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Web Presence of Library Websites/Webpages of NIRF Ranked Central Zone Pharm Institutes of India: A Content Evaluation

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Abstract

The current study focused on the Web Presence of library websites that were listed under NIRF-ranked pharm institutes in the Central Zone of India. The checklist was prepared based on previously published literature. Data was collected from respective websites and webpages using online survey and observation techniques. The analysis revealed that the majority of websites are using webpages has library websites, and still nearly fifty percent of libraries are using static single library webpage. The most informative contents on the pharm library website/webpages were Introduction/About library, library collections, automation details, working hours, IT and Internet infrastructure, library services, e-mail/contact address of the librarian and list of subscribed journals. The majority of libraries provided access to electronic databases, journals, and books, and three-quarters (73%) of libraries provided live OPAC links. 45.45% of the website/webpage provide plagiarism/similarity checking facility and links to e-learning (EDX, Courseware, and Swayam) platforms. Very few (18.18%) libraries subscribed to SciFinder and Reaxys Pharmaceutical databases. The majority of libraries have not implemented web 2.0 features in the selected library website/webpages. Based on the overall findings of the study, the selected websites should restructure their library websites to be more user-friendly by providing complete information and services in a sophisticated manner.

Keywords: Library Websites, Library Webpages, Pharm Libraries, Webpages, Web 2.0, Content Analysis, Web Presence, NIRF, Pharmacy Institutes, Central Zone.

1. Introduction

As the medium of communication websites have been extensively used in all kinds of sectors through the internet. The education sectors are most heavily used to exhibit their resources, infrastructure and services. Due to the emergence of electronic resources, the importance of library websites has significantly increased over the last decade (Haneefa & Venugopal, 2010). Library websites are digital platforms that provide access to the resources and services offered by libraries to a large audience and can be used from remote locations (De Sarkar, 2012). They typically include information about the library's collections, hours of operation, and events, as well as access to online databases, e-books, and other digital resources. Some library websites also offer research assistance, online tutorials, and other educational resources (Ukwattage, 2019). They also provide access to online catalogues, reservations, and renewals of materials. Library websites are designed to be user-friendly and easy to navigate, making it easy for patrons to find the information they need (Al-Qallaf & Ridha, 2019).

Content analysis is a popular and renowned method used to analyse, study, and interpret the content of a website, such as text, images, and videos (N. Kumar & Verma, 2018). In the case of library websites, content analysis can be used to understand the types of information and resources that are provided, as well as how the website is organised and navigated. This information can be used to improve the user experience and ensure that the website is meeting the needs of its target audience. Some common areas of focus in a content analysis of library websites may include the types of resources offered, the ease of navigation, and the overall design and layout of the website (Blakiston, 2013). Overall, content analysis of library websites is a systematic process that allows researchers to study and interpret the content of the website in order to understand how it is organised and navigated and how it meets the needs of its users.

2. Review of Literature

Gaurav, K et al., (2022) studied the web-based contents and design performance of Indian Institute of Technology library websites. It was found from the analysis that IIT library were easy to use and majority of had fundamental usability features like basic information about library, services, retrieving features, web 2.0 applications, website efficiency, page image, page size and load time of page.

Verma & Shukla (2018) evaluated the usability features, efficiency and effectiveness of Indian Institutes of Management libraries websites. Online survey, observation methods and online automated tools were incorporated for the study. Selected library websites of IIM have very simple and have basic usability features in their respective websites.

Rafiq et al., (2021) used content analysis method to examine the library websites of top 50 medical universities of medicine based on QS world ranking 2020. The finding revealed that all the universities are providing electronic resources and e-services in a sophisticated manner. Social networking (Facebook, twitter, Instagram, YouTube and LinkedIn) platforms are identified as top information disseminations tools. Still the majority of websites doesn't provide virtual tours, library mission and objectives statements and "patron-driven acquisition" was least commonly used in the selected websites. (Ullah, 2021) analysed the content of 45 medical college library websites in Pakistan using a 40-item checklist. The findings revealed that the design of medical college library websites was insufficient and not performing useful role in communicating among students and faculty members.

(Barman, 2021) ranked the library websites of agricultural universities in India using the content analysis method to examine the web content of library websites and web-based library services. It was found in the analysis that websites have up-to-date information with adequate services and facilities. The majority of websites provide access to electronic resources and provide remote access facility. (V. Kumar & Yadav, 2020) evaluated the efficiency of NIRF ranked the top 10 Indian university library websites of the 2019 version. It was found from the overall analysis that the top scoring websites were not up to the mark and scored between (60-70%) in good class. The authors suggested that UGC (University Grant Commission) and ILA (Indian Library Association) should collaborate to formulate the "National Minimum Framework for University Library Websites".

Mohamed Haneefa & Jiji, (2019) conducted a unique study to know the interactivity of contents in selected 106 national library websites around the world. The study used the grid method to identify the locations of web 2.0 tools present on their respective websites. It was

found from the analysis that the majority of websites used interactive 2.0 applications (Facebook, Twitter, RSS feeds, and blogs). The majority of websites used the extreme top right corner and extreme bottom right corner of the website to link their web applications and web objects. (Seshaiah and Rekha, 2019) analysed the webpages of engineering colleges in the Andhra Pradesh state of India. In this study, 256 engineering college webpages were evaluated using a standard checklist based on previous studies. The majority of information was found on the general information, library collection, links to electronic resources and library working hours. Still the majority of websites did not have updated information, FAQ's and lack in providing web 2.0 features in their respective websites.

Devi & Verma, (2018) investigated the web content and design trends of IIT's library websites/webpages in India and identified standard 128 criteria to analyse the selected websites/webpages using a survey and observation method. The study concluded that some of the websites are doing well and need improvement in border aspects of websites to add advanced features to the website/web pages. Authors suggested that IIT's are the apex academic institutions of the country and its library websites should be more dynamic and effective in presenting latest information to users in terms of library collections and services in a systematic manner. (N. Kumar & Verma, 2018) studied the effectiveness of library websites of NAAC accredited A grade university of central zone. The study concludes that most libraries provided information on basic information on libraries, digital resources, and digital services. The Vikram University Library website Ujjain, came out as the best website among selected library websites. (Devi & Verma, 2017) evaluated the content and design trends of NIT's library websites in India using 108 criteria under the 13 major headings. A similar study was conducted by (Verma and Devi, 2016) studied the web content and trends of the IIM's library websites in India. Researchers suggested that dead links from websites should be eliminated and timely updates of websites should be done. The creation of IR (Intuitional Repositories) should be must and promote to share scholarly content published among the students.

3. **Objectives**

i. To examine the basic information about the library, collections, services and facilitates present in NIRF ranked central zone of pharm library websites/webpages.
ii. To examine the availability of Web 2.0 features of NIRF ranked central zone of pharm library websites/webpages.

4. Methodology

This study was intended to evaluate only the library websites/webpages of NIRF ranked Central Zonal institutes listed in 2022 using content analysis method. In first the phase selected only the Central zonal pharm institutes of India were recorded from the official website of https://www.nirfindia.org/2022/PharmacyRanking.html 2022 to study the web presence of library websites. Further, this study was restricted to only 11 library websites out of 12 remaining one websites from NIET Pharmacy Institute from Greater Noida was ignored, which did not have their dedicated webpage or website for its library. In the second phase a standard checklist was framed based on previous studies conducted by Al-Qallaf & Ridha, (2019) and Archana, S. N. & Kabir (2010). In the third phase the data was collected from respective websites through Internet based survey and observation method was incorporated for study. The selected websites (listed in Appendix 1) were scanned thoroughly in the month of January 2023 and the content of websites was classified into two parts to know their presence will be counted as "1" and in their absence "0" will be considered in

selected library websites/webpages. Further, the collected data was prepared and presented in tabular form and calculated with simple calculation method using Microsoft excel.

5. Data Analysis and Interpretation

5.1 Accessibility Library Website/Webpages

Accessibility of library websites is an important aspect in higher education institutions. Students and faculty members, particularly in the pharmacy education sector, rely heavily on library resources to meet their academic needs. So, the presence of library links should be made available on the homepage of academic websites. Based on the analysis in table-1 the accessibility of library links was most frequently (54.55%) found under the menus of facilities/ infrastructure and campus life and 36.36% of library links were found under different (Amenities, Resources, and Academic) menus. Only one (9.09%) institute KIET Group of Institution, Ghaziabad provided a direct library link on its institution home page.

Table 1 Information Regarding Accessibility Library Website/Webpages

Criteria	Total
Link under “facilities /on campus life/ Infrastructure. etc." with the title "library"	6 (54.55%)
Others	4 (36.36%)
Direct Link on Institution Website	1 (9.09%)

5.2 Prominence of Websites and Webpages

Table-2 highlights the eminence of dedicated library websites/webpages. The majority (81.82%) of institutions provided specific library web pages attached to their institution websites. The preference for establishing dedicated library websites was found by two (18.18) institutions, namely Integral University from Lucknow and G. L. A. University from Mathura.

Table 2: Information Regarding Prominence of Websites and Webpages

Criteria	Total
Library has dedicated Webpage	9 (81.82%)
Library has dedicated Website	2 (18.18%)

5.3 Information Regarding Use of Webpages

The library websites should provide their potential information about libraries, facilities, collections, and services in multiple web pages with a main heading with resource descriptions and links to certain resources. In Table-3, the analysis found that slightly more than half (54.55%) of the websites maintained multiple pages, and nearly fifty percent (45.45%) of websites used single static web pages to portray the complete list of information about the library.

Table 3: Information Regarding Use of Webpages

Criteria	Total
Used Multiple web pages	6 (54.55%)
Used Single webpage	5 (45.45%)

5.4 General Information of Libraries

Table-4 shows that all pharmacy libraries (100%) have provided introductory information about library information on their respective websites or webpages. The majority (81.82%) of the libraries provided collection information. Details about library automation packages were provided by 72.73% of websites. Library working hours and IT and Internet infrastructure were provided by 63.64% of websites. Slightly more than fifty percent (54.55%) websites provide information on library services. Nearly half (45.45%) of websites include a librarian's email address or contact information, as well as a list of subscribed journals. Statements on Vision/Mission/Objectives, rules and regulations, and library infrastructure details were provided by 36.36 percent of the websites. Over a quarter (27.27%) of libraries provided staff details and membership information. Information on special collections (Brallie and manuscript), technical organization, photo gallery and Ask a Librarian was found on 18.18% of library websites. Only one (9.09%) library website provided information on the library committee.

Table 4: Information Regarding of General Information of Libraries

Criteria	Total
Introduction / About Library	11 (100.00%)
Collection Information	9 (81.82%)
Automation Details	8 (72.73%)
Working Hours	7 (63.64%)
IT and Internet Infra	7 (63.64%)
Services	6 (54.55%)
E-mail/contact address of Librarian	5 (45.45%)
List of subscribed journals	5 (45.45%)
Vision/Mission/Objectives Statements	4 (36.36%)
Rules and Regulations	4 (36.36%)
Infrastructure Details	4 (36.36%)
Library Sections	4 (36.36%)
Staff Details	3 (27.27%)
Membership	3 (27.27%)
Special Collections	2 (18.18%)
Technical organization	2 (18.18%)
Photo Gallery	2 (18.18%)
Ask a Librarian	2 (18.18%)
Library Committee	1 (9.09%)

5.5 Access to Electronic resources

It was evident in table-5 that links to e-resources were provided by the pharm library website/web pages. Links to e-journals, e-books and e-databases were found in the majority (81.82%) of library websites. OPAC link was provided by 72.73% of websites and information on membership to consortium facility was given slightly (54.55%) by more than fifty percent of websites. Access to the abstracting and citation database (Scopus and Web of Science) and Delnet subscription was found on (45.45%) of websites. Links to the National Digital Library (NDL) facility were found in (36.36%) of the websites. Access to Pharmaceutical databases (SciFinder and Reaxys) was found on 18.18% of websites.

Table 5 Information Regarding Links to Electronic resources

Criteria	Total
Access to E-Journal	9 (81.82%)
Access to E-Books	9 (81.82%)
Access to E-databases	9 (81.82%)
OPAC Link	8 (72.73%)
Subscribed to Consortium facility	6 (54.55%)
Access to Abstracting and Citation Database	5 (45.40%)
DELNET	5 (45.40%)
NDL	4 (36.36%)
E-Question Bank faculty	3 (27.27%)
Access to Pharmaceutical Databases	2 (18.18%)

5.6 Research Tools and Support

Nowadays, higher education institute libraries provide additional services by subscribing to plagiarism checkers, Grammarly tools, and paraphrasing tools to support research activities and ethically conduct research. At the same time, provide information on citation guides and tools to assist in technical writing. Table-6 highlights information regarding the research tools and support provided by pharm library websites/webpages. Nearly half of the websites (45.55%) provided information on subscribed plagiarism/similarity checkers facility tools. Only one (9.09%) library website provides information to subscribed paraphrase tools and one website provided free citation tools. None of the websites provided information on grammar checker tools.

Table 6: Information Regarding Research Tools and Support

Criteria	Total
Plagiarism	5 (45.45%)
Paraphrase Tools	1 (9.09%)
Citation Tools	1 (9.09%)
Grammar Checker	0 (0%)

5.7 Value Added Services

Table-7 reveals the value-added services provided by the pharm library website/webpages that indigenous that are developed by libraries. Very few libraries (36.36%) have provision for an institutional repository. New arrivals and feedback forms have been provided by 27.27% of websites. Book recommendations and library manuals have been provided by 18.8% of the library websites. Only one (9.09%) website listed recent publications and patent information.

Table 7 Information Regarding Value Added Services

Criteria	Total
Institutional Repository	4 (36.36%)
New Arrivals	3 (27.27%)
Feedback form	3 (27.27%)
Book Recommendation	2 (18.18%)
Library manual	2 (18.18%)
Recent Publications	1 (9.09%)
Patent Information	1 (9.09%)

5.8 Open Source Resources

Table-8 concerned information provided on open sources links provided their pharm library websites/webpages. Slightly more than fifty (54.55%) website/webpages are providing E-thesis links and other open source links and 45.45% of the websites are providing link e-learning (EDX, COURSEWARE, and Swayam) platforms. Links to research in process was provided by two (18.18%) websites and link to patent database was provided by one (9.09%) website.

Table 8: Information Regarding Open Source Resources links

Criteria	Total
E-thesis	6 (54.55%)
Open Sources Resources	6 (54.55%)
E-Learning Platform	5 (45.45%)
Research in Process	2 (18.18%)
Patent Database	1 (9.09%)

5.9 Web 2.0 Features

Table-9 indicates the web 2.0 features provided the information on their respective library websites/webpages. It was found from analysis that only one (9.09%) library website from Integral University from Lucknow implemented only one feature RSS Feed in their respective websites. None of the library websites used web 2.0 feature on their respective pharm library websites of central zone.

Table 9: Information Regarding Web 2.0 Features

Criteria	Total
RSS Feed	1 (9.09%)
Facebook	0 (0%)
Instagram	0 (0%)
Twitter	0 (0%)
Wiki	0 (0%)
Blog	0 (0%)
FAQ	0 (0%)

6. Key Findings

The content of website/webpages of pharm library websites of NIRF-ranked pharma institutes form central zone was analysed using a predefined checklist. The major findings of the study are listed below:

- The study was limited to only 11 out 12 library websites, remaining one (NIET Pharmacy Institute from Greater Noida) left out from the study which did not have a dedicated webpage or website for its respective library.
- Still, the majority (90.91%) of library links were found under different navigation menus like facilities, campus life, infrastructure, and other locations. Only one (9.09%) institute, the KIET Group of Institution, Ghaziabad provided a direct library link on its institution home page.
- The majority (81.82%) have library web pages rather than dedicated websites. Only two (18.18) institutions, namely Integral University from Lucknow and G.L.A. University from Mathura, have dedicated library websites.
- Slightly more than fifty 54.55 percent libraries had multiple webpages, and below fifty (45.45%) percent of libraries have a single, static webpage to portray all the library related information.
- The most informative contents on the website/webpages were general introductory information/about libraries, library collections, automation details, working hours, IT and Internet infrastructure, library services, E-mail/contact address of librarian and list of subscribed journals.
- The majority of libraries provided access to electronic databases, journals, and books, and three-quarters (73%) of libraries provided OPAC links and very few (18.18%) libraries subscribed to (SciFinder and Reaxys) pharmaceutical databases.
- Nearly half (45.45%) of libraries used plagiarism/similarity checker has their major research support tool.
- Institutional Repositories was maintained and provided links by 36% of the libraries.
- More than fifty (54.05) percent of the library websites had links to e-thesis and links to other free resources.
- Links and information to e-learning (EDX, COURSEWARE, and Swayam) platforms was found on 45.45% of the websites.
- Only one (9.09%) library website (Integral University, Lucknow) implemented RSS feeds in their respective websites. None of the library websites used web 2.0 features on their respective pharm library websites in the central zone.

7. Suggestions and Conclusion

The development of the World Wide Web over the last two decades has resulted in a rapid information explosion on the internet, particularly in the academic sector. In fact, the information obsolescence has made library websites a prominent place where library users can relay and find the newest academic and research information resources at one unified interface. Since last decade library websites act has the nucleus to all information sources and services of libraries virtual. It should be visually appealing, and the tools and materials employed should draw new users. Implementation of new-age technologies like library or web 2.0 technologies should be integrated into library websites for direct interaction with the system. At a timely interval, websites must be updated with the latest information to serve users. Provision feedback form must be provided by the website to know the pros and cons and needs of the users. The librarian must initiate and collaborate with website developers while designing and updating library websites to meet the needs of end users. This study will be helpful for librarians and webmasters to restructure their respective library websites.

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Appendix - 1

Sl. No	Institute Name	Library Website/Webpage URL
1	Amity University	http://auup.amity.edu/infra-library.aspx
2	National Institute of Pharmaceutical Education and Research Raebareli	http://niperraebareli.edu.in/library.html
3	Guru Ghasidas Vishwavidyalaya	https://www.ggu.ac.in/CentralLibrary.aspx
4	Integral University	https://library.iul.ac.in/
5	Galgotias University	https://galgotiacollege.edu/infrastructure-library
6	Kumaun University, Nainital	https://www.kunainital.ac.in/central-library.php
7	G. L. A. University	http://library.glauniversity.in/
8	Bundelkhand University	https://www.bujhansi.ac.in/en/page/library-facilities
9	Pt. Ravishankar Shukla University	https://www.prsu.ac.in/facilities/common-facilities/library
10	Sam Higginbottom Institute of Agriculture, Technology & Sciences	https://shuats.org/webwapp/contact_library.asp
11	KIET Group of Institutions	https://www.kiet.edu/central-library-overview

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