IOSR Journal Of Humanities and Social Science (IOSR-JHSS)
Volume 30, Issue 7, Series 8 (July, 2025) 25-34
e-ISSN: 2279-0837, p-ISSN: 2279-0845.
www.iosrjournals.org

Evaluation Of Library Websites Of Top Ten Central Universities In India As Ranked In NIRF 2023: A Webometric Study

Mrs. S. Sathyareka
Research Scholar,
Department Of Library And Information Science,
Periyar University, Salem – 636011.

Dr. N. Radhakrishnan
Professor,
Department Of Library And Information Science,
Periyar University, Salem – 636011.

Abstract
This study aims to evaluate the accessibility, usability, and security of library websites of the top ten Central Universities in India ranked by NIRF 2023. The URL of the library web pages of the selected Central Universities were taken from respective university websites.
Methodology – The research employed a webometric analysis using tools like Similarweb, SmallSEOTools, SSL Checker, and Ryte.com to collect data on domain age, SEO performance, content quality, usability, link metrics, and SSL certification. A quantitative approach was adopted using tabular and visual representation. The methodology used for the study includes an analysis of different parameters, including domain authority, SEO performance, user engagement, internal and external linking strategies, and adherence to web accessibility guidelines were assessed with web page links of the respective websites.
Findings – Among the universities, Banaras Hindu University scored the highest overall site score (62/100), while Babasaheb Bhimrao Ambedkar University scored the highest SEO (86/100). Jawaharlal Nehru University had the highest domain authority (72), and North Eastern Hill University had the highest monthly visits (6,41,853). Common gaps include the lack of SSL certificates and low mobile optimization. The study gives insight into the effectiveness of currently used web strategies and identifies areas that need improvement. The findings included diverse strengths and weaknesses across the websites, with some institutions outperforming in content relevance, SEO, and security practices but lagging in user engagement and accessibility.
Originality/Value – The study highlights the necessity for regular updates, SSL certification, and mobile optimization of academic library websites. This research offers a benchmarking framework for improving digital presence and web performance of university libraries in India. The study will highlight the necessity of updates, SEO optimization, and security features like SSL certification to improve the user experience and the digital profile of university libraries. Moreover, research shows that web design for university libraries must be more robust regarding usability, accessibility, and security standards to satisfy the changing demands of users and sustainable digital development.

Keywords - *Central Universities, University websites, web accessibility, SEO practices, NIRF rankings*

Date of Submission: 19-07-2025 Date of Acceptance: 29-07-2025

I. Introduction

The increasing reliance on digital resources in higher education has made university library websites vital tools for academic communication, research dissemination, and information access. In India, the National Institutional Ranking Framework (NIRF) provides a benchmark for evaluating the performance of universities across multiple parameters, including infrastructure and online services. As such, library websites have become essential gateways for resource sharing and knowledge exchange.

Despite advancements in digital infrastructure, many Indian central university libraries lack standardized benchmarks for usability, accessibility, and web security. This absence can impact academic visibility and limit information dissemination. Given the significance of digital presence in academic excellence, there is a pressing need to assess and optimize library websites for better user experience and visibility.

The present study aims to fill this gap by evaluating the top ten NIRF 2023-ranked Central University library websites using a comprehensive webometric approach. This research builds on prior studies that analyzed the web content of state-aided university libraries in Kolkata and emphasized the need for structured digital evaluations (Tunga, 2021).

The National Institutional Ranking Framework (NIRF) ranks the higher education institutions based on various parameters. With immense utilization of digital facilities in the information age the digital setting in higher education institutions has become an integral aspect of the operational and outreach strategies undertaken by organizations. University library websites serve as crucial portals to vast knowledge and information resources, thus enhancing academic research and education. The efficiency and effectiveness of such digital portals are essential to improving accessibility and comprehensive services to the world at large. In this respect, webometric analysis offers a robust framework for evaluating and contrasting the digital visibility and performance of university library websites. The domain and hosting attributes, traffic and link metrics, web impact factors, Search Engine Optimization (SEO) performance, user experience, content quality, security features, social media integration, and accessibility standards are considered in the analysis.

University libraries play a pivotal role in educational and research processes through the availability of vast amounts of information sources. However, with the contemporary digital scenario, their effectiveness has come to depend largely on online presence and websites.

II. Literature Review

Numerous studies have investigated the webometric performance of academic library websites across different geographies. Verma and Shukla (2018) evaluated the usability of Indian Institutes of Management (IIM) library websites and found variations in user-friendliness. Davydova et al. (2020) emphasized the importance of traffic diversity and SEO in the visibility of national library websites.

Tunga (2021) evaluated the library websites of state-aided universities in Kolkata and found that although most had high content quality, many lacked proper web accessibility and SSL implementation, making them less secure and less effective in digital engagement.

While these studies offer significant insights, a clear gap remains in the comparative analysis of Central Universities ranked by NIRF in terms of web performance. This study seeks to bridge this gap by analyzing the top 10 NIRF-ranked Central University libraries in India, focusing on a broader set of performance indicators including domain authority, traffic metrics, SEO, usability, and security compliance.

Khamala, Makori, & Nijiraine (2018) focused on web ranking in Kenya and identified barriers to the digital divide and recommended digital repositories and advanced technologies. Verma & Shukla (2018) evaluated the serviceability and productivity of IIM library websites and found that different websites were dissimilar in their user-friendliness and serviceability. Brahma, Verma, & Sinha (2019) analyzed web impact factors of universities in North-East India, highlighting Mizoram University and North-Eastern Hill University for high visibility. Gupta & Singh (2020) analyzed the web presence of ISI centers, focusing on metrics like WIF and WISER rank, and suggested a broader interpretation of these metrics. Davydova et al. (2020) ranked 181 national library websites based on traffic metrics, emphasizing the importance of diverse traffic channels for better visibility.

Ghosh & Roy (2021) examined health repositories using WIF metrics, identifying leading ones like the College of Physicians of Philadelphia Digital Library. Das & Gurey (2021) accessed the state university websites of West Bengal, evaluating accessibility, speed, and aesthetic value for knowledge dissemination across the globe. Meghwal et al. (2022) conducted a webometric analysis of the top 10 Indian university websites. The study is based on performance through key web metrics. Dhar & Gayan (2022) examined international library association websites, illustrating disparities in web metrics among the institutions. Babu, Jayashankar, & Rao (2010) have analyzed 40 central university websites in India. They studied various web impact factors, such as external and internal links.

Several recent studies emphasize the relevance of evaluating academic web presence through webometric parameters. Tunga (2021) performed a consent analysis of state-aided university libraries in Kolkata, showing significant gaps in standardization and SSL certification. Dapsi (2023) evaluated web presence across technological institutions, identifying inconsistencies in SEO and content depth. Balaraman and Dutta (2023) discussed the use of web marketing in Central University libraries to exhibit their library resources, while Mahato and Chatterjee (2024) analyzed ministry websites to understand navigation structures and user focus.

Singh and Brar (2023) addressed digital data privacy in academic libraries, emphasizing user trust. A similar study was conducted by Suman, Patel, and Kishore (2024) on the web visibility of state universities in Bihar, underlining the importance of consistent link building and usability design.These studies collectively point to the growing importance of secure, accessible, and optimized digital platforms for academic libraries and related institutions in India.

III. Objectives Of The Study

- ❖To examine the domain and hosting details of the top 10 central University websites
- ❖To investigate the traffic and engagement of the top 10 central university websites
- ❖To determine the internal and external links of the websites
- ❖To identify all the Web Impact Factors like simple, self-link, external, and revised WIF
- ❖To ascertain the overall site score of the websites through various criteria like page load time, performance, Search Engine Optimization
- ❖To examine the implementation of Secure Socket Layer in the websites

IV. Scope Of The Study

According to the official website of UGC (Consolidated_CENTRAL_UNIVERSITIES_List.pdf), there are currently 56 central universities in India. Only 10 central universities which topped the NIRF 2023 ranking list among central universities category have been taken for the study. The time period considered for data analysis of the websites is from March'2023 to May'2023.

V. Methodology

- **Research Design:** The study employs a quantitative descriptive research design.
- **Population and Sampling:** The population includes all Central Universities in India. A purposive sample of the top ten Central Universities as ranked in NIRF 2023 has been selected for the study.
- **Data Collection Tools:** Tools like Similarweb, SmallSEOTools, SSL Checker, SiteChecker, and Ryte.com were used to collect data on domain authority, SEO performance, security measures, content evaluation, and usability metrics.
- **Data Collection Methods:** Data was collected by visiting each university's official library website and analyzing technical metrics such as domain age, hosting reliability, bounce rate, page speed, mobile optimization, and link analysis.
- **Data Analysis:** The collected data was compiled into Excel and visualized using bar charts and spider graphs. A comparative matrix was used to benchmark the digital effectiveness of each website.
- **Ethical Considerations:** As this study relied on publicly available data, no direct user interaction occurred, and ethical concerns such as privacy and consent were not applicable. Tools used comply with standard web crawling protocols.

Online websites were used for the comprehensive assessment of digital presence and performance of library websites of the top 10 central universities in India, as per National Institutional Ranking Framework (NIRF) 2023 rankings. Data extraction was conducted using tools such as SmallSeoTools.com, Similarweb.com, SSL checker, Sitechecker, Pro.Similarweb.com, and Ryte.com to gather domain age, hosting details, SEO metrics, traffic volume, engagement metrics, security features, and usability insights. Excel was utilized for generating bar charts depicting domain and hosting analyses, while spider charts were employed for visualizing web impact factors.

VI. Data Analysis And Interpretation

Domain and Hosting Analysis

Domain and hosting analysis is crucial to analyze the digital footprint and infrastructure of universities. It consists of examining parameters like domain age, domain registration details, hosting location, and hosting reliability.

Domain Analysis

Table 1: Domain and Registration Information

University (Abbreviation)	URL	NIRF Rank (2023)	Domain Age (years)	Domain Registration	Domain Authority	Page Authority
Jawaharlal Nehru University (JNU)	http://lib.jnu.ac.in/	2	21	2003-11-25	72	55
Jamia Millia Islamia (JMI)	https://jmi.ac.in/zhlibrary	3	23	2001-07-20	62	48
Banaras Hindu University (BHU)	https://dl.bhu.ac.in/home	5	25	1999-02-26	75	58
Aligarh Muslim University (AMU)	https://www.amu.ac.in/libraries/maulana-azad-library	9	21	2003-12-19	70	52
University of Hyderabad (UoH)	http://igmlnet.uohyd.ac.in:8000/	10	17	2006-04-03	65	50
University of Delhi	https://crl.du.ac.in/	11	23	2001-07-02	70	53

(UoD)						
Babasaheb Bhimrao Ambedkar University (BBAU)	https://www.bbau.ac.in/Library.aspx	42	14	2009-09-17	45	38
Tezpur University (TU)	https://www.tezu.ernet.in/Library/	69	21	2002-08-23	50	42
Mizoram University (MU)	https://lib.mzu.edu.in/	76	21	2002-09-11	48	40
North Eastern Hill University (NEHU)	https://www.nehu.ac.in/library/	80	19	2004-04-20	52	44

Source: sitechecker

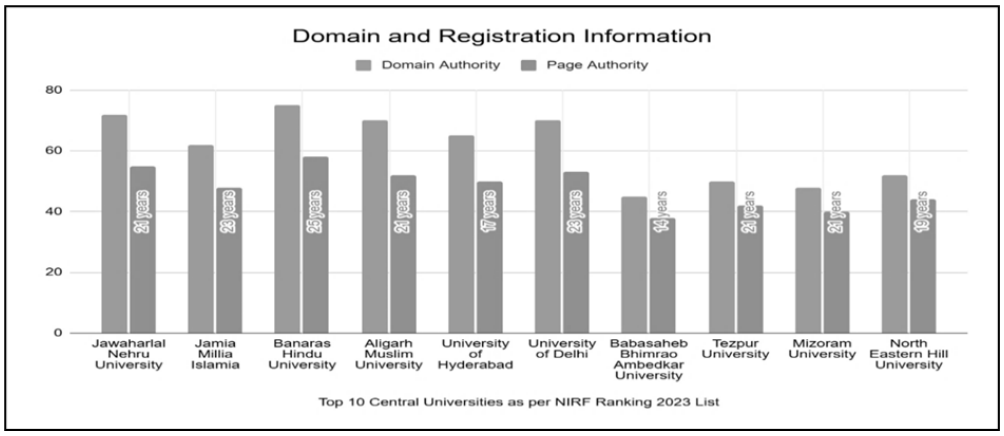

Figure 1: Domain and Registration chart

Table 1 depicts the BHU with high domain authority with a score of 75 and JNU tops in the page authority with a score of 55 while BBAU comes with the least score under domain authority and page authority with 45 and 38 respectively.

Universities with domains registered for more than 20 years have a stable online presence, which is a sign of long-term commitment. Generally, these universities have higher domain authority, which means they are known and trusted in their respective fields. High domain authority often translates to good search engine rankings because of quality content and strong SEO practices as shown in Table 1 and Figure 1.

Hosting Analysis

Table 2: Website Hosting Information

University	URL	NIRF Rank (2023)	Hosting Location	Hosting Reliability Rank
Jawaharlal Nehru University	http://lib.jnu.ac.in/	2	India	High
Jamia Millia Islamia	https://jmi.ac.in/zhlibrary	3	India	High
Banaras Hindu University	https://dl.bhu.ac.in/home	5	India	High
Aligarh Muslim University	https://www.amu.ac.in/libraries/maulana-azad-library	9	India	High
University of Hyderabad	http://igmlnet.uohyd.ac.in:8000/	10	India	High
University of Delhi	https://crl.du.ac.in/	11	India	High
Babasaheb Bhimrao Ambedkar University	https://www.bbau.ac.in/Library.aspx	42	India	Medium
Tezpur University	https://www.tezu.ernet.in/Library/	69	India	Medium
Mizoram University	https://lib.mzu.edu.in/	76	India	Medium
North Eastern Hill University	https://www.nehu.ac.in/library/	80	India	Medium

Source: sitechecker.com

All university websites are hosted in India, but hosting reliability varies from high to medium, which impacts server performance, uptime, security, and support. Universities with higher hosting reliability benefit from smoother website operations and a better user experience.

Traffic and Engagement Analysis for University Library Websites (Mar 2024 - May 2024)

Table 3: Traffic & Engagement Data (Mar 2024 - May 2024)

University	Monthly Visits	Monthly Unique Visitors	Visit/ Unique Visitor	Visit Duration	Pages per Visit	Bounce Rate	Page Views	Total Visits	Desktop	Mobile	Total Referral Visits (All Traffic)
Jawaharlal Nehru University	38,048	12,405	3.07	00:02:06	1.95	49.95%	74,078	1,14,143	37.10%	98.20%	5,230
Jamia Millia Islamia	4,94,294	2,31,396	2.14	00:03:08	3.13	46.90%	1.546M	1.482M	62.90%	31.90%	8,048
Banaras Hindu University	12,158	< 5,000	2.51	00:00:03	1.36	96.69%	16,532	36,473	26.90%	68.10%	0
Aligarh Muslim University	2,79,706	1,38,533	2.02	00:03:45	2.82	45.99%	7,89,021	8,39,118	73.10%	N/A	21,455
University of Hyderabad	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.80%	N/A	0
University of Delhi	21,430	9,921	2.16	00:01:28	1.97	54.3%	42,280	64,291	33.3%	66.7%	1,748
Babasaheb Bhimrao Ambedkar University	157,667	86,756	1.82	00:02:40	2.45	56.9%	386,295	473,001	37.5%	62.5%	15,572
Tezpur University	396,489	91,878	4.32	00:02:28	3.35	54.57%	1.328M	1.189M	30.3%	69.7%	49,579
Mizoram University	< 5,000	< 5,000	1.86	00:00:00	1.44	37.41%	< 5,000	< 5,000	100%	0%	0
North Eastern Hill University	641,853	146,237	4.39	00:02:53	2.41	60.95%	1.546M	1.925M	6.5%	93.5%	36,557

Source: pro.similarweb.com

NEHU tops the list by monthly visits as an indicator of high engagement and BHU is an exception with its 96.69% bounce rate, signalling issues with its content or perhaps user interface. The highest mobile traffic was reported by JMI, and the lowest bounce rate was of MU at 37.41%. Most universities had higher mobile usage, with JNU and NEHU showing a greater proportion of mobile users as compared to others as shown in Table 3.

Link analysis and Web Impact Factors (WIF)

Table 4: Link analysis and Web Impact Factors (WIF)

URL	Internal Links	External Links	Total Links	Simple WIF	Self-link WIF	External Link WIF	Revised WIF
http://lib.jnu.ac.in/	242	188	430	0.4372	0.5628	0.4372	0.4372
https://jmi.ac.in/zhlibrary	401	18	419	0.0430	0.9570	0.0430	0.0430
https://dl.bhu.ac.in/home	29	2	31	0.0645	0.9355	0.0645	0.0645
https://www.amu.ac.in/libraries/maulana-azad-library	212	74	286	0.2587	0.7413	0.2587	0.2587
http://igmlnet.uohyd.ac.in:8000/	24	50	74	0.6757	0.3243	0.6757	0.6757
https://crl.du.ac.in/	33	42	75	0.5600	0.4400	0.5600	0.5600
https://www.bbau.ac.in/Library.aspx	202	27	229	0.1180	0.8820	0.1180	0.1180
https://www.tezu.ernet.in/Library/	78	312	390	0.8000	0.2000	0.8000	0.8000
https://lib.mzu.edu.in/	37	95	132	0.7197	0.2803	0.7197	0.7197
https://www.nehu.ac.in/library/	27	33	60	0.5500	0.4500	0.5500	0.5500

Source: smallseotools.com

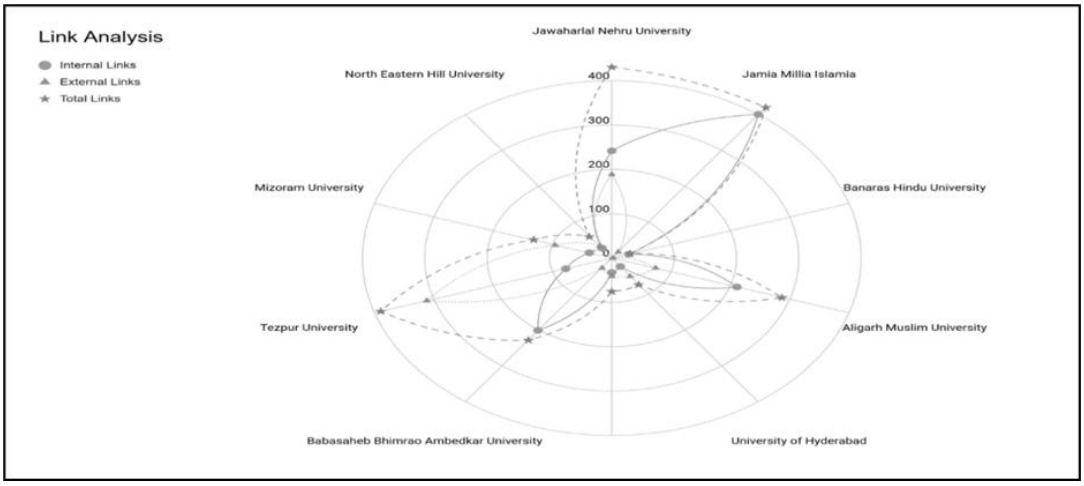

Figure 2: Link Analysis

Table 4 depicts the variations in the internal and external web links of Indian universities. JNU tops the list with 430 links (242 internal, 188 external), indicating balanced content integration. JMI ranks next with 419 links, primarily comprised of internal links (401 internal, 18 external), which emphasizes internal resources. In contrast, both BHU and NEHU exhibit particularly low link totals, featuring few external links. TU is distinguished by its substantial external connectivity, possessing 312 external links and 78 internal links.

Web Impact Factor

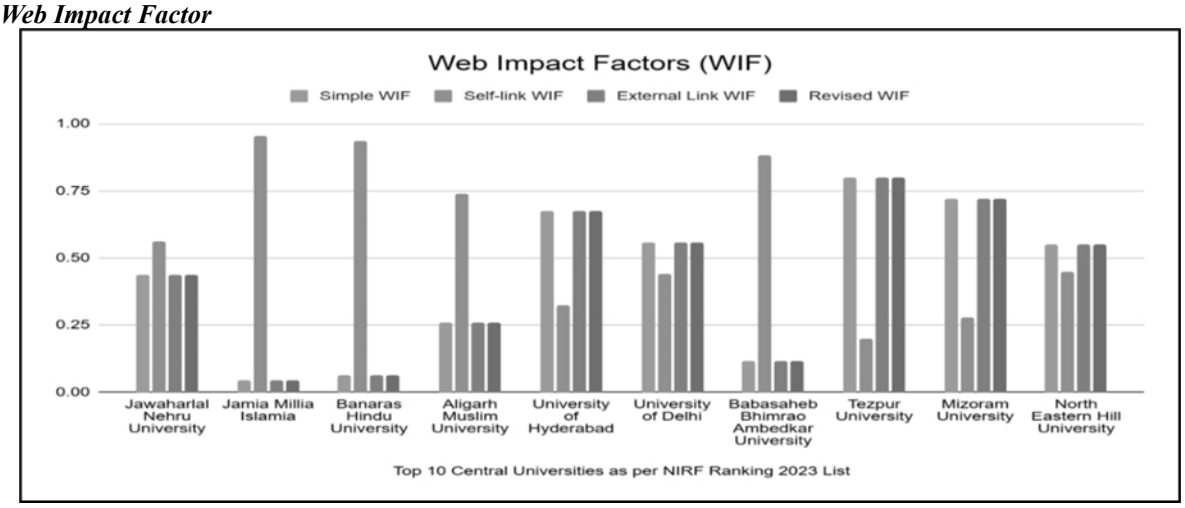

Figure 3: Web Impact Factor

Figure 3 shows the Web Impact Factors for the library websites indicating the diverse patterns of internal and external link usage. JMI and BHU have high Self-link WIF, reflecting a focus on internal navigation. Conversely, TU, MU and the UoH have high External Link WIFs, bringing substantial external linking, which enhance their web impact through broader internet connectivity. JNU, UoD and NEHU have balanced WIFs, indicating a mixed strategy of internal and external linking.

Comprehensive Website Evaluation and Optimization Analysis

Table 5: Comprehensive website evaluation and optimization

University	URL	Content	SEO	Performance	Usability testing	Page load time	Overall Site score
		(out of 100)				(sec)	(out of 100)
Jawaharlal Nehru University	http://lib.jnu.ac.in/	57	57	75	29	0.2	55
Jamia Millia Islamia	https://jmi.ac.in/zhlibrary	29	57	75	43	0.2	51
Banaras Hindu	https://dl.bhu.ac.in/home	71	57	75	43	0.3	62

University							
Aligarh Muslim University	https://www.amu.ac.in/libraries/maulana-azad-library	57	57	100	29	0.2	61
University of Hyderabad	http://igmlnet.uohyd.ac.in:8000/	57	57	100	29	0.2	61
University of Delhi	https://crl.du.ac.in/	57	43	100	29	0.2	57
Babasaheb Bhimrao Ambedkar University	https://www.bbau.ac.in/Library.aspx	43	86	50	43	0.2	56
Tezpur University	https://www.tezu.ernet.in/Library/	43	57	50	29	0.2	45
Mizoram University	https://lib.mzu.edu.in/	57	71	50	43	0.2	55
North Eastern Hill University	https://www.nehu.ac.in/library/	57	57	100	29	0.2	61

Source: ryte.com

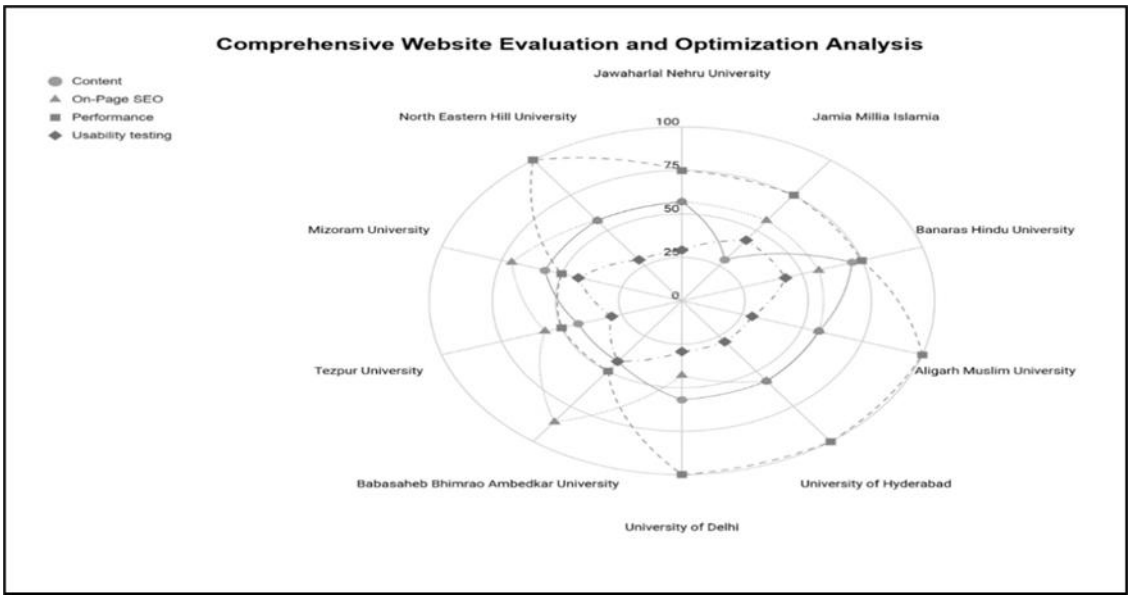

Figure 4: Comprehensive Website Evaluation and Optimization Analysis

The best all-around site score is obtained by BHU with a total of 62/100 points, though, at 71 points, its content is the highest scored. BBAU excels in on-page SEO with 86/100, while AMU, UoH, and NEHU scores perfect performances at 100/100—page load times average 0.2 seconds, which supports a good user experience. TU has the lowest overall site score at 45/100, which reflects content and performance weaknesses as shown in Table 5 and Figure 4. These results show diverse strengths and areas for optimization across institutions.

Benchmarking, Trend and Security Analysis

Table 6: Benchmarking, Trend and Security Analysis

University	Library Website URL	SSL Certificate	Secured Feature	Benchmarking/ Strengths	Trend Analysis/ (Areas for improvement)
Jawaharlal Nehru University	http://lib.jnu.ac.in/	YES	SSL is trusted secured	High usability and content relevance	Enhancing internal navigation
Jamia Millia Islamia	https://jmi.ac.in/zhlibrary	NO	SSL is not trusted	High traffic volume, low engagement duration	Improving SSL implementation
Banaras Hindu University	https://dl.bhu.ac.in/home	YES	SSL is trusted secured	Strong on-page SEO and link quality	Addressing bounce rates and user retention
Aligarh Muslim University	https://www.amu.ac.in/libraries/maulana-azad-library	YES	SSL is trusted secured	Balanced engagement metrics, effective digital presence	Mobile optimization and accessibility compliance

University of Hyderabad	http://igmlnet.uohyd.ac.in:8000/	NO	SSL is not trusted	High external linking strategy, comprehensive resources	Enhancing internal navigation
University of Delhi	https://crl.du.ac.in/	NO	SSL is not trusted	Strong content relevance, balanced SEO	Improving page load times and usability
Babasaheb Bhimrao Ambedkar University	https://www.bbau.ac.in/Library.aspx	YES	SSL is trusted secured	Effective multimedia integration, SEO optimization	Enhancing user feedback and accessibility
Tezpur University	https://www.tezu.ernet.in/Library/	NO	SSL is not trusted	High mobile traffic, extensive external linking	Improving SSL implementation and usability
Mizoram University	https://lib.mzu.edu.in/	YES	SSL is trusted secured	Strong content quality and relevance	Addressing navigation efficiency and user feedback
North Eastern Hill University	https://www.nehu.ac.in/library/	YES	SSL is trusted secured	Extensive mobile traffic, balanced SEO	Enhancing multimedia integration and SEO optimization

Source: SSL checker

Figure 5: Secure Sockets Layer (SSL) Certificate Analysis

Institutes like JNU, BHU, AMU, and MU had placed SSL certificates on their portals thus providing encrypted and secure connections to the users, but institutes like JMI, UoH, and TU do not have trusted SSL certification and are vulnerable to risks as shown in Table 6 and Figure 5.

Discussion

The adoption of semantic HTML, CSS, responsive design, and frameworks like Bootstrap has improved compatibility with assistive technologies and hence enhanced user experience. Improved User Interface panels, navigation, and web performance ensured faster load times and better handling of high traffic. Universities like JNU, BHU, and AMU showed strong domain authority and credibility. All university libraries were hosted within India, while reliability of hosting differed. JNU and AMU, with their high hosting scores, indicates web access stability. As stressed by Shehatta, Rubaish, & Mahmood (2020) infrastructural reliability is directly responsible for an unproblematic and secure academic experience. Anyira and Idubor (2020) advocated the necessity of infrastructural reliability for international academic competitiveness.

Chakravarty and Wasan (2025) reported the longevity of domain trust lead to visibility where Universities with domains older than 20 years (e.g., BHU, JMI, and DU) possessed higher domain authority. Ramanayaka, Chen, & Shi (2018) also observed that in Sri Lankan universities, longevity of the domain was associated with improved SEO.

NEHU received the most frequent monthly visits, and JMI and TU also recorded high user engagement. Shukla and Poluru (2012) attributed traffic metrics to good internal link structuring, whereas Ramanayaka et al., (2018) associated high engagement with mobile-friendliness and relevance of content. Anyira and Idubor (2020) highlighted that poor engagement metrics usually result from poorly optimized web design and content strategies that are no longer relevant.

JNU possessed an even ratio of internal to external links in Table 4, whereas TU exhibited high external linkages. Babu et al. (2010) previously showed that a balanced linkage structure enhances a site's webometric influence. Shukla and Poluru (2012) also emphasized internal linking as a key to enhancing navigation and search engine rankings. The emphasis on internal links by JMI accounts for the high Self-link

WIF, which was observed by them. Shehatta et al., (2020) advocated revisiting the interpretation of WIF in academic contexts, cautioning against over-reliance on single metrics.

BHU ranked best in content and overall performance, while BBAU ranked best in SEO. The same trend was highlighted that effective SEO and content combination improves web rankings (Chakravarty & Wasan, 2015). TU's low usability rank resembles Anyira and Idubor (2020) findings on poor design diminishing the effectiveness of academics. Ramanayaka et al., (2018) also highlighted responsive design and mobile optimization as imperative for user satisfaction.

SSL implementation, as presented in Table 6, was also diverse among the universities. Universities such as AMU and BHU performed better in secured connections in alignment with best practices (Babu et al., 2010). TU and JMI did not have trusted SSL certificates, a shortcoming identified by Thuranira and Diki (2024) warns that such loopholes undermine the institutional credibility in online rankings. Shehatta et al., (2020) contended that secure access ought to be considered as one of the important academic measures in ranking.

Many universities have best practices in search engine optimization, usability, and content quality but lack robustness in security, traffic engagement, and accessibility. Improving them requires the establishment of SSL certificates, security auditing, and ensuring that the interfaces are user-friendly to enhance their digital effectiveness and trust.

VII. Conclusion

The study assessed the usability, SEO, content quality, and security compliance of the library websites of the top ten NIRF 2023-ranked Central Universities. While a few institutions demonstrated high usability and domain authority, others lagged in implementing SSL and user engagement strategies. The findings underscore the importance of regular audits, user feedback mechanisms, and the adoption of accessibility and mobile-first design principles. With the digital expectations of academic users, the technical, visual, and functional design of the library websites should keep evolving.

Future research may include real-time usability testing with users, accessibility compliance benchmarking, and comparative studies with international universities. The digital presence, usability, security, and content of university library websites show various ways of approach as presented in this study. Institutional websites should focus on content updates, multimedia integration, simplification of navigation, and regular usability testing to enhance user engagement and experience. Strengthening SEO through on-page optimization and quality backlinks will improve the visibility of a website, and refining interfaces and encouraging user feedback ensures that websites meet evolving needs. Consistency and reliability are fostered by adherence to web standards and suitable technologies. For an online source such as a library website to fulfil the expectations of users while simultaneously remaining relevant within a fast-moving digital environment, frequent changes in online content and functionalities must happen.

References

[1] Anyira, I. E., & Idubor, I. (2020). Poor Webometrics Ranking Of Nigerian Higher Institutions: Causes, Implications And Solutions. Library Philosophy And Practice (E-Journal), (4200). Retrieved From Https://Digitalcommons.Unl.Edu/Libphilprac/4200

[2] Babu, B. R., Jeyshankar, R., & Rao, P. N. (2010). Websites Of Central Universities In India: A Webometric Analysis. DESIDOC Journal Of Library & Information Technology, 30(4), 33–43. Https://Doi.Org/10.14429/Djlit.30.458

[3] Balaraman, S., & Dutta, K. (2023). Library And Information Services Through Web Marketing Among The Central University Libraries In India. College Libraries, 38(3), 1.

[4] Brahma, K., Verma, M. K., & Sinha, M. K. (2019). An Evaluation Of Selected Universities' Library Websites Of North-East India: A Webometric Analysis. Library Progress, 39(2), 311–321. Https://Doi.Org/10.5958/2320-317X.2019.00034.5

[5] Chakravarty, R., & Wasan, S. (2015). Webometric Analysis Of Library Websites Of Higher Educational Institutes (Heis) Of India: A Study Through Google Search Engine. DESIDOC Journal Of Library & Information Technology, 35(5), 325–329. Https://Doi.Org/10.14429/Djlit.35.5.8788

[6] Dapsi, S. (2023). Evaluating Web Presence Of Technological Institutions In India: A Webometrics Analysis. College Libraries, 38(4), 70.

[7] Das, A., & Gurey, P. (2021). Web Content Analysis Of State University Websites Of West Bengal: An Evaluative Study. Library Philosophy And Practice (E-Journal). Https://Digitalcommons.Unl.Edu/Libphilprac/6691

[8] Davydova, I., Marina, O., Marin, S., & Peleshchyshyn, A. (2020). Webometric Analysis Of National Libraries' Websites. CEUR Workshop Proceedings, 2616, 165–176.

[9] Dhar, P., & Gayan, M. A. (2022). A Webometric Study Of Selected International Library Association Websites: An Evaluative Study. DESIDOC Journal Of Library And Information Technology, 42(3), 185–190. Https://Doi.Org/10.14429/Djlit.42.3.17772

[10] Ghosh, S., & Roy, B. K. (2021). Websites Of Open Access Digital Repositories Of Agricultural Sciences In European Continents: A Webometric Study. Library Philosophy And Practice. Https://Digitalcommons.Unl.Edu/Libphilprac/6691

[11] Gupta, M., & Singh, H. (2020). Webometric Analysis Of Centres Of Indian Statistical Institute In India. Library Philosophy And Practice.

[12] Khamala, D. F., Makori, E. O., & Njiraine, D. M. (2018). Webometrics Ranking And Its Relationship To Quality Education And Research In Academic Institutions In Kenya. Library Philosophy And Practice.

[13] Mahato, S., & Chatterjee, S. K. (2024). Departmental Websites Of Central Government Ministries Of India: A Webometric Study. College Libraries, 39(1), 53.

[14] Meghwal, J., Joshi, K., Chaparwal, N., & Rajput, D. P. S. (2022). NIRF Ranking 2021: A Webometric Analysis Of Top 10 University Websites Of India. International Journal Of Research In Library Science, 8(2), 191–205.

Https://Doi.Org/10.26761/Ijrls.8.2.2022.1535
[15] Ramanayaka, K. H., Chen, X., & Shi, B. (2018). Application Of Webometrics Techniques For Measuring And Evaluating Visibility Of University Library Websites In Sri Lanka. Journal Of The University Librarians Association Of Sri Lanka, 21(1). Http://Doi.Org/10.4038/Jula.V21i1.7908
[16] Shehatta, I., Al-Rubaish, A. M., & Mahmood, K. (2020). Ranking Web Of Universities: Is Webometrics A Reliable Academic Ranking? Pakistan Journal Of Information Management & Libraries (PJIM&L), 22, 103–115. Https://Doi.Org/10.47657/2631
[17] Shukla, S. H., & Poluru, L. (2012). Webometric Analysis And Indicators Of Selected Indian State Universities. Indian Journal Of Library Science, 18(2), 79–88. Retrieved From Http://Www.Indianjournals.Com
[18] Singh, S., & Brar, K. S. (2023). Academic Libraries And Their Patrons' Digital Data Privacy: A Systematic Literature Review. College Libraries, 38(4), 53.
[19] Suman, A. K., Patel, M., & Kishore, A. (2024). Web Presence Of State Universities Of Bihar, India: A Webometric Analysis. College Libraries, 39(3), 23–32.
[20] Thuranira, S., & Diki, P. M. (2024). Webometrics Ranking Of Universities: Fallacy Or Reality. African Journal Of Science, Technology And Social Sciences, 2(2), SS 24–31. Https://Doi.Org/10.58506/Ajstss.V2i2.213
[21] Tunga, S. K. (2021, February). Content Analysis Of Library Websites Of National Institutes In West Bengal, India: An Evaluative Study. Library Philosophy And Practice, 5120. Https://Digitalcommons.Unl.Edu/Libphilprac/5120
[22] Tunga, S. K. (2021, March). Consent Analysis Of Library Websites Of State-Aided Universities In Kolkata, West Bengal: An Evaluative Study. College Libraries, 36(1), 39–51. Http://Collegelibraries.In/Index.Php/CL
[23] Verma, N. K., & Shukla, A. (2018). Usability Analysis Of Indian Institutes Of Management Libraries' Websites: An Evaluative Study. Journal Of Advancements In Library Sciences, 5(1), 23–32.