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Findability, Accessibility and Performance of Open Access Journal Websites in Library and Information Science

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The revolutionised shift of academic publishing from traditional to modern has encouraged free access to publications. Open Access plays a significant role in facilitating barrier-free intellectual exchange and educational diversity. To ensure free access, websites and online platforms were utilised. This study examines the discoverability, accessibility and performance of open-access Library and Information science (LIS) journals. These aspects for open-access publications are essential for promoting free access and improving research distribution. At present, websites are the primary source of dissemination of information. LIS journal websites also play a crucial role in ensuring the availability of the journal's content. This study evaluates the websites of the LIS journals to assess their findability, accessibility and performance.

The Directory of Open Access Journals (DOAJ) were used as the data source. All the LIS journals indexed in DOAJ have been extracted and analysed. All the data were tabulated in the Google sheet in an understandable format. We check the journals' websites by simple Google search, and the working websites are archived in the Google sheet for further analysis. The study administered webometric analysis using the webometric tool 'Google PageSpeed Insights'. This tool provides findability (SEO-Search Engine Optimization), accessibility, performance, and best practices for websites on both mobile and desktop. The study showed many LIS Open-Access journals have findability and accessibility challenges. SEO practices, accessible rich Internet Applications, structured data text alternatives, and metadata contribute to effective and better discoverability and usability. This study is limited to the LIS open-access journals in DOAJ. Additionally, webometric research is limited in its findability, accessibility and performance. This study highlights the current status of OA LIS journals and provides value for the need for accessibility standards, SEO practices, Comprehensive indexing, and integration with emerging technologies. The study's findings shed light on OA journals' online presence and usability, contributing to a more diverse scholarly environment.

Keywords: Findability, Accessibility, Open Access Publishing, Scholarly Communication, Webometrics, Website Performance, SEO.

1. Introduction

The academic community has seen a significant impact with the emergence of open access (OA) publishing. The OA emerged as a key mechanism for disseminating research without financial or legal barriers. It is a method that ensures researchers and the general public access to a continuously expanding body of scholarly material without the hindrance of costly subscription fees[1,2]. The significant OA declarations like Budapest Open-access Initiative (February 2002), the Bethesda Statement on Open Access Publishing (June 2003), and the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (October 2003) defined the concept of open access[3]. These OA movements aim to eliminate barriers to the widespread distribution of information[4]. Open-access journals were the means for information dissemination and play a critical role in ensuring scientific knowledge freely available. They promote collaboration within the academic community and beyond, aiming to share innovative advancements for the benefit of society[5, 6].

The LIS is primarily concerned with the organization, retrieval, and use of information. The findability, accessibility, and performance of Open Access (OA) journal websites in Library and Information Science (LIS) are critical factors influencing the dissemination and utilization of scholarly information[7, 8]. These elements collectively determine how easily users can discover, access, and interact with academic content, thereby impacting the overall effectiveness of OA initiatives[9, 10].

The findability concept is considered fundamental because it prioritizes the characteristics of data

findable[11]. This aspect concerns the usability of digital material for both human users and automated systems. Data must be accompanied comprehensively by metadata and identifiers, such as Digital Object Identifiers (DOIs), to enhance discoverability. To facilitate the efficient retrieval of data by researchers, metadata and data must be appropriately registered or indexed inside a searchable resource[12]. This practice significantly enhances the researchers' capacity to discover the specific data they want, minimizing the need for lengthy search efforts. This process enables the initial and crucial stage in optimal data utilization, guaranteeing that once generated and distributed, critical digital assets persistently maintain their identification and retrieval capabilities within the continuously developing digital research environment. The concept of findability in web ometrics refers to measuring and assessing the ease with which online material may be accessed and indexed[13]. This study evaluates the perceptibility of online material and the efficacy of search engines, which are crucial in the contemporary day for academic and informational resources to reach their desired target audience effectively[14].

Accessibility is a fundamental aspect that mandates the ability to get data through its identification using a defined communications protocol. It also necessitates that this protocol be open, freely accessible, and globally implementable[15]. The concept of accessibility encompasses more than simply initial entrance since it includes the notion that data should be available over an extended period, and any limitations on access should be well explained and justified[16]. This implies that the metadata needs to be accessible even in instances when the data itself becomes inaccessible. This upholds the idea that maintaining strong and sustainable access enhances the quality and usefulness of research. This ensures the information is efficiently utilized and implemented in many settings, maximizing the benefits of the resources invested in its development. The field of webometrics examines the extent to which web information is accessible and user-friendly for individuals of all abilities, including people with impairments[17]. The process entails examining online design and architecture to ensure universal accessibility of content, regardless of individuals' hardware, software, or personal skills[18].

Website performance refers to the speed and efficiency at which web pages load and display on devices. The performance is how effectively a website functions from the user's perspective. Optimizing web performance is crucial because it enhances the user experience, allowing researchers, academics, and students to access articles quickly, browse journals, and retrieve relevant information without delays[19]. Web performance can enhance user engagement and increase article downloads, citations, and continued visits, directly impacting the journal's reach and academic influence. In the highly competitive academic publishing field, many journals offer similar content, providing a superior digital experience that can differentiate a journal from others[13]. The optimized web also reduces server load, which improves scalability and lowers operational costs, especially during periods of high traffic.

This paper examines the problems open-access journals face in LIS. It mainly focuses on Findability, the SEO practices and indexing of these journals, accessibility, how well they follow the accessibility guidelines and performance, and how their websites disseminate scholarly content. These factors are vital for wide dissemination and effective use of the digital/social media domain[20].

1.1. Statement of the research problem

The widespread availability of OA contributes to the democratization of information, but the discoverability and accessibility within the LIS field still exist[21]. The uneven indexing in academic databases and the lack of respect for online accessibility are significant concerns that may hinder the scholarly impact and reach of research in Library and Information Science, if the journal websites do not adhere to W3C guidelines[22]. The study's objective is to comprehensively assess the discoverability and availability of open-access journals in the LIS field. This attempt determines the scope of these challenges and provides practical recommendations to mitigate them, enhancing the open-access model's effectiveness in academic communication.

1.2. Purpose and significance of the study

The study aims to provide valuable insights into the LIS field by analyzing the discoverability and availability of open-access journals. The user-friendly environment of OA publication plays a vital role in promoting equal access to intellectual information[23]. This is an attempt to analyze the access ways of these journals utilized by the global research community and the general public[24]. This is important in enhancing academic equality, optimizing research

dissemination, and improving the effect of LIS scholarship[25]. This study aims to contribute to the scholarly ecosystem by identifying barriers and proposing modifications that would facilitate more interaction with research outputs in LIS [26].

2. Background works

2.1. Theoretical framework

A framework is a systematic method or structure for problem-solving. It offers a structured way to manage and analyze information and make decisions based on accurate data and principles of probability.

Frameworks are vital tools for supporting efficient and guiding ethical research management practices.

- This framework contributes to the journal evaluation system.
- It provides an approach to evaluate the online presence of journals.
- It offers criteria and parameters for assessing journal websites' performance, credibility, and usability.
- This approach identifies opportunities for optimization and improvement.
- It helps to assess the webometric aspect of journals.
- This is the contribution of openness in academic communication.

2.2. Review of previous studies on open-access journals

Open Access evolved with global efforts, such as those in Budapest, Bethesda, and Berlin. These movements have advanced academic policies, standards, copyrights and technologies. International agreements regarding the importance and necessity of OA are currently being reached within Australia, Canada, Finland, France, India, the Netherlands, Norway, Portugal, Scotland, and others[3, 28]. The academic content democratized online access with the emergence of OA[29]. Antelman's study validates the OA's significant impact among scholarly communities[30]. The OA empowered libraries and encouraged adoption[31]. This movement promotes creative scholarly communication, benefiting financially constrained institutions[32].

Mabe[33] discusses the continuing emergence of commercial publishers, the digital revolution, and the development of scholarly publishing from the beginning of the first scientific journals to the 17th century. The exponential growth of open-access journals, evidenced by the DOAJ, signifies a transformative shift. In 2002, Lund University created the DOAJ, a vital repository for quality-controlled OA journals[34, 35]. These peer-reviewed journals, called the "Gold Road," are freely accessible online and funded through various strategies[36]. Delayed and hybrid open-access journals reflect the continuing adaptations[37]. Open-access journals are considered essential tools for scholarship, particularly in the ICT realm.

The article discusses the shortcomings of traditional measures for evaluating journals. Haustein[38] suggests a multidimensional method of assessing journals. Maina[23] has elaborated on journal websites and the emergence of webometrics. Majhi and Das[39] investigated the web presence and visibility of Indian High Courts through a webometric analysis.

2.3. Gaps identified in the literature

Previous studies provide in-depth information on the evolution, impact, and ongoing changes in the OA movement within scholarly publications. However, no data is available on how OA publications are made more accessible through indexing, search engine optimization (SEO), and metadata techniques, which are essential for increasing the discoverability of scholarly literature.

Second, the review does not fully address practical accessibility concerns, such as website usability and accessibility for individuals with disabilities, which are sometimes disregarded. These components are critical to ensuring that all users can easily access open-access publications regardless of ability.

Moreover, the traditional journal evaluation methods need to be revised. There is a lack of discussion on using webometrics for journal metrics and the potential of new technologies like artificial intelligence to improve the discoverability and accessibility of OA LIS journals.

3. Methodology

This analytical study includes a mix of qualitative and quantitative approaches. It evaluates the discoverability, accessibility, and performance of open-access LIS journals. This study assesses the Findability, Accessibility, and Performance of journals through a webometric approach. It measures a webometric phenomenon and the visibility of journal websites.

The primary source of data collection is the Directory of Open Access Journals (DOAJ). Its well-

known and widely recognized directory of open-access journals provides a comprehensive platform for searching journals and articles. Instead of subscription journals, open-access journals are the selected prior bases because of their commitments to free and open access. We evaluate the platform aspects of journals whether they are openly accessible and how easily they are findable. This study's data collection method is leveraging the features provided by the DOAJ. The study carefully utilized the subject function within the journal search feature of the directory for the journals of the LIS field. This method ensured a refined dataset, which captures a representation of open-access journals relevant to the study's objectives. All the relevant data was extracted from the directory and stored in Google Sheets for further analysis. Therefore, simple Google search filters were utilized to check all the journal's URLs. This method examines the journal's URLs to determine whether they are broken or working. This filtration of URLs enhances their validity.

3.1. Webometric analysis: a Quantitative Method

Webometrics is "the study of the quantitative aspects of the construction and use of information resources, structures, and technologies on the Web drawing on bibliometric and informetric approaches." The webometric analysis employed on the journal's websites focuses on findability (SEO), Accessibility, Performance, and Best Practices using Google PageSpeed Insights. It provides quantitative data, which helps us interpret statistics and draw empirical conclusions.

Google PageSpeed Insights

An online webometric tool, Google PSI, is utilized for this study because it is closely associated with the comprehensive search engine "Google". Google is an extensive database that indexes all the OA websites and cached web pages, making it the most efficient of other search engines. The tool Google PSI is a free and popular tool for website evaluation. It offers a rating out of 100 on these four aspects: findability (SEO), performance, best practices and accessibility for both mobile and desktop versions[27,40,41]. The analysis focuses on four main areas:

1. **Performance**: This aspect measures how quickly a website loads and its responsiveness. It reviews factors such as server response times, render-blocking resources, and image optimization, which impact overall speed and efficiency.

2. **Accessibility**: This section ensures that websites are usable for individuals with disabilities. PageSpeed Insights identifies issues related to colour contrast, alternative text for images, and keyboard navigation, promoting a more inclusive web experience.

3. **Best Practices**: This category evaluates compliance with web development standards and best practices. It checks whether the website follows recommended coding guidelines, utilizes current technologies, avoids outdated features, and implements security measures to enhance overall quality.

4. **SEO (Search Engine Optimization)**: PageSpeed Insights also assesses how well a website is optimized for search engines. It examines elements like meta tags, structured data, and mobile friendliness, which can influence search engine rankings.

The tool identifies areas for improvement and provides specific recommendations to enhance website performance[42]. All the refined URLs of journals were stored in Google Sheets, and a webometric tool 'Google PageSpeed Insights' was used for further analysis. Through Google PSI, the website's scores were clustered in groups.

- High (100% to 75%)
- Average (74% to 50%)
- Low (below 50%)

3.2. Limitations of the study

It is essential to know the study's limitations within the methodology. There may be a bias toward the DOAJ as a data source. The data was collected in 2023. It may be possible to index new journals and remove some indexed journals. This study concentrates only on Library and Information Science and ignores interdisciplinary journals. The Google PSI tool is used for website evaluation. However, the web environment is dynamic and changes over time, and tools and techniques may also evolve. This temporal limitation could affect the generalizability of results that can be applied over time.

4. Results & Discussion

4.1. Findability of OA Journal Websites

The findability of journal websites is based on the parameters mentioned in the framework in Table 1. The findability score on both mobile and desktop is noted in Table 2. We have also provided the list of the top 10 and 10 bottom journals below.

Table 1 — Analysis by Google Page Speed Insights (PSI)[27]

Webometric Aspects	Measures/Parameters (Covered by Google PSI[27])	Alternatives Tools
Findability (SEO)	Meta Title and Description, Descriptive Text for Links, *HTTP* Status Code, robots.txt, Image Alt Attributes, Valid *hreflang* Attribute, Canonical *URL*, Structured Data Markup, Sitemap Submission, Clean and Structured *URLs*, Valid *SSL* Certificate *(HTTPS*), Page Loading Speed, Responsive Design, Avoids Multiple Page Redirects, Social Media Sharing, Alt Text for Links and Images, Site Search Functionality, No Blocking of Critical Resources, No Excessive *DOM* Elements.	*Ahrefs* Webmaster Tools, *Ahrefs'* black link checker, KeywordTool.io, Google Keyword Planner, AdWords and SEO Permutation Generator, *Woorank's SEO* & Website Analysis Tool, *Seobility, BROWSEO*, Google Search Console, Screaming Frog.
Accessibility	*ARIA* Attributes, Color Contrast, Names and Labels, Skip Links, Keyboard Navigation, Semantic *HTML* Elements, Image Alt Text, Focus Indicators, Logical Tab Order, Custom Controls with Associated Labels, Text Resize Compatibility, Font Size for Legibility, Visual Order Matches *DOM* Order, Responsive Tap Targets, Use of Landmarks for Navigation, Content Hidden for Assistive Tech, Captions and Transcripts, Avoid Focus Traps.	Accessible Metrics, WAVE, Web Accessibility, *AChecker*, Cynthia Says, *Acces*, *accessScan*.
Performance	First *Contentful Paint* (FCP), Largest *Contentful Paint* (LCP), Loading time Total Blocking Time (TBT), Cumulative Layout Shift (CLS), Speed Index (SI), Render-blocking Resources, JavaScript Execution Time, *Minify JavaScript*, *Minify CSS*, Serve Images in Next-Gen Formats, Properly Size Images, Reduce Initial Server Response Time, Efficient Cache Policy for Static Assets, Defer Offscreen Images, Avoid Long Main-Thread Tasks, Reduce Third-Party Code Impact, Avoid Excessive *DOM* Size, Avoid Chaining Critical Requests, Preload Largest *Contentful Paint* Element.	Website Performance Monitor, *GTmetrix,* Pingdom Website Speed Test, *WebPageTest.org*, *SpeedCurve.*
Best Practices	*HTTPS* Usage, Deprecated *APIs* Avoidance, *Preconnects* to Required Origins, Efficient Cache Policy, Browser Compatibility, Responsive Design, No Console Errors, Optimized JavaScript Execution, *Minify CSS* and *JavaScript*, Uses Passive Event Listeners, No Multiple Redirects, Avoids *Document.write(),* User Interaction Permissions, Preload Key Assets, Avoids Excessive *DOM* Size, *CSP* (Content Security Policy), Detects *JavaScript* Libraries, Image Aspect Ratios, Valid Source Maps, *.Handles* Text Compression.	--

Table 2 — Findability of Journals

On Mobile			On Desktop		
High	Average	Website down	High	Average	Website down
142	12	1	140	14	1

4.1.1. The current state of findability for Library and Information Science journals

Note: Four journal links are broken; we found their working links by searching on Google. Out of these, three journals' searchability is high, and one journal's is average.

Table 2 shows variations in the findability of journals on mobile and desktop.142 journals have high findability on mobile, and 12 have average findability. On the other hand, 140 journals have high findability on desktop, and 14 have average findability. The data underscore that journals might be more optimised for mobile search, which is better because more users access content through mobile phones. Overall, the results highlight the importance of making journals easier to find on mobile and desktop to help more people access the needed research.

4.1.2. Top 10 OA Journals of LIS as per Website Performance

Table 3 shows the top 10 journals according to findability on mobile. The journal's websites are evaluated using *Page Speed Insight* and results found that the findability of websites depends on indexing, the Document has a <*title*> element, the Document has a meta description, the Page has a successful *HTTP* status code, Links have descriptive text, Links are crawlable, *robots.txt* is valid, Image elements have *[alt]* attributes, Document has a valid *hreflang*.

4.1.3. Bottom 10 OA Journals of LIS as per Website Performance

Table 4 shows the bottom ten journals according to their website's findability. These journals are mainly lacking in these aspects: Document does not have a meta description, Image elements do not have *[alt]* attributes,

Table 3 — Top 10 OA Journals of LIS as per Website Findability over Mobile

Sl No	Journal title, Journal URL	Publishing Year	Google PSI	
			Mobile Findability	Desktop Findability
1	North Carolina Libraries http://www.ncl.ecu.edu/index.php/NCL	1942	100	100
2	Information Technology and Libraries https://ejournals.bc.edu/index.php/ital/index	2011	100	100
3	LIBRES: Library and Information Science Research Electronic Journal http://www.libres-ejournal.info/	1996	100	100
4	*Métodos de información* http://www.metodosdeinformacion.es	2010	100	100
5	*Biblios* http://biblios.pitt.edu	2011	100	100
6	*Revista Bibliomar* http://www.periodicoseletronicos.ufma.br/index.php/bibliomar	2002	100	100
7	International Journal of Digital Curation http://www.ijdc.net/	2006	100	100
8	Partnership: The Canadian Journal of Library and Information Practice and Research http://journal.lib.uoguelph.ca//index.php/perj/	2006	100	100
9	Urban Library Journal http://academicworks.cuny.edu/ulj/	2007	100	100
10	Practical Academic Librarianship http://journals.tdl.org/pal	2011	100	100

Table 4 — Bottom 10 OA Journals of LIS as per Website Findability over Mobile

Sl No	Journal title, Journal URL	Publishing Year	Google PSI	
			Mobile Findability	Desktop Findability
1	*圖書館學與資訊科學* (Library Science and Information Science) http://jlis.glis.ntnu.edu.tw/	1975	67	80
2	Evidence Based Library and Information Practice https://journals.library.ualberta.ca/eblip/index.php/EBLIP	2006	67	67
3	*知识管理论坛* (Knowledge Management Forum) http://www.kmf.ac.cn	2013	67	64
4	Journal of eScience Librarianship https://publishing.escholarship.umassmed.edu/jeslib/	2012	64	73
5	Tennessee Libraries http://www.tnla.org/?17	1989	62	73
6	*Libraria: Jurnal Perpustakaan* http://journal.stainkudus.ac.id/index.php/Libraria	2014	62	73
7	*Jurnal Pustaka Ilmiah* https://jurnal.uns.ac.id/jurnalpustakailmiah	2015	62	73
8	*农业图书情报学报*(Journal of Library and Information Science in Agriculture) http://nytsqb.aiijournal.com/EN/1002-1248/home.shtml	2013	54	64
9	*Baca: Jurnal Dokumentasi dan Informasi* http://jurnalbaca.pdii.lipi.go.id	1986	50	50
10	*Organizacija Znanja* https://oz.cobiss.si/en/the-latest/	2021	50	50

Document does not have a valid *rel=canonical*, Links are not crawlable, Links do not have descriptive text, Page is blocked from indexing, Page has unsuccessful *HTTP* status code, *robots.txt* is not valid.

4.1.4. Factors affecting the findability of open-access journals

The findability of a website is influenced by so many factors that collectively determine its visibility and accessibility to users. The proper use of Search

Engine Optimization (SEO) principles is at the forefront. Websites that follow search engine algorithms, use pertinent keywords and optimize their content well are more likely to rank higher in search results, which improves their findability. Clear URLs and meta tags help websites index their information easily in search results. The content quality, as well as the inner and outer links, also play a vital role in website findability. Indexing journals in different databases and directories also improves findability and visibility. The DOAJ-indexed journals benefit society and make it easy to search and find. The indexing significantly enhances the credibility and impact of the journals.

4.1.5. Case studies or examples

In this study, we evaluated the journals' websites through *Google PSI* and found that many journals have very high findability. These high visibility levels could be attributed to standards, including *SEO*, metatags, *ARIA*, custom user interface elements, straightforward navigation, keyboard accessibility, etc. So, the high findability results reflect that creating a welcoming online environment for researchers, practitioners, and enthusiasts encourages the community to contribute actively to an innovative society.

4.2. Accessibility of OA Journal Websites

4.2.1. The current state of accessibility for Library and Information Science journals

Note: Four journal links are broken; by Google search, we find new links, three journal's accessibility is high, and one journal's accessibility is low till the study is conducted.

Table 5 shows the journal's accessibility. 128 journals are highly accessible on mobile phones, and 25 are averagely accessible. On the desktop, 129 are highly accessible, and 23 are averagely accessible. The data highlighted that most journals are user-friendly, but some still need improvement. Generally, more people read on their mobile phones, so all the journals need to be accessible on mobile.

4.2.2. Top 10 OA Journals of LIS as per Website Performance

Table 6 shows the top 10 accessible journals on mobile. These journals' websites are highly accessible

Table 5 — Accessibility of Journals

On Mobile				On Desktop			
High	Average	Low	Website down	High	Average	Low	Website down
128	25	1	1	129	23	2	1

Table 6 — Top 10 OA Journals of LIS as per Website Accessibility over Mobile

Sl No	Journal title, Journal URL	Publishing Year	Google PSI	
			Mobile Accessibility	Desktop Accessibility
1	Information Technology and Libraries https://ejournals.bc.edu/index.php/ital/index	2011	100	100
2	Virginia Libraries https://virginialibrariesjournal.org/	1999	100	100
3	*Encontros Bibli* https://periodicos.ufsc.br/index.php/eb/index	1996	100	100
4	International Journal of Digital Curation http://www.ijdc.net/	2006	100	100
5	Practical Academic Librarianship http://journals.tdl.org/pal	2011	100	100
6	Pennsylvania Libraries: Research & Practice http://palrap.org	2013	100	100
7	Canadian Journal of Academic Librarianship https://cjal.ca/index.php/capal/index	2016	100	100
8	Journal of New Librarianship https://newlibs.org	2016	100	100
9	International Journal of Librarianship (IJoL) http://ojs.calaijol.org/index.php/ijol	2016	100	100
10	*GMS Medizin – Bibliothek* – Information https://www.egms.de/dynamic/en/journals/mbi/index.htm	2005	100	100

Table 7 — Bottom 10 OA Journals of LIS as per Website Accessibility over Mobile

Sl No	Journal title, Journal URL	Publishing Year	Google PSI	
			Mobile Accessibility	Desktop Accessibility
1	*Pecia Complutense* http://biblioteca.ucm.es/pecia/	2008	63	63
2	*Perspectivas em Ciência da Informação* (Perspectives in Information Science) http://www.scielo.br/pci	2006	61	61
3	*Revista Analisando em Ciência da Informação* http://arquivologiauepb.com.br/racin/index.htm	2013	61	53
4	International Journal of Digital Content Management https://dcm.atu.ac.ir/	2020	60	60
5	Journal of Librarianship and Scholarly Communication https://iastatedigitalpress.com/jlsc/	2011	56	56
6	International Journal of Information Science and Management https://ijism.ricest.ac.ir/index.php/ijism	2003	56	52
7	*知识管理论坛* (Knowledge Management Forum) http://www.kmf.ac.cn	2013	52	38
8	مجله علم‌سنجی کاسپین (Caspian Journal of Scientometrics) http://cjs.mubabol.ac.ir/index.php?slc_lang=en&slc_sid=1	2014	52	52
9	Journal of Information Science Theory and Practice http://www.jistap.org/	2013	50	62
10	Cybrarians Journal https://www.oalib.com/journal/7891/1	2004	49	49

because of these attributes *[aria-*]* attributes match their roles, *[aria-hidden="true"]* is not present on the document *<body>, [role]s* have all required *[aria-*]* attributes, Elements with an *ARIA [role]* that require children to contain a specific *[role], [role]*s are contained by their element of parent needed, *[aria-*]* attributes have valid values, *[aria-*]* attributes are valid and not misspelt, Buttons have an accessible name, Image elements have [alt] attributes, *[user-scalable="no"]* is not used in the *<meta name="viewport">* element, and the *[maximumscale]* attribute is not less than 5., *ARIA* attributes are used as specified for the element's role, *[aria-hidden="true"]* elements do not contain focusable descendents, Elements use only permitted *ARIA* attributes, *[role]* values are valid, Background and foreground colours have a sufficient contrast ratio, *<html>* element has a valid value for its [lang] attribute, Form elements have associated labels, Links have a discernible name, Lists contain only *<li>* elements and script supporting elements *(<script>* and *<template>),* List items *(<li>)* are contained within <ul>, <ol> or <menu> parent elements, No element has a *[tabindex]* value greater than 0, Touch targets have sufficient size and spacing, Heading elements appear in a sequentially descending order, Skip links are focusable., uses *ARIA* roles only on compatible elements, Deprecated *ARIA* roles were not used, and Image elements do not have *[alt]* the redundant text attributes.

4.2.3. Bottom 10 OA Journals of LIS as per Website Performance

Table 7 shows the bottom ten journals. These journals need to improve accessibility by focusing on these aspects. Links do not have a discernible name, Skip links are not focusable, Background and foreground colours do not have a sufficient contrast ratio, *[user-scalable="no"]* is used in the *<meta name="viewport">* element or the [maximum-scale]attribute is less than 5, Touch targets do not have sufficient size or spacing, Background and foreground colours do not have an adequate contrast ratio, *<html>* element does not have a *[lang]* attribute, Select elements do not have associated label elements, Touch targets do not have sufficient size or spacing, Links rely on colour to be distinguishable, Skip links are not focusable, *<frame>* or *<iframe>* elements do not have a title, Form elements do not have associated labels, Heading elements are not in a sequentially-descending order.

Table 8 — Website Performance

On Mobile				On Desktop			
High	Average	Low	Website down	High	Average	Low	Website down
44	62	48	1	129	23	2	1

4.2.4. Barriers to accessibility

Several challenges prevent the uniformity in accessibility of digital content and act as barriers for some users. Currently, websites are the primary source for information dissemination, but their technical barrier is the foremost barrier. Technical barriers to accessibility include challenges related to the design, functionality, and layout of online information dissemination mediums. Sometimes, websites are not designed well, do not work well with assistive technologies, and can limit accessibility.

The main accessibility barriers are discussed in the bottom ten journals. As we saw, the Passed audits of the top ten accessible websites provided by PageSpeed Insight are the main characteristics of high accessibility. *PageSpeed Insights* also provides some suggestions for the manual checks of websites for high accessibility. The manual check aspects are Interactive controls are keyboard focusable, Interactive elements indicate their purpose and state, The page has a logical tab order, Visual order on the page follows *DOM* order, User focus is not accidentally trapped in a region, The user's focus is directed to new content added to the page, *HTML5* landmark elements are used to improve navigation, Off-screen content is hidden from assistive technology, Custom controls have associated labels, Custom controls have *ARIA* roles.

4.3. Performance of OA Journal Websites

4.3.1. The current state of performance for Library and Information Science journals

Note: Four journal links are broken; we found their working links by Google search. Three journals' website performance is high, and one journal's is average.

Table 8 shows the website's overall performance. On desktop, 129 journal websites have high performance, 23 are average, and 2 have low performance. However, on the other hand, only 44 journals have high performance, 62 have average, and 48 have low performance on mobile. According to the result, performance over mobile is concerning because most users only access through mobile. The significant number of average and low-performing sites on mobile could hinder user experience. Journals must enhance their best performance and seamless experience for all users, regardless of their device.

4.3.2. Top 10 OA Journals of LIS as per Website Performance

Table 9 shows the top ten performance-wise journals. These journals strongly follow the mentioned aspects: Properly size images, Defer offscreen images, *Minify CSS*, *Minify JavaScript*, Reduce unused *CSS*, Efficiently encode images, Serve images in next-gen formats, Enable text compression, *Preconnect* to required origins, Avoid multiple page redirects, Use video formats for animated content, Remove duplicate modules in JavaScript bundles, Avoid serving legacy JavaScript to modern browsers, Preload Largest *Contentful Paint* image, User Timing marks and measures, All text remains visible during *webfont* loads, Lazy load third-party resources with facades, Largest *Contentful Paint* image was not lazily loaded, Uses passive listeners to improve scrolling performance.

4.3.3. Bottom 10 OA Journals of LIS as per Website Performance

Table 10 shows the bottom ten journals according to performance. These journals' websites lack reduced initial server response time, Eliminate render-blocking resources, *Minify JavaScript*, Largest *Contentful Paint* element, Serve images in next-gen formats, Efficiently encode images, Do not have a *<meta name="viewport">* tag with width or initial-scale, No `*<meta name="viewport">*` tag found, Image elements do not have explicit width and height, *Minify CSS*, Serve static assets with an efficient cache policy, Avoid *document.write(),* Reduce unused *JavaScript*, Avoid large layout shifts, Avoid enormous network payloads, Avoid an excessive *DOM* size, Avoid chaining critical requests JavaScript execution time, and minimise main-thread work.

4.4. Best Practices for Websites

4.4.1. The current state of best practices for Library and Information Science journals

Note: Four journal links are broken; we found their working links by Google search. Of these, three journals' follow best practice, and one journal's practice is average.

Table 9 — Top 10 OA Journals of LIS as per Website Performance

Sl No	Journal title, Journal URL	Publishing Year	Google PSI	
			Mobile Performance	Desktop Performance
1	*E-Ciencias de la información.* http://revistaebci.ucr.ac.cr/	2011	100	100
2	Journal of Information Literacy https://journals.cilip.org.uk/jil/index	2007	100	100
3	Code4Lib Journal https://journal.code4lib.org	2007	100	100
4	IAFOR Journal of Literature & Librarianship http://ijl.iafor.org	2012	100	100
5	*Ikatan Pustakawan Indonesia* (Indonesian Librarians Association) https://jurnal.ipi.web.id/jurnalipi	2014	100	91
6	Frontiers in Health Informatics http://www.ijmi.ir	2019	100	100
7	Pakistan Journal of Information Management & Libraries http://journals.pu.edu.pk/journals/index.php/pjiml/index	2008	98	95
8	*Revista Română de Biblioteconomie și Știința Informării* (Romanian Journal of Library and Information Science) http://www.rrbsi.ro	2017	95	83
9	Regional Journal of Information and Knowledge Management http://www.rjikm.org	2016	94	95
10	*GMS Medizin – Bibliothek* – Information https://www.egms.de/dynamic/en/journals/mbi/index.htm	2005	93	94

Table 11 revealed commendable practices of journal websites across devices. It shows that 125 journal websites have a high level of practice on both mobile and desktop. Best practices optimize user experience across devices. In previous results of findability, accessibility, and performance, we noted that journals that fall under low categories may belong to the average "best practice" category. So, the average journals in his "practice" category may be lacking in their areas and should adopt best practices.

4.4.2. Top 10 OA Journals of LIS following Best Practices for Mobile Websites

Table 12 shows the top 10 journals which follow the best practices. These journals passed audits are: Use *HTTPS*, Avoid deprecated *APIs*, Ensure *CSP* is effective against *XSS* attacks, Avoid third-party cookies, Allow users to paste into input fields, avoid requesting geolocation permission on page load, avoid requesting the notification permission on page load, display images with correct aspect ratio, Serves images with appropriate resolution, Has a *<meta name="viewport">* tag with width or initial-scale, Page has the *HTML doctype*, Properly defines charset, No browser errors logged to the console, No issues in the Issues panel in Chrome *Devtools*, Page has valid source map, and Document uses legible font sizes.

4.4.3. Bottom 10 OA Journals of LIS following Best Practices for Mobile Websites

Table 13 shows the bottom ten journals which are poor in following mainly these aspects of website: Does not use *HTTPS*, Does not redirect *HTTP* traffic to *HTTPS*, Uses third-party cookies, Serves images with low resolution, Uses deprecated *APIs*, Does not have a *<meta name="viewport">* tag with width or initial-scale, Document doesn't use legible font sizes, Page lacks the *HTML doctype*, thus triggering quirks-mode, thus triggering quirks-mode, Browser errors were logged to the console, Issues were logged in the Issues panel in Chrome *Devtools*, Detected *JavaScript* libraries, Ensure *CSP* is effective against *XSS* attacks.

4.4.4. Universal design in the context of open access

Universal design is crucial in making open-access journals and their optimised websites widely available. It is essential for users regardless of their

Table 10 — Bottom 10 OA Journals of LIS as per Website Performance over Mobile

Sl No	Journal title, Journal URL	Publishing Year	Google PSI	
			Mobile Performance	Desktop Performance
1	27.7 https://0277.pubpub.org/	2013	33	86
2	*Bibliotheca Lituana* https://www.journals.vu.lt/Bibliotheca-Lituana/	2016	32	79
3	*Investigación Bibliotecológica: archivonomía, bibliotecología e información* (Bibliotecological Research: archival science, bibliothecation and information) http://rev-ib.unam.mx/ib/index.php/ib	1986	32	79
4	Record and Library Journal http://e-journal.unair.ac.id/index.php/RLJ	2015	31	63
5	Catalogue and Index https://www.cilip.org.uk/members/group_content_view.asp?group=201298&id=764614	2016	30	30
6	*圖資與檔案學刊* (Journal of InfoLib & Archives) https://jila.lib.nccu.edu.tw/	2022	29	58
7	The Journal of Altmetrics https://www.journalofaltmetrics.org	2018	26	72
8	*Library an Information* http://lis.aqr-libjournal.ir/	1998	23	68
9	*Бібліотечний меркурій (Library Mercury)* http://vislib.onu.edu.ua	2007	23	75
10	Scholarly Assessment Reports https://www.scholarlyassessmentreports.org/	2020	23	74

Table 11 — Best Practices

On Mobile				On Desktop			
High	Average	Low	Website down	High	Average	Low	Website down
125	27	2	1	125	29	0	1

Table 12 — Top 10 OA Journals of LIS as per Website Best Practices over Mobile

Sl No	Journal title, Journal URL	Publishing Year	Google PSI	
			Mobile Best Practices	Desktop Best Practices
1	*Revista Española de Documentación Científica* (Spanish Journal of Scientific Documentation) http://redc.revistas.csic.es	1995	100	100
2	*Documentación de las ciencias de la información* http://revistas.ucm.es/index.php/DCIN	1976	100	100
3	South African Journal of Libraries and Information Science http://sajlis.journals.ac.za	2011	100	100
4	Information Technology and Libraries https://ejournals.bc.edu/index.php/ital/index	2011	100	100
5	*Páginas a&b: arquivos e bibliotecas* http://ojs.letras.up.pt/index.php/paginasaeb/index	1997	100	100
6	*Mitteilungen der Vereinigung Österreichischer Bibliothekarinnen und Bibliothekare* (Communications of the Association of Austrian Librarians) https://journals.univie.ac.at/index.php/voebm/	2015	100	100

(*Contd.*)

Table 12 — Top 10 OA Journals of LIS as per Website Best Practices over Mobile (*Contd.*)

Sl No	Journal title, Journal URL	Publishing Year	Google PSI	
			Mobile Best Practices	Desktop Best Practices
9	Journal of Information Sciences https://revues.imist.ma/index.php/JIS/	2022	100	100
10	Liber Quarterly: The Journal of European Research Libraries https://liberquarterly.eu/	1999	100	100

Table 13 — Bottom 10 OA Journals of LIS as per Website Best Practices over Mobile

Sl No	Journal title, Journal URL	Publishing Year	Google PSI	
			Mobile Best Practices	Desktop Best Practices
1	Baca: Jurnal Dokumentasi dan Informasi http://jurnalbaca.pdii.lipi.go.id	1986	57	63
2	Edulib: Journal of Library and Information Science http://ejournal.upi.edu/index.php/edulib/index	2011	57	63
3	Knowledge Engineering and Data Science http://journal2.um.ac.id/index.php/keds/index	2018	56	63
4	Türk Kütüphaneciliği (Turkish Librarianship) http://www.tk.org.tr/index.php/TK	1987	55	54
5	Communications in Information Literacy https://pdxscholar.library.pdx.edu/comminfolit/	2007	54	56
6	School of Information Student Research Journal https://scholarworks.sjsu.edu/ischoolsrj/	2018	54	56
7	Tennessee Libraries http://www.tnla.org/?17	1989	50	58
8	SLIS Connecting http://aquila.usm.edu/slisconnecting/	2012	50	52
9	Pakistan Journal of Information Management & Libraries http://journals.pu.edu.pk/journals/index.php/pjiml/index	2008	48	54
10	Pecia Complutense http://biblioteca.ucm.es/pecia/	2008	45	80

abilities to access and take advantage of open-access journals. As we can see, W3C developed WCAG 2.0 which clearly defines web accessibility guidelines. There should be a universal design for websites which the practice makes them easily findable, accessible, and give remarkable performance.

This study stressed interactive and user-friendly web design integrated with assistive technologies for multimedia content. Open-access journals allow users to engage with content more effectively by adopting the parameters mentioned in the framework.

5. Conclusion

This study provides insights into the findability, accessibility, and performance of open-access Library and Information Science journals. According to the study results, most journals are performing well, highly discoverable and accessible on mobile and desktop. However, with the evolving environment, some issues need to be addressed occasionally for more productive use of open-access journals. These findings provide website scenarios of journals regarding usability and present their reach status. The study contributes to Library and information science by addressing their open-access journal website phenomena. It highlights the requirement of a standardised website framework and the importance of SEO, metadata, and indexing for greater accessibility. The findings provide a way to understand and improve the ongoing format for greater access. Open access is a significant step toward free access to scholarly knowledge, which helps ensure a better and innovative society. Continuous improvement in digitisation can also help in the broader dissemination of knowledge. Advanced technologies like AI and LLMs generative tools promise the real-time dissemination of information. They serve a

diverse global audience, collect data from different sites, and present it according to users' needs. Nowadays, the majority of academic users use AI models to find answers to their queries. The openness of journals and their websites' easy findability and accessibility are critical in disseminating scholarly content by providing relevant and accurate results.

References

1 Laakso M, Welling P, Bukvova H, Nyman L, Björk B C and Hedlund T, The Development of Open Access Journal Publishing from 1993 to 2009, *PLOS ONE*, 6 (6) (2011) 1-10.

2 Harnad S, Open Access: What, Where, When, How and Why, In *Ethics, Science, Technology, and Engineering: An International Resource*, edited by Holbrook J B and Mitcham C, 2nd edn (Macmillan Reference; Farmington Hills, MI), 2015, p. 1-5.

3 Christian G E, Open Access Initiative and the Developing World, *African Journal of Library, Archives and Information Science*, 18 (1) (2008) 1-10.

4 Suber P, *Open Access*, (MIT Press; Cambridge, MA), 2012. Available at https://doi.org/10.7551/mitpress/9286.001.0001 (Accessed on 17 Feb 2026).

5 Veletsianos G and Kimmons R, Assumptions and Challenges of Open Scholarship, *International Review of Research in Open and Distributed Learning*, 13 (4) (2012) 166-189.

6 Wiley D and Green C, Why Openness in Education?, In *Game Changers: Education and Information Technologies*, edited by Oblinger D, (Educause), 2012, p. 81-89.

7 Kirrane S, Intelligent Software Web Agents: A Gap Analysis, *Journal of Web Semantics*, 71 (2021) 100659.

8 Vollenwyder B, Petralito S, Iten G H, Brühlmann F, Opwis K and Mekler E D, How Compliance with Web Accessibility Standards Shapes the Experiences of Users with and without Disabilities, *International Journal of Human-Computer Studies*, 170 (2023) 102956.

9 Way D, The Open Access Availability of Library and Information Science Literature, *College & Research Libraries*, 71 (4) (2010) 302-309.

10 Scott R E, Much Library and Information Science Research on Open Access is Available in Open Access, But There Is Still Room to Grow, 2019.

11 Wilkinson M D, Dumontier M, Aalbersberg I J, Appleton G, Axton M, Baak A, Blomberg N, Boiten J W, da Silva Santos L B, Bourne P E and Bouwman J, The FAIR Guiding Principles for Scientific Data Management and Stewardship, *Scientific Data*, 3 (1) (2016) 1-9.

12 FORCE11, FAIR Principles, 2020. Available at https://www.force11.org/group/fairgroup/fairprinciples (Accessed on 17 Feb 2026).

13 Thelwall M, *Introduction to Webometrics: Quantitative Web Research for the Social Sciences*, (Morgan & Claypool Publishers; San Rafael, CA), 2009.

14 Björneborn L and Ingwersen P, Toward a Basic Framework for Webometrics, *Journal of the American Society for Information Science and Technology*, 55 (14) (2004) 1216-1227.

15 Mons B, Neylon C, Velterop J, Dumontier M, da Silva Santos L O B and Wilkinson M D, Cloudy, Increasingly FAIR; Revisiting the FAIR Data Guiding Principles for the European Open Science Cloud, *Information Services & Use*, 37 (1) (2017) 49-56.

16 GO FAIR, FAIR Principles. Available at https://www.go-fair.org/fair-principles/ (Accessed on 17 Feb 2026).

17 Lazar J, Goldstein D F and Taylor A, *Ensuring Digital Accessibility Through Process and Policy*, (Morgan Kaufmann; Waltham, MA), 2015.

18 Caldwell B, Cooper M, Reid L G, Vanderheiden G, Chisholm W, Slatin J and White J, *Web Content Accessibility Guidelines (WCAG) 2.0*, (World Wide Web Consortium (W3C)), 2008.

19 Önder I and Berbekova A, Web Analytics: More Than Website Performance Evaluation?, *International Journal of Tourism Cities*, 8 (3) (2022) 603-615.

20 Tennant J P, Waldner F, Jacques D C, Masuzzo P, Collister L B and Hartgerink C H, The Academic, Economic and Societal Impacts of Open Access: An Evidence-Based Review, *F1000Research*, 5 (2016) 632.

21 Björk B C, A Study of Innovative Features in Scholarly Open Access Journals, *Journal of Medical Internet Research*, 13 (4) (2011) E1802.

22 W3C, Web Content Accessibility Guidelines (WCAG) 2.1, 2018. Available at https://www.w3.org/TR/WCAG21/ (Accessed on 17 Feb 2026).

23 Maina S, Webometrics and Journal Websites, *European Science Editing*, 38 (3) (2012) 69-70.

24 Björk B C, Roos A and Lauri M, Scientific Journal Publishing: Yearly Volume and Open Access Availability, *Information Research: An International Electronic Journal*, 14 (1) (2009).

25 Nariani R and Fernandez L, Open Access Publishing: What Authors Want, *College & Research Libraries*, 73 (2) (2012) 182-195.

26 Laakso M and Björk B C, Anatomy of Open Access Publishing: A Study of Longitudinal Development and Internal Structure, *BMC Medicine*, 10 (2012) 1-9.

27 Google Developers, About PageSpeed Insights. Available at https://developers.google.com/speed/docs/insights/v5/about (Accessed on 17 Feb 2026).

28 Suber P, Open Access Overview. Available at https://legacy.earlham.edu/~peters/fos/overview.htm (Accessed on 17 Feb 2026).

29 Kwan J, What is Open Access and Why Should You Care, *Latitudes*, 12 (3) (2003). Available at http://nnlm.gov/psr/lat/v12n3/open_access.html (Accessed on 17 Feb 2026).

30 Antelman K, Do Open-Access Articles Have a Greater Research Impact?, *College & Research Libraries*, 65 (5) (2004) 372-382.

31 Arunachalam S and Muthu M, *Open Access to Scholarly Literature in India—A Status Report (with Emphasis on Scientific Literature)*, (Centre for Internet and Society), 2011.

32 Sahoo J, Mohanty B and Sahoo L, Indian Contribution to Open Access, 2017.

33 Mabe M A, Scholarly Publishing, *European Review*, 17 (1) (2009) 3-22.

34 Björk B C, Open Access to Scientific Publications – An Analysis of the Barriers to Change?, *Information Research*, 9 (2) (2004).

35 Morrison H, Directory of Open Access Journals (DOAJ), *The Charleston Advisor*, 9 (3) (2008) 19-26.

36 Hirwade M and Rajyalakshmi D, Open Access: India is Moving Towards Third World Superpower, In *Proceedings of the paper presented at the 6th International CALIBER Conference*, University of Allahabad, Allahabad, India, 28-29 February 2008.

37 Suber P, Ten Challenges for Open-Access Journals, *Global Media Journal – Persian Edition*, 4 (2) (2009).

38 Haustein S, *Multidimensional Journal Evaluation: Analyzing Scientific Periodicals Beyond the Impact Factor*, (Walter de Gruyter; Berlin), 2012.

39 Majhi S C and Das R, Website of High Courts in India: A Webometric Study, *Library Philosophy and Practice*, No. 2803 (2019) 1-29.

40 Mehroof A and Rai S, Findability and Accessibility of Electronic Thesis and Dissertation Repositories of Newly Established Central Universities in India, 2023.

41 Llovido J L, Brogada M A D, Maceda L L and Abisado M B, AppTest: Assessing the Usability and Performance Efficiency of BOSESKO for Digital Participation, In *Proceedings of the paper presented at the 2024 26th International Conference on Advanced Communications Technology (ICACT)*, 2024, p. 241-247.

42 Bhan M, Google PageSpeed Insights Reports: A Technical Guide, 2022. Available at https://www.searchengine journal.com/google-pagespeed-insights-guide/422854/ (Accessed on 17 Feb 2026).