to meet the need.	32	62%	
4	The pages have been updated in the past three months.	24	46%	
5	There is an indication of when the page was last updated/revised? (Or is there a date on the page to indicate when it was uploaded to the web?)	16	31%	
6	If material is presented in graphs and/or charts and/or tables, is it clearly stated when the data was gathered?	7	13%	n=52

6.5 Website aid and tools:

Web site aids or tools define all links that can help users to make better use of the web site and to find relevant information in a quick and simple manner. This section included five items: site map; feedback link; index; search and FAQs. Only 35 percent libraries provided FAQs on their websites. A feedback form, or e-mail link, was given by 46 percent of the websites. However a website index was given on 94 percent of libraries and website search was given on 40% libraries as can be seen in table 6.

Table 6:Website aid and tools

Rank	Items	Frequency	%	
1	Web site index	49	94%	
2	Site map	29	56%	
3	Library web site feedback form or e-mail link	24	46%	
4	Web site search	21	40%	
5	Frequently Asked Questions (FAQs)	18	35%	n=52

6.6 Library general Information:

Table 7 shows the general information available on library websites, i.e. library introduction, services, resources, rules, collection, working hours etc. These items were given on most of the websites. It is revealed that about more than 50 percent libraries provide library introduction, information about library resources, their collection, services, contact information, location, staff directory, information about library building and statistical reports.

Information about library committees (15 percent) is the lowest response found while analysis the websites. However information regarding working hour (48 percent), mission statement and library membership (46 percent), tutorials about library uses and news and events (44 percent), administrative activities (40 percent), library policies and procedures (38 percent), library rules (37 percent), mail to library staff and department information (33 percent), and ongoing projects (23 percent) is also provided on the websites.

Table 7:Library general information

Rank	Items	Frequency	%
1	Library introduction	49	94%
2	Information about library resources	48	92%
3	Library collections	46	88%
4	Information about library services	45	87%
5	Contact information	40	77%
6	Library location	32	62%
7	Staff directory	30	58%
8	Information about the building	26	50%
8	Annual reports/statistics	26	50%
9	Working hours	25	48%
10	Library mission statement or objectives of library	24	46%
10	Information about membership	24	46%
11	Instructions or tutorials about library use	23	44%

11	News and events	23	44%
12	Administrative activities	21	40%
13	Library policies and procedures	20	38%
14	Library rules	19	37%
15	Mail to facility to librarian/staff	17	33%
15	Library department's information	17	33%
16	Information about the branches of library (if any)	15	29%
17	Ongoing projects	12	23%
18	Information about library committees	8	15% n=52

6.7 Library resources:

Libraries are providing different resources, i.e. internet resources, databases, OPAC and catalogue access through websites. It was observed that only 25 percent libraries providing OPAC facility to the users however, only 15 percent libraries providing information of online catalogue. 40 percent libraries provided bibliographical databases services to their users.

Table 8:Library resources

Rank	Items	Frequency	%
1	Library selected Internet sources	24	46%
2	Bibliographical databases	21	40%
3	Other reference sources (dictionaries, encyclopaedias etc)	18	35%
4	OPAC	13	25%
5	Links to other libraries online catalogues	8	15% n=52

6.8 Library collection:

Library collection forms an important part in library. Hence it is necessary that every library website must include information regarding their collection including different kinds of materials such as books, audio-visual materials, CDs, DVDs, and reports. Table 9 shows the information about the collection of the libraries of Rajasthan as disclosed in their websites.

Table 9:Library collection

Rank	Items	Frequency	%
1	Books (printed/electronic)	49	94%
1	Journals, newspapers and magazines	49	94%
2	CDs/DVDs ROMs	47	90%
3	Audio-video materials	37	71%
4	Dissertations	33	63%
5	Project reports	32	62%
6	Legal deposits	13	25%
7	Manuscripts	9	17%
8	Maps	8	15%
9	Microfilms	6	12%
10	Music	4	8% n=52

The data revealed that 94 percent websites provide information on books, journals, newspapers, and magazines followed by CDs and DVDs ROMs with 90 percent information. More than 60 percent library websites provided information on dissertations and projects

reports. It is also observed that 12 percent libraries are providing information on collection of microfilms while only 8 percent libraries provided information on collection on music.

6.9 Information on non book materials and e-resources:

The term non-book material used for those library materials, which do not come within the definition of a book, periodical, or pamphlet and which requires special holding e.g., audio-visual materials, vertical file materials and similar items and have been not individually catalogued. The data on non book materials and e-resources availability is presented in table-10.

Table 10: Information on non book materials and e-resources

Rank	Items	Frequency	%	
1	Online databases	30	58%	
2	E-journals/E-magazines	27	52%	
3	CD-ROM databases	26	50%	
4	E-books	25	48%	
5	E-standards	4	8%	
5	E-patents	4	8%	
6	Online exhibitions	3	6%	
7	Online seminars	1	2%	n=52

From the data it is revealed that 58 percent library websites provide information on online databases while 52 percent websites provide information on e-journals and e-magazines. Only 8% library provides information on e-standards and e-patents on website. Information on online seminars is provided by only 2% libraries.

6.10 Library services and technical services:

Library service describes the facilities provided by a library for the use of book and dissemination of information. Library and documentation service relating to two areas, which are largely document oriented, have also been shaping in a way, which has now given them distinct status.

Technical services such as acquisition, classification, cataloguing and circulation often come into view on library web sites. Provision of these services is the main purpose of any library web site so it is important to know which are offered and to what extent. Sometimes these descriptions also include related forms and online services like reservation, material renewal, fine calculation, purchase suggestions, "ask a librarian", requests for photocopy forms and so on.

It was observed that majority of the libraries provided internet access services to the users while translation service is the found lowest in all and provided by only 4 percent of libraries. 10 percent of libraries providing purchase suggestions and indexing services to the users. It was also observed that 19 percent of libraries provide information search request, renew material, fine accrued and reprography service in their libraries. OPAC facility is provided by 27 percent of libraries. Table 11 provides more results in this area.

Table 11: Library services and technical services

Rank	Items	Frequency	%	
1	Internet access services	39	75%	
2	Photocopying service	36	69%	
3	Reference services	25	48%	
4	Issue-return (Browsing, self check in/ out)	22	42%	
4	Reading room	22	42%	
5	Bibliography services	19	37%	
6	Webmaster link	16	31%	
7	Site search	15	29%	
8	OPAC	14	27%	
9	Book bank services	12	23%	
10	Inter library loan	11	21%	
11	Information search request	10	19%	
11	Renew material	10	19%	
11	Fine accrued	10	19%	
11	Reprography services	10	19%	
12	Reference queries "Ask a librarian"	9	17%	
13	Information about classification and cataloguing	8	15%	
13	Material reservation	8	15%	
14	Purchase suggestions	5	10%	
14	Indexing services	5	10%	
15	Translation service	2	4%	n=52

6.11 Information on different library sections:

Basically library organization consists of different sections such as Acquisition, Technical processing, maintenance, circulations, documentation, micrographic/photography section etc. The library website of the different academic libraries provided their organization information as given in table 12. It is observed that library websites of different academic libraries provide information about computer/ internet lab section and periodicals/ back volume section more compare to other sections where users get access internet for their different purposes. 12 percent of libraries information regarding stack section in which they follow open access and closed whereas they remain same for the information on micrographic and photocopy section. Only 2 percent libraries from all are providing information related to documentation and manuscript section.

Table 12: Information on different library sections

Rank	Items	Frequency	%
1	Computer section	13	25%
2	Periodical/ Back volume section	11	21%
3	Circulation section	9	17%
3	Book bank section	9	17%
4	Stack section	6	12%
4	Micrographic/Photocopy section	6	12%
5	Acquisition section	5	10%
6	Technical processing section	3	6%
7	Documentation section	1	2%

6.12 Link to e-resources:

Links to electronic sources is a key feature of any educational/informational web site. These sources include access to specialised subscribed databases as well as to other chosen web sites that might be supportive for the online users of the library. In the case of subscribed sources often links are provided with limitations of campus-wide access or passwords protected.

It was observed that majority of 75 percent of libraries provide link to internal sources like reference materials, question papers, tenders, circulars, etc. for the users help. Some of the libraries (29 percent) provide link to professional organizations such as different IITs, NITs, and many more. 27 percent libraries are providing links to e-journals through their website and accessible within a campus while 23 percent of them are providing link to other databases. The more details of the results are shown in the table 13.

Table 13: Link to e-resources

Rank	Items	Frequency	%	
1	Link to internal sources	39	75%	
2	Professional organisations or associations	15	29%	
3	Higher Education Commission (HEC) databases	14	27%	
3	Links to e-journals	14	27%	
4	Links to e-books	13	25%	
4	Reference tools list	13	25%	
5	Links to manuals for e-resources	12	23%	
5	Other databases	12	23%	
6	Links to search engines	11	21%	
7	E-discussion lists	4	8%	n=52

6.13 Value added services:

Generally these "value-added" services are not part of a library's main functions but they are becoming essential to compete with the "boom" of personalised services offered by many other web services. New arrival lists of printed or electronic collections, job vacancies in the library, news alerts about any additions to collections etc. through newsletters or e-mail services, a calendar of upcoming events set up by the library, book vendor links for online book purchases are all examples of such services. Table 14 is summarised the information regarding their value added services. 65% libraries providing links on job vacancies; 58% libraries provided image gallery with the content on web sites.

Web 2.0 technologies which is facilitating communication, information sharing, and collaboration on the web are now being used by libraries around the world and referred to as Library 2.0. 38% libraries providing web 2.0 facilities which help to increase the usage of libraries.

These features were not available on many websites, i.e. RSS feed, Library archive, book vendors link, library blog and union catalogue. Information regarding online tutorials and library committee is only provided by 13 percent of the libraries.

Table 14: Value added services

Rank	Items	Frequency	%	
1	Job vacancies	34	65%	
2	Image gallery of library	30	58%	
3	Web 2.0	20	38%	
4	User guidelines	17	33%	
5	Library "news alerts"	14	27%	
6	Chronology of librarians	12	23%	
7	Virtual help desk	9	17%	
8	Library events calendar	8	15%	
9	Online tutorials	7	13%	
9	Library committee	7	13%	
10	New-arrival section	6	12%	
11	Projects and consultancy	5	10%	
12	RSS feed	4	8%	
12	Library archive	4	8%	
13	Book vendors links	3	6%	
13	Library blog	3	6%	
14	Union catalogue	2	4%	n=52

6.14 Language:

Hindi is the national language of India and English is the official language. It was observed that almost (98%) all library websites are in English, with only 19% library websites are completely bilingual, i.e. in English and Hindi. 8% libraries are offering translation facility of their website while accessing. Information about language is summarised in table 15. It is also found that Rajasthan Sanskrit University is providing all the details of the institution in Hindi language.

Table 15: Language

Rank	Items	Frequency	%	
1	English	51	98%	
2	English and Hindi	10	19%	
3	Translation facility	4	8%	n=52

Highest scoring institutions:

Analysis of website contents revealed that the website of the library at the Malviya national Institute of technology and University of Rajasthan contained the highest number of items (105 of the 134 identified in the tables). This was followed by IIT Rajasthan and Banasthali University with 104 items. Screenshots of these libraries homepages are displayed as figure 1-4. All four websites are of academic (university) libraries. These web sites were enriched with features such as accessibility and speed, open access to most of the services except the digital library link provided by the Higher Education Commission, active navigation, currency and other web site attributes. Contents of these web sites were also enhanced with information about a library's general information, e.g. history, mission, aims, policies, services, resources etc.

Malviya National Institute of technology website was most enriched with contents for its library's online users. Nearly all the information is available either as a catalogue or PDF files. A large range of links were categorised for users for quick reference.

Website of University of Rajasthan and Banasthali university library provides detail description on its genesis, access to e-journals within premises through website, genealogy, administration, accessibility, membership, collection, and its services. Banasthali university library provide online catalogue through links of Digital library of India.

The website of the IIT Rajasthan library was the most user friendly websites as it offers a lot of help for searching the library e-resources by demonstrations and help files. It was also evident that library members can use the highly interactive features of OPACs with reservation, borrowing, renewing etc. Content categorisation was very clear and relevant on homepages as they increase quick and easy access for the user. The IIT Rajasthan library provides library blog, FAQs, Helps and instructions, ask a librarian, sitemap to its users. It provides special links on "Kids section".

Figure 1: Screenshot of Malviya National University Library

Figure 2: Screenshot of University of Rajasthan Library

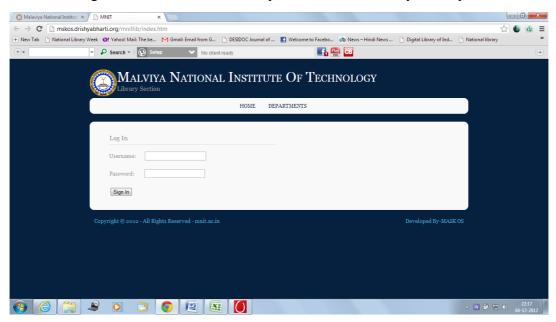Figure 3: Screenshot of Malviya National University Library

Figure 4: Screenshot of Banasthali University Library

Conclusion and Recommendation:

In present study, 52 library Websites of Rajasthan have been examined. Though there is a growing number of ways and means of contacting users and showing the library's services, the library Website should always be the main starting-point for searches and the one virtual "entrance" to the library. The main criteria for quality for a library Website can be summarized thus adequate language; clear structure; options for different user groups; all information up-to-date and short, concise information. The best preparation for creating a Website is for library staff to spend some time by surfing the Websites of similar libraries or organizations. This activity will give the staff an indication of what works and what does not, what is interesting to the online visitor and what is not pleasant to use. The library authority also needs to be identifying the skilled manpower and form a Web team who will be responsible to present library to the global community through WWW.

It is definitely negligent on the libraries' part as internet users in Rajasthan are growing fast, thousands of internet communities of different interest groups and web sites of nearly every institution are coming into existence and the availability of hardware and technical support are not the issue these days. The analysis of academic library web site features and contents, and comparison with international trends clearly indicates that library web site development in Rajasthan is in its infancy. These web sites were often developed as a routine organisational matter instead of a conscious process of library promotion and marketing. Very few web sites show serious understanding by librarians of the worth of web technology and their professional involvement. General features like access, speed, navigation, help facilities etc. may be found, but the placement of library functions like OPAC, circulation, reference, and other interactive services are not highly observed.

Absence of the categorisation of content with relevance was also missing in most of the cases, even at some of the top ranked web sites, leading to wastage of time and boredom for the users. Putting too much information on a homepage was another big problem. It seems that planning for the selection of contents and awareness of the latest web-based interaction techniques are lacking among library professionals in Rajasthan. A small number of library

web sites can neither satisfy the efforts to bridge the digital divide nor can represent a country with 170 million people. The researchers found that only two library schools were teaching web development courses as an optional subject in their master's curriculum.

The following suggestions can improve library web sites in Rajasthan:

1. A directory of library web sites of Rajasthan should be compiled by a professional association.
2. To meet international standards, the usability and quality of library web sites should be studied.
3. User-centred studies are also required to develop more user oriented web sites.
4. Designing library web sites should be included in the curriculum of library and information science schools with an emphasis on the analysis of content techniques.
5. Continuing education programmes for working professionals should include website development and evaluation techniques.
6. Web sites should focus attention to fulfil information seeking needs of users rather than administrative information about the library.
7. Guidelines for web site development may be prepared by the National Library of India.
8. This checklist can be used as a guideline for developing or revising library web sites in Rajasthan while keeping the type of library in view.

Bibliography:

1. Qutab, Saima and Mahmood, Khalid, Library websites in Pakistan: an analysis of content, 2009, *Program: electronic library and information systems,* 43(4) (2009) 430-445.
2. Nielsen, J. and Tahir, M., Homepage Usability: 50 Web sites Deconstructed, New Riders, Indianapolis, IN. (2002) http://crt.chez.com/ressources/documents/livre_homepage_usability.pdf
3. Brower, M.S., "Academic health sciences library website navigation: an analysis of forty-one websites and their navigation tools", *Journal of the Medical Library Association,* 92(4) (2004) 412-20.
4. Vaughan, J, "Three iterations of an academic library web site", *Information Technology and Libraries*, 20 (2), (2001) 81-92.
5. Lee, K.H., "Evaluation of academic library web sites in Malaysia", *Malaysian Journal of Library and Information Science,* 5(2), (2001) 95-108.
6. Ward, J. and Mervar, D, "Beyond the web: promoting the value of a library's web site", *Florida Libraries*, 46(2), (2003) 15-17.
7. Wikipedia: http://en.wikipedia.org/wiki/Literacy_in_India
8. Pareek, Sarwesh and Gupta, D K, Information about services and information resources on websites of selected libraries in Rajasthan: A study. *DESIDOC Journal of Librarya and information Technology*, 32 (6), (2012), 496-505.
9. College education: http://www.collegeeducation.rajasthan.gov.in/httpdocs/eprc.asp
10. Nielsen, J. and Tahir, M. (2002), Homepage Usability: 50 Web sites Deconstructed, New Riders, Indianapolis, IN.

11. Brower, M.S, "Academic health sciences library website navigation: an analysis of forty-one websites and their navigation tools", *Journal of the Medical Library Association,* 92(4), (2004) 412-20.

12. Michalec, M., "A content analysis of art library web sites", *Art documentation*, 25(2) (2006) 46-54.

13. Lee, K.H., "Evaluation of academic library web sites in Malaysia", *Malaysian Journal of Library and Information Science,* 5(2) (2001) 95-108.

14. Shelstad, M., "Contents matters: analysis of a website redesign", *OCLC Systems & Service,* 21(3) (2005) 209-25.

15. Cohen, L.B. and J.M. Still, A comparison of Research University and two-year college library web sites: content, functionality, and form, *College & Research Libraries,* 60(3) (1999) 275–89.

16. Dalal, N.P., Z. Quible and K. Wyatt.. Cognitive design of home pages: an experimental study of comprehension on the World Wide Web, *Information Processing & Management*, 36 (4) (2000) 607–21.

17. Huizingh, E.K.R.E, The content and design of web sites: an empirical study, *Information & Management*, 37 (3) (2000) 123–34.

18. McGillis, L., & Toms, E. G, Usability of the academic library Web site: Implications for design, *College & Research Libraries*, 62 (2001) 355-367.

19. Batteleson, B., Booth, A., & Weintrop, J, Usability testing of an academic library Web site: A case study. *The Journal of Academic Librarianship*, 27 (2001) 188-198.

20. Bao, X. (2000). Academic library home pages: Link location and database provision, *The Journal of Academic Librarianship,* 26, 191-195.

21. Coffta, M., & Schoen, D. M, Academic library Web sites as a source of interlibrary loan lending information: A survey of four- and five-year colleges and universities, *Library Resources & Technical Services*, 44, (2000) 196-200.

22. Stacy-Bates, K. K, Ready-reference resources and E-mail reference on academic ARL Web sites [Electronic version], *Reference & User Services Quarterly* 40, (2000) 61-73

23. Karp, T. & Karp, M. Art and the zen of web sites. http://www.tlc-systems.com (Accessed on 03 May 2008)

24. Mangala, Anil Hirwade. Websites of Indian universities: An evaluation. Himalaya Publishing House, Bombay, 2005.

25. Raward R, Academic library website design principles: development of checklist, Australian Academic & Research libraries, 32 (2) (2001), Available at (http://www.alia.org.au/publishing/aarl/32.2/raward.html) (Accessed on June 4, 2009)

26. Holly Y, Content and workflow management for library websites: case studies, (information Science Publishing; Hershey), (2005), 259.

27. SchaffnerJ, Good design for library websites and online public access catalogus (White paper, LIS 488), (April 24, 2007). Available at http://web.simmons.edu/~schaffne/whitepaper.pdf (accessed on June 22, 2009)

28. Dinkelman A and Stacy-Bates K, Accessing e-books through academic library websites, *College & Research Libraries*, 68 (1) (2007) 45-58.

29. Rich L A and Rabine J L, How libraries are providing access to electronic serials: a survey of academic library websites, *Serials Review*, 25(2) (1999) 35-46.
30. Ganski K L, Accessibility of e-resources from theological library websites, *Theological Librarianship*, 1(1) (June 2008) 38-45.
31. Krueger J, Ray R L and Knight L, Applying Web usability techniques to assess student awareness of library web resources, *The journal of Academic Librarianship*, 30 (4) (2004) 285-293.
32. Nielsen, J. and Tahir, M. (2002), Homepage Usability: 50 Web sites Deconstructed, New Riders, Indianapolis, IN.
33. Brower, M.S., Academic health sciences library website navigation: an analysis of forty-one websites and their navigation tools, *Journal of the Medical Library Association*, 92(4) (2004) 412-20.
34. Michalec, M, A content analysis of art library web sites, *Art documentation*, 25(2) (2006) 46-54.
35. Qutab, Saima and Mahmood, Khalid, Library web sites in Pakistan: an analysis of content. *Program: electronic library and information systems*, 43(4) (2009) 430-445, 2009
36. Lee, K.H, Evaluation of academic library web sites in Malaysia, *Malaysian Journal of Library and Information Science*, 5 (2) (2001) 95-108.

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