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## CENTRAL UNIVERSITY LIBRARY WEBSITES IN INDIA: WEB CONTENT ANALYSIS

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# **CENTRAL UNIVERSITY LIBRARY WEBSITES IN INDIA: WEB CONTENT ANALYSIS**

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## **ABSTRACT**

Library is one of the fastest growing sectors in the modern education system. University libraries in the present era are providing high quality digital information to the user community. Most of the university libraries have either their own library website or integrated it into the home page of the parent organization. They are the channels that link library patrons with its resources and services and provide unique opportunities for the users to judge its relevance to them. Digital libraries have integrated all the resources into its website and the majority of the services can be accessed online. In order to provide the best services to the users, library websites should be vibrant and the contents should match the information needs of the users. Periodic evaluation of library websites will help the authorities to improve its effectiveness. In the present study, contents of thirteen central university library websites in India have been analysed using 29 standard checklists. They are ranked based on the assessment of the result and a few suggestions are recommended to make the websites more users friendly. Analysis revealed that variations are found in the websites and the librarians have to put more efforts to standardize it on par with other international library websites. The study will be more useful to the librarians, website designers and policy makers in improving their websites.

**KEYWORDS:** RANKING WEB SITES: INFORMATION SERVICES: SURVEY: GATEWAYS: ASSESSMENT: EVALUATION: SERVICE DELIVERY: RATINGS

## **Introduction**

Libraries provide better services to the users using new technologies (Mairaj, 2013). In academic institutions, a library website is one such way to reach its patrons. It is a way of providing information and services to the users in an attractive way (Wijayaratne and Singh, 2015). They are the immediate gateways to disclose library activities to the users. It enables the users to interact with library catalog, a gateway to e-resources, provides remote access to databases, offers virtual reference services and a blog to publicize new resources and services (Tella and Oladapo, 2016), a tool for accessing both physical and virtual library services (Swanson et al., 2017). It should provide all the relevant information to catch the attention of the web users (Haneefa and Venugopal, 2010). The present society is moving at an alarming rate in ICTs which has brought tremendous changes in the functions of the libraries. As a result, traditional libraries are being

transformed into digital libraries. It provides a better platform to explore and access the content from any location at any given time. Digital libraries integrate all the resources and services into its website to provide better services to its clients. The library ecosystem and users expectations are changing (Balaji and Kumar, 2011) and the internet revolution has changed the methods of organizing and retrieving information (Abifarin et al., 2019). Since the users of academic libraries are students, research scholars and faculty members, libraries should be very careful in designing the website and keeping the content in line with their missions (Lee and Teh, 2001). Users prefer to have a single access point for multiple resources (Dogan and Dogan, 2013). Libraries have to create simple and visible search interfaces to access information (Rector and Ghaphery, 2008). It should be able to establish a long and strong relationship among the users by promoting its products and services (Kuri and Maranna, 2018).

Today, most of the university libraries either have their own website or links in the homepage. With the help of Information and Communication Technology (ICT), most of the university libraries provide quality e-Content to the potential users. The libraries are spending a sizable amount in procuring electronic resources such as e-Books, e-Journals, e-Databases, e-Theses and Dissertations and so on. University librarians should ensure the facility and services are reaching the end users through this platform. It is possible to send and receive information instantly to the users through a web medium. It is easy, convenient and timely to reach users. Due to the changes in technologies, library websites needs periodic evaluation to improve its quality and ensure user friendliness. Assessment of library websites is inevitable in the current scenario and there is no exception from it (Still, 2001). Since libraries are becoming more accountable and have to prove that they are meeting performance metrics for funding and accreditation, a website is a way to display data (Clunie and Parrish, 2018).

## **Objectives**

The specific objectives of the study are:

1. To explore the information that could be obtained by the users from the library websites.
2. To rank the central university library websites based on the score obtained from analysis.
3. To highlight the special features identified.
4. To suggest few measures for improving central university library websites.

## **Literature Review**

Computerization of libraries has enabled the librarians to provide specialized services to the users by overcoming geographical borders. Hence, contents of library websites should be updated according to the change in its working culture. Though there are no guidelines for developing library websites, it is up to the librarians to plan the elements in advance and update it as and when required. Different library websites evaluation has been done by various authors for different purposes. Some of the reviews helped the authors to prepare the checklists and compare its content.

Mohammed et al., (2016) investigated ten university libraries with the help of 43 checklists and found that the majority of the university libraries failed to provide adequate information about its parent institution, library committee, annual reports and physical collection and suggested the librarians to participate in developing dynamic website. Aharony (2012) analyzed the contents of 31 academic libraries homepages of ACRL accredited LIS schools and found that library websites changed over 10 years period with high usage of e-Journals and further revealed that the libraries used graphics and value added services. Evaluation of websites must be focused based on the interest of the intended users at different times (Kalra and Verma, 2011). Kaushik (2015) identified checklists of 120 points for evaluating 28 NITs library websites and found that most of the library websites did not have mission statements, floor map, plagiarism check, date of updating and other basic information. Ratha et al., (2012) while conducting observational study on structure, design, size, graphical presentation and other features of 15 IIT library websites, found IIT Delhi had the highest number of total links; IIT Bombay was at the top with never active links and the highest numbers of pdf files were linked to IIT Gandhinagar and suggested IITs to provide library 2.0 services to communicate the information in duplex mode. Islam and Hossain (2014) analyzed the status of 57 university library websites accredited by UGC in Bangladesh to find out the marketing initiatives undertaken by the libraries for its promotion and found that they were not maximizing their promotional activities and did not make any effort in providing online literacy courses, networking and so on. Verma and Devi (2016) studied the contents of twelve IIM libraries website and found that all the 12 IIMs were using graphics for providing information and 7 of them used English and Hindi languages, navigation facility was fulfilled by all the IIM libraries, 11 of them provided details of copyright statement and none of them provided details of its maintenance. Kumar and Bansal (2014) concluded with the statement that none of the newly established eight IIT libraries had quality websites and stated that the websites missed one or the other features. Wickramanayake (2012) studied fourteen Sri Lankan academic library websites to find out the instruction applications and help tools used to serve its users through library webpages and found that online instruction was provided on different variables and was still in the development stage. Wilson (2015) evaluated 24 Alabama academic libraries and found that many of the libraries failed to implement basic web design and academic standards. The study also found that there was a lack of multilingual accessibility. Palmer (2002) suggested robust metrics help in identifying key elements in designing websites. From a substantive point of view, its success depends on its design, usability and media richness; whereas from an operational point of view, delay in downloading is the measuring element; navigability, content, interactivity and responsiveness can be measured on the basis of user responses. Chowdhury and Margariti (2004) reported that students depend more on library pages to get information than physically visiting library. It lacks interaction between the user and the staff which limits the promotion of usage of digital resources and training the users in retrieving information will remain impossible. The availability of electronic information has impacted users expectations, hence the librarians are providing the users with value-added services by providing direct information through websites, they should provide useful links to free scholarly journals covering all the disciplines (Arshad and Ameen, 2015). Ambika and Ganesan (2020) surveyed twenty-six NAAC accredited engineering college websites

and based on the contents available NHCE and RVCE were ranked as excellent. While exploring they found special features such as AIT was providing services for differently-abled users, and NHCE had a calendar of library events and had a notice board on its website. They suggested developing the website to make it more innovative and interactive and also to educate the users about its importance.

## Methodology

The study focused on the central university library websites. The list of central universities in India was obtained from Wikipedia in April 2019. There were altogether 49 central universities in India. To select the universities, filters were applied in two phases to arrive at the final list. In the first phase, filters were applied and selected 38 universities whose academics are related to general courses and in the second phase, the filter was applied for the year of establishment. Universities which were established between 2001 to 2010 were taken for the study. Out of 38 universities, authors found 15 universities were established between 2001 to 2010. Since, the library link of Central University of Jharkhand was not working and the data of Central University of Kerala was not updated, they were omitted from the study. Finally, the authors selected 13 universities for analysis. On the basis of evaluations of websites made by (Mohammed et al., 2016), checklists of 29 items were prepared. Data was collected by exploring the contents of library websites and analysed using MS Excel in the month of May 2019. Maximum score for each item was allotted and the score obtained was recorded to rank them using five point scales.

### List of Central University Libraries Website in India under study:

Sl. No.	Central University Libraries	URL
1	Central University of South Bihar (CUSB)	<a href="https://www.cusb.ac.in/index.php/2016-07-01-04-53-58/2016-03-09-15-31-33/central-library">https://www.cusb.ac.in/index.php/2016-07-01-04-53-58/2016-03-09-15-31-33/central-library</a>
2	Nalanda University (NU)	<a href="https://www.nalandauniv.edu.in/library/">https://www.nalandauniv.edu.in/library/</a>
3	Central University of Gujarat (CUG)	<a href="http://library.cug.ac.in/">http://library.cug.ac.in/</a>
4	Central University of Haryana (CUH)	<a href="http://14.139.13.69/cuh/">http://14.139.13.69/cuh/</a>
5	Central University of Himachal Pradesh (CUHP)	<a href="http://www.cuhimachal.ac.in/library.aspx">http://www.cuhimachal.ac.in/library.aspx</a>
6	Central University of Kashmir (CUK)	<a href="https://www.cukashmir.ac.in/displaydepartment.aspx?sid=74&amp;did=36&amp;pag=494">https://www.cukashmir.ac.in/displaydepartment.aspx?sid=74&amp;did=36&amp;pag=494</a>
7	Central University of Karnataka (CUKar)	<a href="http://cuklibrary.ac.in/index.html">http://cuklibrary.ac.in/index.html</a>
8	Indira Gandhi National Tribal University (IGNTU)	<a href="http://www.igntu.ac.in/clib.aspx">http://www.igntu.ac.in/clib.aspx</a>
9	Central University of Orissa (CUO)	<a href="http://cuo.ac.in/Facilities_Library.asp?pgid=6&amp;subid=1">http://cuo.ac.in/Facilities_Library.asp?pgid=6&amp;subid=1</a>

10	Central University of Punjab (CUP)	<a href="http://cup.edu.in/library.php">http://cup.edu.in/library.php</a>
11	Central University of Rajasthan (CUR)	<a href="http://www.curaj.ac.in/library">http://www.curaj.ac.in/library</a>
12	Sikkim University (CU)	<a href="https://library.cus.ac.in/">https://library.cus.ac.in/</a>
13	Central University of Tamil Nadu (CUT)	<a href="https://cutn.ac.in/central-library/">https://cutn.ac.in/central-library/</a>

Table 1: List of Central University Libraries Website and URL

## Data Analysis and Interpretation

### Library Link

Libraries are the supporting centres for teaching, learning, research and other activities. Service provided through the library home page enables the users to access information from their desktop which saves their valuable time.

Table 2 provides the level of link established for the library on the Central University website. The first level indicates the link provided as the main heading on the home page of the university and the second level indicates the link provided as a sub heading. Only 8 libraries provided links as the main heading and 5 libraries have a second level heading, which may confuse or take more time to identify the library website. A maximum of 2 points were assigned for the first level link and 1 point for the second level link and the scores obtained are recorded in Table 2.

Links	CUSB	NU	CUG	CUH	CUHP	CUK	CUKar	IGNTU	CUO	CUP	CUR	SU	CUT
Level	II	I	I	I	I	I	I	I	II	II	II	I	II
Score	1/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	1/2	1/2	1/2	2/2	1/2

Table 2: Levels of library link

### General Information:

Basic information about the library provides a clear picture of it. Hence, the general information about the library namely mission or vision statement to know about the aims of the library and the ways to achieve it, library copyright year, site map to locate various sections of the library, working hours to decide about the convenient timings to visit the library, library committee responsible for development of the library, staff directory to contact respective staff, rules and regulations to be followed in the library and notice board/announcements to know about the latest events/activities were included. From table 3, it is found that CUKar, IGNTU, CUO and SU provided vision/mission statement; regarding copyright, central university libraries website such as CUG, CUH, CUKar, CUO and SU have included information on copyright and the remaining eight universities have not mentioned it; only two universities namely CUH and SU have given site map; all the libraries have information on working hours except CUK; library committee which is important for smooth functioning of libraries is being included in few universities namely IGNTU, CUO, CUP and CUT; CUH, CUHP, CUK, CUKar, IGNTU, CUO, CUP, CUR, SU and CUT have

provided staff details; except CUSB, NU and CUG all other university libraries have provided information about its rules and regulations.

Maximum of 1 point was assigned for each 'Y' and 0 for 'N' and the scores obtained are given in the Table 3.

General Information	CUSB	NU	CUG	CUH	CUHP	CUK	CUKar	IGNTU	CUO	CUP	CUR	SU	CUT
Mission/Vision	N	N	N	N	N	N	Y	Y	Y	N	N	Y	N
Copyright	N	N	Y	Y	N	N	Y	N	Y	N	N	Y	N
Site Map	N	N	N	Y	N	N	N	N	N	N	N	Y	N
Working Hours	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
Library Committee	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y
Staff Directory	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Rules & Regulations	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
<b>Score/Max</b>	<b>1/7</b>	<b>1/7</b>	<b>2/7</b>	<b>5/7</b>	<b>3/7</b>	<b>2/7</b>	<b>5/7</b>	<b>5/7</b>	<b>6/7</b>	<b>4/7</b>	<b>3/7</b>	<b>6/7</b>	<b>4/7</b>

Table 3 General Information

### Physical Collection:

University libraries have a very good physical collection of books, journals, newspapers/magazines, theses and dissertations, reports, government publications etc. Table 4 reveals about the physical collection of the surveyed central university libraries. All the library websites except NU indicated information on books; whereas NU, CUK, and IGNTU have not mentioned about journals; it is revealed that universities such as CUG, CUHP, CUKar, CUO, and CUP have information about newspapers; and only CUT has information on reference materials. A maximum of 1 point was assigned for 'Y' and 0 for 'N' and scores obtained are displayed in Table 4.

Physical Collection	CUSB	NU	CUG	CUH	CUHP	CUK	CUKar	IGNTU	CUO	CUP	CUR	SU	CUT
Books	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Journals	Y	N	Y	Y	Y	N	Y	N	Y	Y	Y	Y	Y
News Papers	N	N	Y	N	Y	N	Y	N	Y	Y	N	N	N
Reference Materials	N	N	N	N	N	N	N	N	N	N	N	N	Y
<b>Score/Max</b>	<b>2/4</b>	<b>0/4</b>	<b>3/4</b>	<b>2/4</b>	<b>3/4</b>	<b>1/4</b>	<b>3/4</b>	<b>1/4</b>	<b>3/4</b>	<b>3/4</b>	<b>2/4</b>	<b>2/4</b>	<b>3/4</b>

Table 4: Physical Collection

### Library Services:

Library services aid the user community to develop intellectually, emotionally and socially (Bamigboye, 2007). Libraries provide a wide range of services to the users in the digital environment which includes software, OPAC, circulation, reference, reprography, CAS, resource sharing and others. From table 5, it is found that except CUSB, all the university libraries have mentioned that they are using software for the smooth functioning of the library, all libraries are

providing OPAC service except IGNTU; all libraries have mentioned about circulation service except NU, CUG and CUKar; CUSB, CUG, CUHP, CUK, CUKar and SU have not mentioned about the reference service of the library; except five university library websites such as CUG, CUHP, CUK, CUKar, and SU other university libraries have information on reprographic service; CAS which is one of the most important services is mentioned by CUSB, NU, IGNTU, CUO, CUP, CUR and SU; and CUSB, NU, CUH, CUHP, CUK, CUP, CUR and CUT university library websites provided information on Delnet.

<b>Library Services</b>	<b>CUSB</b>	<b>NU</b>	<b>CUG</b>	<b>CUH</b>	<b>CUHP</b>	<b>CUK</b>	<b>CUKar</b>	<b>IGNTU</b>	<b>CUO</b>	<b>CUP</b>	<b>CUR</b>	<b>SU</b>	<b>CUT</b>
Software	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
OPAC	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y
Circulation	Y	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y
Reference	N	Y	N	Y	N	N	N	Y	Y	Y	Y	N	Y
Reprography	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	N	Y
CAS	Y	Y	N	N	N	N	N	Y	Y	Y	Y	Y	N
Delnet	Y	Y	N	Y	Y	Y	N	N	N	Y	Y	N	Y
<b>Score/Max</b>	<b>5/7</b>	<b>6/7</b>	<b>2/7</b>	<b>6/7</b>	<b>4/7</b>	<b>4/7</b>	<b>2/7</b>	<b>5/7</b>	<b>6/7</b>	<b>7/7</b>	<b>7/7</b>	<b>4/7</b>	<b>6/7</b>

Table 5: Library Services

### **E-Resources:**

Change in technologies has made a greater impact on libraries. Printed collections are being replaced by E-Resources and represent the most important component of library collections. They are the one in which information is stored electronically and can be accessed with the help of electronic systems (Haridasan and Khan, 2009). Electronic publishing reaches a large audience (Romanello, 2011). Hence, the libraries are procuring resources in e-forms for easy access. E-Books, E-Journals and CD/DVDs are included in this category. From table 6, it is found that all the university library web sites have information about E-Books except CUSB, CUH, and CUT; whereas with regard to E-Journals, except CUH all other university library websites have information on it; with regard to CD/DVDs, CUKar, CUO, CUP, CUR and CUT library websites have information on it.

<b>E-Resources</b>	<b>CUSB</b>	<b>NU</b>	<b>CUG</b>	<b>CUH</b>	<b>CUHP</b>	<b>CUK</b>	<b>CUKar</b>	<b>IGNTU</b>	<b>CUO</b>	<b>CUP</b>	<b>CUR</b>	<b>SU</b>	<b>CUT</b>
E-Books	N	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N
E-Journals	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
CD/DVD	N	N	N	N	N	N	Y	N	Y	Y	Y	N	Y
<b>Score/Max</b>	<b>1/3</b>	<b>2/3</b>	<b>2/3</b>	<b>0/3</b>	<b>2/3</b>	<b>2/3</b>	<b>3/3</b>	<b>2/3</b>	<b>3/3</b>	<b>3/3</b>	<b>3/3</b>	<b>2/3</b>	<b>2/3</b>

Table 6: eResources

### **E-Learning:**

It provides learning opportunities to on-campus and off-campus distance learning students by removing geographical barriers (Alhabeeb and Rowley, 2017). Table7 lists E-Learning facilities



provided in university library websites. From table 7, it is found that libraries namely, CUH, CUKar, IGNTU, CUO, CUP, CUR and SU has provided information on National Digital Library (NDL); seven university library websites namely CUG, CUH, CUHP, CUK, IGNTU, CUO and CUR have provided information on NPTEL.

A maximum of 1 point was assigned for each ‘Y’ and 0 for ‘N’ and the scores obtained are displayed in Table 7.

eLearning	CUSB	NU	CUG	CUH	CUHP	CUK	CUKar	IGNTU	CUO	CUP	CUR	SU	CUT
NDL	N	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	N
NPTEL	N	N	Y	Y	Y	Y	N	Y	Y	N	Y	N	N
<b>Score/Max</b>	<b>0/2</b>	<b>0/2</b>	<b>1/2</b>	<b>2/2</b>	<b>1/2</b>	<b>1/2</b>	<b>1/2</b>	<b>2/2</b>	<b>2/2</b>	<b>1/2</b>	<b>2/2</b>	<b>1/2</b>	<b>0/2</b>

Table 7: eLearning

### Value Added Services:

Value added services are the personalized services provided to the users. They add value to the profession and are ancillary to its core functions (Broady-Preston and Swain, 2012). Table 8 contains new arrivals, classification/arrangement of books; plagiarism checking tool, user education/orientation and notice boards to display the latest events that add values to the services. From table 8, it is found that out of 13 central universities, only four universities namely CUG, CUH, CUO and SU have information about new arrivals; only CUSB and CUT have given information about classification/arrangement of books; it can be noted that only NU, CUG, CUH, CUK, IGNTU, CUO, CUR and CUT have indicated information on plagiarism; with regard to user education, only four universities namely NU, CUO, CUR and SU have provided information on user education; whereas only CUG, CUH, CUKar, CUO, CUR, SU and CUT have Notice board.

Items	CUSB	NU	CUG	CUH	CUHP	CUK	CUKar	IGNTU	CUO	CUP	CUR	SU	CUT
New Arrivals	N	N	Y	Y	N	N	N	N	Y	N	N	Y	N
Classification/ Arrangement	Y	N	N	N	N	N	N	N	N	N	N	N	Y
Plagiarism	N	Y	Y	Y	N	Y	N	Y	Y	N	Y	N	Y
User Education	N	Y	N	N	N	N	N	N	Y	N	Y	Y	N
Notice Board	N	N	Y	Y	N	N	Y	N	Y	N	Y	Y	Y
<b>Score/Max</b>	<b>1/5</b>	<b>2/5</b>	<b>3/5</b>	<b>3/5</b>	<b>0/5</b>	<b>1/5</b>	<b>1/5</b>	<b>1/5</b>	<b>4/5</b>	<b>0/5</b>	<b>3/5</b>	<b>3/5</b>	<b>3/5</b>

Table 8: Value Added Services

### Ranking of Central University Library Websites:

Ranking is done based on total score obtained from table 2 to table 8 and the maximum points allotted are 30. Central university libraries websites are ranked based on a five-point scale ranging from 25-30 as Excellent; 19-24 as Good; 13-18 as Average; 7-12 as Below Average; and 1-6 as Poor. From Table 9, it can be noted that CUO is ranked as Excellent, since it has secured 25 points; CUR, CUH, SU, CUT and CUP are ranked as Good; IGNTU, CUKar, CUG, CUHP, NU and CUK

are ranked as Average; and CUSB is ranked as Below Average. In the present study, ranking is based on the contents of the websites only, there may be libraries which are providing better services but not showcased in the website.

Central University Library Websites	Score (T2)	Score (T3)	Score (T4)	Score (T5)	Score (T6)	Score (T7)	Score (T8)	Total Score (T2 to T8)	Max	Ranking
CUO	1	6	3	6	3	2	4	25	30	Excellent
CUR	1	3	2	7	3	2	3	21	30	Good
CUH	2	5	2	6	0	2	3	20	30	Good
SU	2	6	2	4	2	1	3	20	30	Good
CUT	1	4	3	6	2	0	3	19	30	Good
CUP	1	4	3	7	3	1	0	19	30	Good
IGNTU	2	5	1	5	2	2	1	18	30	Average
CUKar	2	5	3	2	3	1	1	17	30	Average
CUG	2	2	3	2	2	1	3	15	30	Average
CUHP	2	3	3	4	2	1	0	15	30	Average
NU	2	1	0	6	2	0	2	13	30	Average
CUK	2	2	1	4	2	1	1	13	30	Average
CUSB	1	1	2	5	1	0	1	11	30	Below Average

Table 9: Ranking based on five-point scale

### Major findings of the study

Based on the data collection and its interpretation, the following findings are reported by the authors:

- Out of 13 central university library websites studied, 8 libraries have provided links as the main heading, whereas 5 have given as a second level heading.
- The majority of the websites have not provided information on mission, copyright, sitemap and library committee; whereas with regard to staff directory and rules and regulations, except CUSB, NU and CUG all the other libraries have provided information; except CUK the remaining twelve libraries have mentioned about library timings.

- It is found from the study that most of the university library websites has provided information about books and journals; and only five university library websites have indicated information on newspapers; and it is found that only CUT library website has given information on reference materials.
- Regarding software, circulation, reference, reprography, OPAC, CAS and Delnet most of the university library websites have indicated the services provided by them.
- Most of the university library websites have information on e-Books and e-Journals; whereas only CUKar, CUO, CUP, CUR and CUT have information on CD/DVD.
- The study discovered that only seven university library websites have provided information on NDL and NPTEL respectively.
- Value added services are being considered as important services to the users. From the study it is found that CUG, CUH, CUO and SU provided information on new arrivals; two universities namely CUSB and CUT provided information on classification/arrangement; eight of them have information on plagiarism checking tool; four on user education; and seven of them have notice board information.

### **Special Features:**

While exploring the library websites, it was found that CUO has a “Talking Library” and CUP has a “Braille Section” for visually impaired users. This is a remarkable service provided by the libraries.

### **Conclusion and Suggestions**

Users are the nucleus of the library. User satisfaction is the ultimate motto of any library. Libraries nurture the skills of the users by providing required services. Websites are one of the virtual modes of information dissemination. Developing a strong website is a valuable service to the users which brings awareness about its resources and services. Since, the users do not compromise with the quality of information; accuracy of online and offline service should be checked which might increase its usage. Websites erase physical boundaries and distances and enables getting wider markets for its services. Periodic modification promotes its access and usage. It is found that only a few of them fulfilled the majority of criteria in the checklists. It should be eye-catching and the contents and the tools used should catch the attention of the new users (Das and Das, 2018). Since the website is a gateway for accessing libraries, it must be updated according to the change in the library elements. To match the needs of the end users, librarians should collaborate with website designers while designing and updating. Library websites are like virtual drawing rooms and hence should be impressive and appealing (Vasishta, 2013). It should include contents in multimedia forms to provide quality information to the users (Sahoo and Panda, 2019). Information in different languages enhances its accessibility by world wide users (Hamshemzadeh et al., 2019). Library websites should be made compatible with library 2.0 and web 3.0 technologies (Konnur et al.,

2010). Recommendations based on the study helps to improve service delivery through library websites.

- Developing a one-stop portal website is the need of the hour.
- Websites are the carriers of quality information. Users should be able to get the information with a few clicks. Hence, information rich websites have to be created.
- Librarians should assess users' expectations which would help them in designing the structure and contents of the items to be included.
- While designing the website librarian should focus on retaining the existing users and offering new services to attract new users to enhance its usage.
- Designing of websites should be focused on fulfilling the information needs of the varied user community rather than emphasizing on administrative activities.
- Library professionals should completely involve and undergo training in designing and integrating all the library sources, services and facilities in the website by attending seminars, conferences, workshops etc.
- Resources and services are dynamic and changes from time to time. Hence, websites should be periodically updated.
- Finally, the University Grants Commission (UGC) and Central Universities should bring out some guidelines for designing library websites.
- Web designing courses should be included in the library science curriculum.
- Unique services should be highlighted to attract users from wider regions.
- Integration of satisfaction surveys and feedback mechanism adds value to the services. It helps the authorities to trace the difficulties faced by the users while accessing web information.

### **Limitations and Further Research**

The main limitation of the present study is that it covered a small sample of thirteen central university library websites in India that were established between 2001 to 2010. Authors made a checklist of 29 items which can be elaborated by adding a few more categories viz., library statistics, electronic links, web 2.0 technologies etc. This study can be used as a baseline for further study along with the users perspective which is not conducted in the present study, The libraries which are not included in the present study may be providing prominent services to the users, hence it can be considered in the future research. The framework can be further extended to include a

wider geographic region. The comparative study with international libraries enables to examine the thoroughness.

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