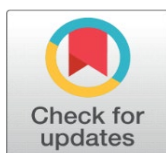
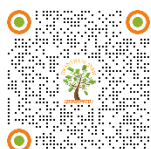


# CONTENT ANALYSIS OF SELECT COLLEGE LIBRARY WEBSITES OF JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD: A STUDY

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## ABSTRACT

The study assesses ten select library websites from colleges affiliated with JNTU, Hyderabad, for their usability, correctness, and accessibility. Additionally, it discusses the features and services offered by websites. A well-organized checklist was used to collect data from the study's selected colleges. According to the survey, the majority of colleges have included information about their services (80%) and infrastructure (80%) on their websites, and all libraries of selected colleges have incorporated details about their introduction (100%) collection (100%), and statistics (100%). However, the report did point out that none of the library websites or web pages have a section for people with disabilities, a user manual, a single window search, an Ask a librarian link, newspaper clippings, remote access, interlibrary loan (ILL)/document delivery, social networking facilities, or regular updates. They also fall short in terms of accessibility.

The study's findings indicate that Sultanul Uloom College of Pharmacy and Shadan Woman's College of Pharmacy received the lowest score of six (06) out of forty-three (43) and are currently ranked last, while the library at Aurora's Scientific, Technological and Research Academy had the highest score of twenty-two (22) out of forty-three (43), and is currently ranked first. The paper offers suggestions for carrying out these assessment studies, which are critically required to allow organization to continually update their website and deliver better results in terms of user requirement.

**Keywords:** Web Content Analysis, College Library Websites, Library Resources, JNTU, Jawaharlal Nehru Technological University, Hyderabad

## 1. INTRODUCTION

The beginning of the Internet and progress in ICT have changed how individuals' access and use library information. "The growth of e-resources and their growing demand by the users put a challenge for the library and librarians today. Furthermore, the new searching and sharing tools available on the internet provide users extra power, ease and fun in information seeking and thus the task of satisfying the new generation of users who are technology savvy becomes a challenge for the librarians." [Thomas & McDonald \(2006\)](#)

By and large “Academic libraries are especially facing the challenge of meeting the varying information needs & demands of users that have shifted from printed materials to electronic resources. Academic library websites have to provide information about libraries and library services as well as access to online catalogues, electronic databases, digital collections and different library tutorials. They have to work as gateways to information as users can ask reference questions online, conduct research in databases, place interlibrary loan requests online, and obtain academic articles electronically.” [Connell \(2008\)](#) & [Aharony \(2012\)](#)

“The website is a collection of web pages, images, videos, and other digital contents. It is usually dedicated to a particular function such as education, news etc. As far as the college website is concerned, it is very important for college fraternity and works as a primary source for prospective students who seeks information about academic programs and colleges in the decision-making process for taking admission.” [Peker et al. \(2016\)](#), [Aharony \(2012\)](#)

One significant method for disseminating information about college activities is the college website, which provides details about classes, admission, curricula, exams, fees, staff, rules and regulations, placements, research and publications, library resources, and services. “The library website serves as both the public face of the library's resources for its patrons and a forum for the neighborhood. The library and its services are mirrored on a well-designed library website. These days, college libraries expand their services and resources by using their individual websites. Any institution's library website is essential for offering the services and materials found at the library. When creating a website based on customer demand, libraries must adhere to certain rules. Website material can be displayed in a variety of ways, but text and graphics are the most prevalent and widely available. The library's usability is greatly improved by the content and how it is presented. Any library website will get more viewers if its material is strong.” [Rahman & Batcha \(2020\)](#)

A research approach for the objective, methodical, and numerical description of the evident content of communication, content analysis is described as a process of observation and document analysis. “The websites of the college libraries were analyzed for their content based on a variety of criteria, including general information, the library's background, resources, services, collection, contact information, RSS feeds, and librarian chats, among others. The major goal of the college library website review is to point users in the direction of reliable and accurate information.” [Rahman & Batcha \(2020\)](#)

**Table 1**

Table 1 List of Colleges				
S. No.	Name of the College	Abbreviations of College	Year of establishment	Website address/URL
1	Aurora's Engineering College	AEC	1991	<a href="http://www.aurora.ac.in">www.aurora.ac.in</a>
2	Aurora's scientific, Technological and Research Academy	ASTRA	1992	<a href="http://www.astra.edu.in">www.astra.edu.in</a>
3	Bhoj Reddy Engineering College for Women	BRECW	1952	<a href="http://www.brecw.ac.in">www.brecw.ac.in</a>
4	G. Narayanamma Institute of Technology & Science for Women	GNITS	1997	<a href="http://www.gnits.ac.in">www.gnits.ac.in</a>
5	J.B. Institute of Engineering and Technology	JBIET	1998	<a href="http://www.jbiet.edu.in">www.jbiet.edu.in</a>

6	Keshav Memorial Institute of Technology	KMIT	1967	<a href="http://www.kmit.in">www.kmit.in</a>
7	Mahaveer Institute of Science & Technology	MIST	2001	<a href="http://www.mist.ac.in">www.mist.ac.in</a>
8	Sultanul Uloom College of Pharmacy	SUCP	1980	<a href="http://www.sultanulloompharmacy.ac.in">www.sultanulloompharmacy.ac.in</a>
9	Swami Vivekananda Institute of Technology	SVIT	1959	<a href="http://www.svit.ac.in">www.svit.ac.in</a>
10	Shadan Woman's College of Pharmacy	SWCP	1998	<a href="http://www.shadanwomenspharmacy.com">www.shadanwomenspharmacy.com</a>

**Table 2**

	AEC	ASTRA	BREWCW	GNITS	JBIET	KMIT	MIST	SUCP	SVIT	SWCP	TOTAL (10)- %
Introduction	1	1	1	1	1	1	1	1	1	1	10 (100%)
Mission/ Vision	0	0	0	0	0	1	0	0	0	0	1 (10%)
Library Hours	1	1	1	1	1	1	1	0	0	0	7 (70%)
Library Rules	1	1	1	1	1	1	1	0	0	0	7 (70%)
Membership	1	1	0	1	1	0	1	0	0	0	5 (50%)
Services	1	1	1	1	1	1	1	0	1	0	8 (80%)
Collection	1	1	1	1	1	1	1	1	1	1	10 (100%)
Infrastructure	1	1	1	1	1	1	1	0	1	0	8 (80%)
Library Staff	0	1	0	1	1	1	1	1	0	0	6 (60%)
Library Sections	1	1	0	1	1	0	0	0	1	0	5 (50%)
Statistics	1	1	1	1	1	1	1	1	1	1	10 (100%)
New Arrivals	0	1	0	0	1	0	0	0	0	0	2 (20%)
Differently-abled section	0	0	0	0	0	0	0	0	0	0	NIL
Book Bank	1	1	0	0	1	0	0	0	0	0	3 (30%)
Photocopy	1	1	0	1	1	1	0	0	1	0	6 (60%)
<b>Total (15)</b>	<b>11</b>	<b>13</b>	<b>7</b>	<b>11</b>	<b>13</b>	<b>10</b>	<b>9</b>	<b>4</b>	<b>7</b>	<b>3</b>	

### 1.1. JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD

One of the best universities in Telangana state is Jawaharlal Nehru Technological University, which was established in Hyderabad on October 2, 1972. It is one of the largest affiliated universities in the state of Telangana and provides excellent education through a variety of undergraduate and graduate degrees in engineering, pharmacy, and management.

The current study will investigate the online content of the libraries' websites at a few JNTU colleges in Hyderabad to determine how successfully these libraries use their websites to provide their users with easy access to various resources and services.

## 2. LITERATURE REVIEW

Study topics include the usability, content analysis, and evaluation of library websites. In a study [Brahma & Verma \(2018\)](#) “calculated the web impact factors of websites of six public libraries in India, by systematically evaluating the domain authority, number of web pages, and their links by using Open Site Explorer software. The study found that Khuda Baksh Oriental Public Library has the highest domain authority and web pages. Only 2 among selected libraries passed the criteria of internal equity-passing links and total internal links. CSL has the highest web impact factor followed by National Library and Khuda Baksh Oriental Public Library.”

In another study, [Verma & Shukla \(2018\)](#) “evaluated the efficiency, usability, and effectiveness of 14 Indian Institute of Management library websites and found that most of the IIMs’ library websites have simple and common usability features. All the libraries under study have a separate webpage and 29% libraries have multilingual options. Further, study reveals that IIM Ahmadabad has the highest and IIM Kozhikode least usability scores among the selected one.”

In another study [Rahman & Batcha \(2018\)](#) “suggested that the College library should improve the internet facilities and organise library orientation programs at regular interval to maximize the use of library resources and services especially electronic resources. In recent study Shukla, examined the content of the central university library website in north India with 3 main criteria namely; general information, library resources, features of the library websites and identified top 5 universities among selected under study.”

In a similar study, [Shukla \(2017\)](#) “looked at the general information, library resources, and website characteristics of the central university library in north India and recognized the top 5 universities among those chosen for the study.”

[Manjunatha \(2016\)](#) “investigated the contents of eight special library websites of Karnataka with criteria such as general information, library collection, library services, domain and display quality, and link, search, and retrieval interface. The study found that all libraries have provided the details of library collection, library services and web OPAC. Most of the libraries have given the general information related to the visitors of library website and only half of the libraries have updated their website. However, limited number of libraries have feedback options, FAQ links, suggestion box and alerting services on their website.”

[Jange \(2014\)](#) “evaluated 16 university library websites in Karnataka using criteria general information, collections, services, useful links, web OPAC, web 2.0 services and concluded that the library websites should be strengthened with content and performance.”

In a related study, [Ramesh Babu et al. \(2009\)](#) “have studied the content of the 43 university library websites in Tamil Nadu, which include 17 affiliated and 21 private universities and further examined the design, languages, services, and navigation. They suggested to update websites regularly, arrangement of web objects and links in the logical order to improve the design and structure of the website.”

## 3. OBJECTIVES OF THE STUDY

The following are the major objectives of the study:

- To measure the information on the JNTU, Hyderabad, college library websites.
- Examine the websites of colleges affiliated with JNTU, Hyderabad, to see what services and support they provide.
- To learn about the websites of various colleges affiliated with JNTU, Hyderabad, in terms of quality, availability, relevance, and usability.
- To rank the web pages of certain colleges linked with JNTU, Hyderabad's libraries.

#### 4. SCOPE OF THE STUDY

The current study looks at the websites of the colleges affiliated to JNTU, Hyderabad. Ten Hyderabad-based colleges with websites or web pages for their libraries have been selected for the study. (see [Table 1](#)).

#### 5. METHODOLOGY

Based on earlier research by Mahmood, Singh, Gautam and Qutab, a checklist was developed for the current study. The study's target college libraries' websites were thoroughly examined in February 2023, and the content was divided into two groups: "Available" (A) and "Not Available" (NA). (1) was used to indicate "Available," whereas (0) indicated "Not Available." To rank the college library website, the acquired data has been collated and calculated.

**Table 3**

Table 3 Library Resources and Services											
	AEC	ASTRA	BRECW	GNITS	JBLET	KMIT	MIST	SUCP	SVIT	SWCP	TOTAL (10)- %
OPAC	0	1	1	1	1	0	1	1	1	0	7 (70%)
E-journals	1	1	1	1	1	0	1	0	1	0	7 (70%)
Databases	1	1	0	1	1	0	1	0	0	0	5 (50%)
Link to other websites	1	1	1	1	1	0	1	0	1	0	7 (70%)
FAQs	1	1	0	1	1	0	1	1	1	1	8 (80%)
User Manual	0	0	0	0	0	0	0	0	0	0	NIL
Photo/ Video	1	1	0	1	1	1	1	0	1	0	7 (70%)
Single window search	0	0	0	0	0	0	1	0	0	0	NIL
Ask a Librarian	0	0	0	0	0	0	0	0	0	0	NIL
Newspaper clipping	0	0	0	0	0	0	0	0	0	0	NIL
Question Paper	0	1	0	0	0	0	0	0	1	0	2 (20%)
Remote access	0	0	0	0	0	0	0	0	0	0	NIL
N-List	0	0	0	0	1	0	0	0	0	0	1 (10%)
DELNET	1	0	0	1	1	0	1	0	1	0	5 (50%)
ILL/ document delivery	0	0	0	0	0	0	0	0	0	0	NIL
Total score (15)	6	7	3	7	8	1	8	2	7	1	

**Table 4**

<b>Table 4 Features of Library Website</b>											
	AEC	ASTRA	BRECW	GNITS	JBLET	KMIT	MIST	SUCP	SVIT	SWCP	TOTAL (10)- %
Last update	0	0	0	0	0	0	0	0	0	0	NIL
Navigation	0	0	0	0	0	0	0	0	0	0	NIL
Registration/ Login	0	0	0	0	0	0	0	0	0	0	NIL
Direct Link	0	0	0	0	0	0	0	0	0	0	NIL
Download forms	0	1	0	0	0	0	0	0	0	0	1 (10%)
Social networking	0	0	0	0	0	0	0	0	0	0	NIL
Feedback	0	0	0	0	0	0	0	0	0	0	NIL
Layout	0	0	0	0	0	0	0	0	0	0	NIL
Keyword search	1	1	1	0	0	0	1	0	0	1	5 (50%)
Total Score (09)	1	2	0	0	0	0	1	0	0	1	

**Table 5**

<b>Table 5 Ranking of Library Website</b>											
	ASTRA	JBLET	GNITS	AEC	MIST	SVIT	KMIT	BRECW	SUCP	SWCP	
General Information (Max. Score 15)	13	13	11	11	9	7	10	7	4	3	
Resources and Services (Max. Score 15)	7	8	7	6	8	7	1	3	2	1	
Features (Max. Score 09)	2	0	0	1	1	0	0	0	0	1	
Accessibility (Max. Score 04)	0	0	0	0	0	0	0	0	0	1	
Total (Max. Score 43)	22	21	18	18	18	14	11	10	6	6	
Rank	1	2	3	3	3	4	5	6	7	7	

## 6. ANALYSIS AND DISCUSSION

Statistical techniques were used to tabulate and arrange the data that had been gathered. For the study, the data collected through the usage of the checklist were analysed and interpreted. The colleges' names, acronyms, and years of formation are listed in [Table 1](#). Additionally, the table lists all of the Uniform Resource Locators (URLs) for a few chosen websites. There was no dedicated library website identified at any of the participating colleges in the study.

Ten (100%) or all college libraries have information about their introduction, collection, and statistics information available. Eight (80%) of the college libraries have offered information on the infrastructure and services. Seven (70%) of the libraries have provided details about membership and working hours. Six (60%) of the libraries have provided details about their staff and photocopying facility. On their websites, five (50%) of libraries provide details about membership and other library resources. According to the percentage of libraries, three (30%), two (20%), and one (10%) have provided information on their Book Bank service, most recent additions, and purpose and vision statement. But none of them provide details about the section for those with disabilities.

[Table 3](#) provides details on the various library services and facilities made available via college websites. The five (50%) of the surveyed college libraries have databases, seven (70%) photo/video options and OPAC, eight (80%) electronic



journals, linkages to other websites and FAQs, and four (40%) DELNET membership. None of the colleges have any Web OPAC facility. The report also reveals that two (20%) of college libraries have made question papers accessible on their websites for the users' convenience. Only one (10%) of college libraries have access to the N-List of INFLIBNET. Further study of the data reveals that none of the college libraries' websites make reference to the following topics: User manual, Newspaper clipping services, Remote access, Interlibrary Loan/Document delivery, Ask a Librarian, and Single-window search.

The data analysis assesses the various components of college libraries' websites and web pages using the defined criteria (Table 4). Only a small number of library websites matched the criteria to be tested for keyword search capabilities (50%) and download forms (10%). None of the library websites or webpages have figured out how to regularly update their pages, nor do they have the features like navigation, registration/login, direct links, layout, feedback system, or social networking facilities.

A user-friendly website that can be easily opened in any physical media, such as desktop, tablet, or mobile, and in multiple browsers, and is accessible to all system users regardless of physical, cognitive, linguistic, and technical barriers. Additionally, it must to function across all platforms and browsers. A website's usability and accessibility should be assessed in relation to its direct layout and navigation, well-organized information, single-window search functionality, and up-to-date links.

It was discovered that only five (50%) of the websites reviewed for this study's investigation of the usability and accessibility of library websites included a keyword search capability (Table 5). All college libraries can be accessed using the browsers Google Chrome, Internet Explorer, and Mozilla. According to the data analysis, none of the library websites were accessible or user-friendly, with a score of 0% for layout, 0% for navigation, and 0% for the most recent update.

The evaluation of the JNTU, Hyderabad college libraries is shown in Table 5. The rankings are determined by the amount of web content that is accessible and the number of points that library websites and web pages have accrued. Following J.B. Institute of Engineering and Technology in second place with a score of twenty-one (21) out of forty-three (43), and G. Narayanamma Institute of Technology & Science for Women, Aurora's Engineering College, and Mahaveer Institute of Science & Technology in third place with a score of eighteen (18), it was discovered that Aurora's Scientific, Technological, and Research Academy had achieved the highest score. The Sultanul Uloom College of Pharmacy and Shadan Woman's College of Pharmacy placed last among the study's chosen institutions.

## 7. CONCLUSIONS AND SUGGESTIONS

The Internet has become an essential element of our daily life. Without its use, we cannot imagine information dissemination. The college libraries that were previously mentioned also give instances of how they incorporate this technology into their programmes. The bulk of the websites for the libraries under investigation have static pages with poor navigation and layout that are rarely updated. None of the library websites take advantage of the possibilities of web-based forms, which are excellent resources for gathering user comments and recommendations and enhancing user interaction and communication.

The researcher has come to the conclusion that modifications must be made right away after looking at the researched library websites and analysing the data

and findings that followed. Using web 2.0 or web 3.0 technology, the college library's webpages should be made more dynamic and interactive. So that users can connect and communicate directly with the system, there should be choices for instant messaging, RSS feeds, digital reference services, frequently asked questions, etc. on library websites.

Academic libraries' websites should also frequently add new announcements, information sources, and services, as well as test them for compatibility with a range of browsers and media formats, before posting them. Similar to this, web forms should be integrated into pages to gather customer feedback, comments, and recommendations so that services can be improved in accordance with their demands. To maximize the use of the library's collections and websites, it is also advised to offer remote access to the digitized resources.

Periodic assessments should be carried out in order to keep library websites up to date, in line with user expectations, and to create a digital environment for the delivery of library services. Future research on generating measures for rating library websites is likely to use this work as a guide.

### **CONFLICT OF INTERESTS**

None.

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None.

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