DESIDOC Journal of Library & Information Technology, Vol. 45, No. 2, March 2025, pp. 150-156, DOI : 10.14429/djlit.20205

Library and Information Science Journals Enlisted in UGC-CARE: A Webometric Analysis

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ABSTRACT

The Web Impact Factor (WIF) was introduced by Peter Ingwersen in 1998 as a quantitative measure derived from link frequencies. In this study, webometric tools and indicators are used to examine the websites of Library and Information Science (LIS) journals listed on the UGC-CARE List in India. The study utilises several parameters, including simple Web Impact Factors (WIFs), self-link Web Impact Factors (SLWIFs), external link Web Impact Factors (ELWIFs), backlinks, and broken links. The findings of this research article reveal that the predominant domain extension among the UGC-CARE list journal websites is ".in", accounting for 89 % of the total, followed by ".org." 11 %. "RBU Journal of Library and Information Science" leads with a SWIF of 0.1151, signifying significant website impact. "College Libraries" and "Library Herald" follow closely at 0.0597 and 0.0541, respectively. "Library Herald" leads with an ELWIF of 0.0366, emphasising substantial external linking. "RBU Journal of Library and Information Science" follows closely at 0.0168, indicating noteworthy external references. The "IASLIC Bulletin leads the ranking," boasting an RWIF of 0.280672, closely trailed by "College Libraries" with an RWIF of 0.208871.

Keywords: Webometric; LIS; UGC-CARE list journals; Web impact factor; Simple link WIF; External link WIF; Self-link WIF

1. INTRODUCTION

In the realm of academic publishing, the University Grants Commission (UGC) Consortium for Academic and Research Ethics (CARE) List stands as a pivotal resource. This curated list serves to distinguish scholarly journals of high repute within the Indian academic landscape. However, these journals' digital presence and impact have not been thoroughly examined. Hence, this study aims to bridge this gap through a comprehensive webometric analysis.

The UGC-CARE List holds significant weight in academia, aiding researchers, institutions, and policymakers in discerning reputable journals. Its inception marks a concerted effort to uphold academic integrity and excellence in research dissemination. Understanding its evolution and criteria for inclusion is fundamental to comprehending its implications for scholarly communication.

Webometric analysis offers a unique lens through which to assess the digital footprint and impact of scholarly journals. Particularly within the field of Library and Information Science (LIS), where digital dissemination plays a pivotal role, webometric insights can inform strategic decisions regarding journal selection, visibility, and outreach. Thus, understanding the significance of webometric analysis is crucial for advancing scholarly communication in LIS.

2. LITERATURE REVIEW

Webometrics focuses on the quantitative analysis of web-related data to understand the structure and impact of the web. In the realm of Library Science, webometric analysis has emerged as a valuable tool for assessing the visibility, accessibility, and impact of scholarly literature. As noted by The lwall[1] webometrics encompasses various measures, including web link analysis, web impact factor, and website visibility, to evaluate the digital presence of academic journals and repositories.

Webometric techniques offer insights into how scholarly content is disseminated, accessed, and cited in the digital landscape. For instance, Aguillo[2], *et al.* demonstrate how webometric indicators can complement traditional bibliometric measures, providing a more comprehensive understanding of scholarly impact and dissemination patterns.

Several studies have employed webometric analysis to evaluate the digital presence and impact of scholarly journals. Ingwersen[3] conducted a pioneering study on webometric analysis of journals, highlighting the importance of web links as indicators of journal visibility and

Received : 10 May 2024 , Revised : 17 August 2024
Accepted : 23 October 2024, Online published : 27 February 2025

influence. Similarly, Torres-Salinas[4], *et al.* conducted a comprehensive analysis of open-access journals using webometric techniques, revealing correlations between web visibility and citation impact.

In the context of Library Science, webometric studies have focused on assessing the online visibility of journals and repositories. For example, Haustein et al.[5] investigated the web visibility of institutional repositories, emphasising the role of webometrics in assessing the dissemination of scholarly outputs beyond traditional citation-based metrics.

The University Grants Commission (UGC) Consortium for Academic and Research Ethics (CARE) List serves as a crucial resource for researchers, academics, and institutions in India for identifying quality journals in various disciplines, including Library Science. As highlighted by Chhetri[6] the UGC-CARE List plays a pivotal role in journal selection, promotion, and accreditation within the Indian academic ecosystem.

The inclusion of journals in the UGC-CARE List signifies adherence to stringent quality criteria, ensuring the credibility and scholarly integrity of listed journals. Researchers and institutions often rely on the UGC-CARE List to make informed decisions regarding publication venues and research dissemination strategies. Therefore, understanding the role and impact of the UGC-CARE List is essential for evaluating the scholarly communication landscape in India, particularly within the field of Library Science.

3. SCOPE AND LIMITATIONS

The scope of this study entails a thorough webometric analysis of Library and Information Science (LIS) journals listed on the University Grants Commission (UGC) Consortium for Academic and Research Ethics (CARE) List in India. The study aims to assess these journals' digital presence, visibility, and impact through various webometric indicators.

- Evaluation of webometric indicators such as Web Impact Factor (WIF), self-link WIF, external link WIF, backlinks, and broken links for the identified LIS journals' websites.
- Identification of patterns and trends in the online representation of LIS journals within the UGC-CARE List.
- Provision of insights and suggestions for enhancing the digital footprint and outreach of LIS journals in the Indian academic sphere.

Despite thorough efforts, the study is subject to certain limitations i.e. the analysis is based on a relatively small sample size of 9 LIS journals found on the UGC-CARE List. Data collection was conducted within a specific timeframe, from March 25th to April 10th, 2024.

4. OBJECTIVES

This study sets out to achieve several key objectives:

- To conduct a comprehensive webometric analysis of the websites of LIS journals listed on the UGC-CARE List.
- To evaluate the digital presence, visibility, and impact of these journals through webometric indicators.
- To identify patterns, trends, and disparities in the online representation of LIS journals within the UGC-CARE List.
- To provide actionable insights and recommendations for enhancing the digital footprint and outreach of LIS journals in the Indian academic landscape.

This study endeavours to contribute to the broader understanding of scholarly communication within the LIS domain and inform strategies for maximising the digital impact of journals listed on the UGC-CARE List.

5. METHODOLOGY

The selection of Library and Information Science (LIS) journals from the UGC-CARE List was carried out systematically. Firstly, the entire UGC-CARE List was reviewed to identify journals categorised under the LIS discipline. Journals that explicitly identified themselves as related to Library Science, Information Science, or allied fields were included in the sample. This ensured the relevance of the selected journals to the study's focus on LIS.

5.1 Tools for Webometric Analysis

Several tools were established to guide the webometric analysis of the selected LIS journals' websites. For preparing this article, a search engine like Google is utilised to collect data based on several web pages. The search query format "site:sitename" is employed to specifically target and retrieve information from each website, such as https://kelprobulletin.in/[7]

The Website Link Analyser tool is available at https://smallseotools.com/website-link-analyzer-tool/ [8] is utilised to collect information on simple links, self-links, and external links from each website listed in UGC-CARE.

In-links data is acquired from http://www.backlinkwatch.com/[9] for this study, utilising the Backlink Watch platform to retrieve relevant information.

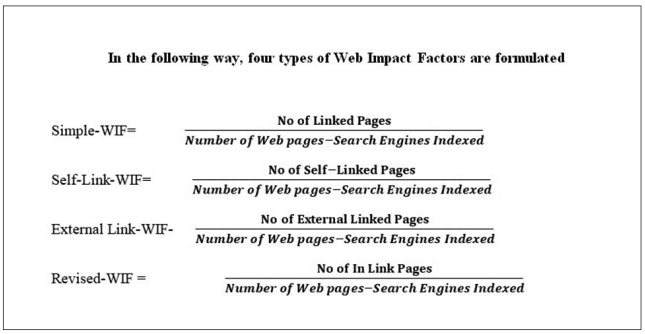
These tools are chosen to provide a comprehensive assessment of the digital presence, visibility, and impact of the selected LIS journals' websites.

5.2 Data Collection and Analysis Process

Data collection involved the use of various webometric tools and techniques to gather relevant data from the websites of the selected LIS journals. Tools such as Google Search Engine, Web Link Analyzer, Backlink Watch, and Broken Link Checker are utilised to collect data on web link frequencies, backlinks, and broken links.

Once the data is collected, it is systematically analysed to calculate the webometric indicators for each journal's website. Statistical analysis techniques, such as descriptive statistics and correlation analysis, are employed to identify patterns, trends, and relationships among the webometric indicators.

The combination of rigorous data collection methods and systematic analysis ensured the reliability and validity of the webometric findings, facilitating meaningful insights into the digital footprint of LIS journals listed on the UGC-CARE List.



Source: Hadagali[10], *et al.*

Figure 1. Calculation of web impact factor(WIF).

6. DATA ANALYSIS AND INTERPRETATION

Data collection for this study is facilitated through Google's search engine, chosen for its extensive coverage and user-friendly interface. Additionally, tools such as https://smallseotools.com/website-link-analyzer-tool/ are utilised to enhance the efficiency and accuracy of data collection. Subsequently, Microsoft Excel is applied for the comprehensive data analysis.

6.1 Domain-Wise Distribution of Websites of LIS Journals Listed on the UGC-CARE List

Figure 1 illustrates that most LIS journal websites on the UGC-CARE list in India employ the ".in" domain extension. This prevalence suggests a strong emphasis on Indian identity and origin. It aligns with the UGC-CARE list's focus on Indian academic publications, reflecting a commitment to local scholarship. The sole usage of ".org" may indicate organisational affiliations within India, emphasising service to the academic community. Overall, it underscores the significance of local representation in Indian academia.

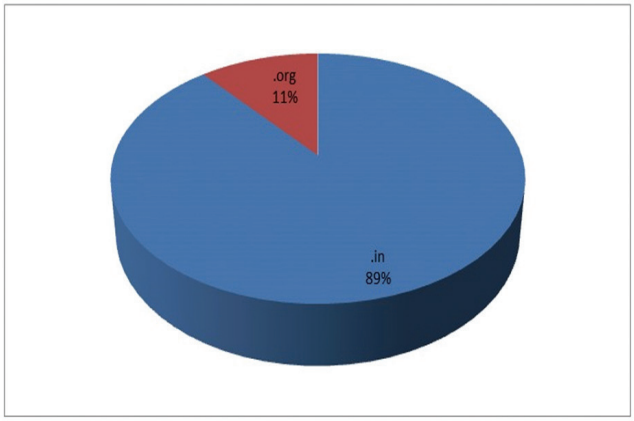


Figure 1. Percent wise domain used by UGC-CARE list journal's website in India on LIS.

6.2 Simple Web Impact Factor of LIS Journals enlisted in UGC-CARE

Table 1 showcases Simple Web Impact Factor (SWIF) data for LIS journals on the UGC-CARE list in India, revealing website impact and visibility. SWIF, calculated by the ratio of Linked Web Pages (LWP) to total No. of Web Pages (NWP), denotes the website's impact based on the proportion of linked pages. "RBU Journal of Library and Information Science" leads with a SWIF of 0.1151, signifying significant website impact. "College Libraries" and "Library Herald" follow closely at 0.0597 and 0.0541, respectively. Conversely, "Journal of Information and Knowledge" records the lowest SWIF of 0.0043, indicating lower web impact. SWIF values illuminate website influence and visibility within the LIS domain.

6.3 Self-Link Web Impact Factor of LIS Journals Enlisted in UGC-CARE (Rank-wise)

Table 2 illustrates Self-Link Web Impact Factor (SLWIF) data for LIS journals on the UGC-CARE list in India. SLWIF, calculated by the ratio of Self-Linked Web Pages (SLWP) to total Number of Web Pages (NWP), sheds light on internal website linking and navigation. The "RBU Journal of Library and Information Science" leads with a SLWIF of 0.0983, indicating substantial self-linking and top-ranking SLWIF. "College Libraries" follows closely at 0.0565, displaying significant self-linking and securing second place. "IASLIC Bulletin" ranks third with an SLWIF of 0.0538, showcasing considerable internal linking. Conversely, the "Journal of Information and Knowledge" has the lowest SLWIF at 0.0043, suggesting limited self-linking. SLWIF values inform on website navigational coherence and internal connectivity for each journal.

6.4 External Link Web Impact Factor of LIS Journals Enlisted in UGC-CARE

Table 3 presents External Link Web Impact Factor (ELWIF) data of LIS journals enlisted in UGC-CARE. ELWIF is derived from the ratio of Externally Linked Web Pages (ELWP) to the total No. of Web Pages (NWP) and highlights each journal's external referencing and connectivity. "Library Herald" leads with an ELWIF of 0.0366, emphasising substantial external linking. "RBU Journal of Library and Information Science" follows closely at 0.0168, indicating noteworthy external references. "College Libraries" ranks third with 0.0032, signifying moderate external linking. Conversely, the "IASLIC Bulletin" shows no external links, resulting in the lowest ELWIF. ELWIF offers valuable insights into each journal's web impact and external referencing.

Table 1. Rank-wise list of LIS journals based on simple web impact as enlisted in UGC - CARE

Name of the journal	Website	NWP (A)	LWP (B)	SWIF B/A	Rank
RBU Journal of Library and Information Science	**https://rbu.ac.in/home/page/102**[11]	895	103	0.115084	1
College Libraries	**http://www.wbcla.org.in**[12]	1240	74	0.059677	2
Library Herald	**https://www.libraryherald.dlaindia.in/**[13]	628	34	0.05414	3
IASLIC Bulletin	**http://www.iaslic1955.org.in**[14]	1190	64	0.053782	4
Journal of Indian Library Association (JILA)	**https://ilaindia.co.in/**[15]	5970	95	0.015913	5
Annals of Library and Information Studies (ALIS)	**https://or.niscpr.res.in/index.php/ALIS**[16]	2960	44	0.014865	6
KELPRO Bulletin	**https://kelprobulletin.in/**[7]	2780	32	0.011511	7
DESIDOC Journal of Library & Information Technology (DJLIT)	**https://publications.drdo.gov.in/ojs/index.php/djlit**[17]	10700	70	0.006542	8
Journal of Information and Knowledge (Formerly-SRELS Journal of Information Management)	**https://www.srels.org**[18]	21400	92	0.004299	9

NWP- No. of Web Pages, LWP-Linked Web pages, SWIF- Simple Web Impact Factor

Table 2. Rank-wise list of LIS journals based on self-link web impact factor as enlisted in UGC- CARE

Name of the journal	Website	NWP (A)	SLWP (C)	SLWIF C/A	Rank
RBU Journal of Library and Information Science	**https://rbu.ac.in/home/page/102**[11]	895	88	0.098324	1
College Libraries	**http://www.wbcla.org.in**[12]	1240	70	0.056452	2
IASLIC Bulletin	**http://www.iaslic1955.org.in**[14]	1190	64	0.053782	3
Library Herald	**https://www.libraryherald.dlaindia.in/**[13]	628	11	0.017516	4
Journal of Indian Library Association (JILA)	**https://ilaindia.co.in/**[15]	5970	82	0.013735	5
Annals of Library and Information Studies (ALIS)	**https://or.niscpr.res.in/index.php/ALIS**[16]	2960	38	0.012838	6
KELPRO Bulletin	**https://kelprobulletin.in/**[7]	2780	31	0.011151	7
DESIDOC Journal of Library & Information Technology (DJLIT)	**https://publications.drdo.gov.in/ojs/index.php/djlit**[17]	10700	55	0.00514	8
Journal of Information and Knowledge (Formerly-SRELS Journal of Information Management)	**https://www.srels.org**[18]	21400	92	0.004299	9

NWP-No of Web Pages, SLWP- Self Linked Web pages, SLWIF- Self Link Web Impact Factor

Table 3. Rank-wise list of LIS journals base on external link web impact factor as enlisted in UGC- CARE

Name of the journal	Website	NWP (A)	ELWP (D)	ELWIF D/A	Rank
Library Herald	https://www.libraryherald.dlaindia.in/[13]	628	23	0.036624204	1
RBU Journal of Library and Information Science	https://rbu.ac.in/home/page/102[11]	895	15	0.016759777	2
College Libraries	http://www.wbcla.org.in[12]	1240	4	0.003225806	3
Journal of Indian Library Association (JILA)	https://ilaindia.co.in/[15]	5970	13	0.002177554	4
Annals of Library and Information Studies (ALIS)	https://or.niscpr.res.in/index.php/ALIS[16]	2960	6	0.002027027	5
DESIDOC Journal of Library & Information Technology (DJLIT)	https://publications.drdo.gov.in/ojs/index.php/djlit[17]	10700	15	0.001401869	6
Journal of Information and Knowledge (Formerly-SRELS Journal of Information Management)	https://www.srels.org[18]	21400	20	0.000934579	7
KELPRO Bulletin	https://kelprobulletin.in/[7]	2780	1	0.000359712	8
IASLIC Bulletin	http://www.iaslic1955.org.in[14]	1190	0	0	9

NWP-No of Web Pages, ELWP-External Linked Web pages, ELWIF- External Link Web Impact Factor

Table 4. Rank-wise list of LIS journals based on revised web impact factor as enlisted in UGC - CARE

Name of the journal	Website	NWP (A)	ILWP (D)	RWIF D/A	Rank
IASLIC Bulletin	**http://www.iaslic1955.org.in**[14]	1190	2100	0.280672	1
College Libraries	**http://www.wbcla.org.in**[12]	1240	259	0.208871	2
DESIDOC Journal of Library & Information Technology (DJLIT)	**https://publications.drdo.gov.in/ojs/index.php/djlit**[17]	10700	1300	0.121495	3
Journal of Indian Library Association (JILA)	**https://ilaindia.co.in/**[15]	5970	481	0.08057	4
Journal of Information and Knowledge (Formerly-SRELS Journal of Information Management)	**https://www.srels.org**[18]	21400	1600	0.074766	5
Annals of Library and Information Studies (ALIS)	**https://or.niscpr.res.in/index.php/ALIS**[16]	2960	202	0.068243	6
KELPRO Bulletin	**https://kelprobulletin.in/**[7]	2780	176	0.063309	7
Library Herald	**https://www.libraryherald.dlaindia.in/**[13]	628	36	0.057325	8
RBU Journal of Library and Information Science	**https://rbu.ac.in/home/page/102**[11]	895	8	0.008939	9

NWP- No of Web Pages, ILWP- In link Web Pages, RWIF- Revised Web Impact Factor

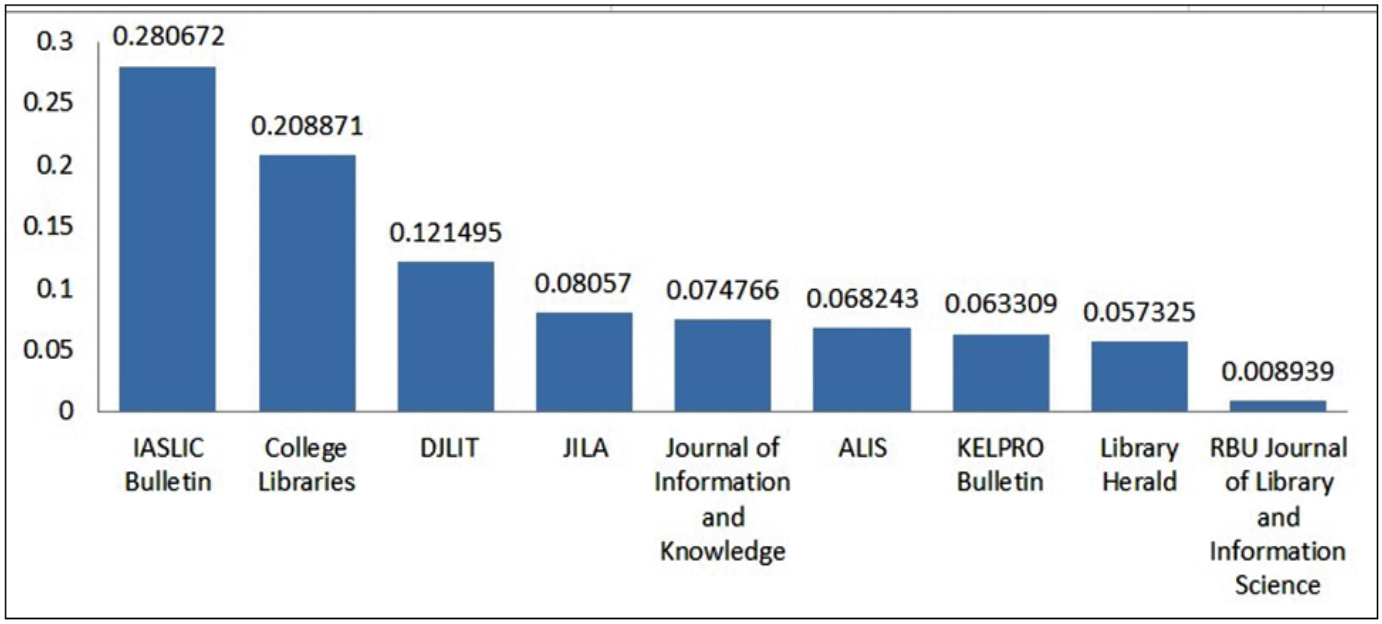


Figure 2. Rank-wise revised web impact factor of LIS journals enlisted in UGC - CARE.

Table 4 illustrates the Revised Web Impact Factor (RWIF) of UGC-CARE-listed LIS journals in India, reflecting the internal linking structure of their websites. The "IASLIC Bulletin" is the first position with an RWIF of 0.280672, followed closely by "College Libraries" at 0.208871. These journals demonstrate extensive website interconnectivity. Conversely, the "RBU Journal of Library and Information Science" has the lowest RWIF of 0.008939, indicating limited internal linking. RWIF values offer insights into the navigational coherence and digital impact of each journal's website, guiding researchers and users in accessing scholarly resources effectively.

7. FINDINGS

- Most of these journals use the ".in" domain, strongly emphasising Indian identity and local scholarship.
- The Simple Web Impact Factor (SWIF) analysis indicates that the "RBU Journal of Library and Information Science" has the highest web impact, followed by "College Libraries" and "Library Herald." At the same time, the "Journal of Information and Knowledge" exhibits the lowest impact.
- In terms of internal linking, the "RBU Journal of Library and Information Science" again leads with the highest Self-Link Web Impact Factor (SLWIF), showcasing robust navigational coherence, whereas

the "Journal of Information and Knowledge" shows limited internal connectivity.

- The External Link Web Impact Factor (ELWIF) highlights "Library Herald" as the most externally connected journal, enhancing its visibility, while the "IASLIC Bulletin" shows no external links.
- The Revised Web Impact Factor (RWIF), which accounts for overall linking structure, ranks the "IASLIC Bulletin" highest, indicating strong digital interconnectivity, whereas the "RBU Journal of Library and Information Science" ranks lowest, suggesting room for improvement.
- These findings underscore the importance of strategic digital presence, including enhancing external and internal linking, to improve the visibility and impact of LIS journals in the academic community.

8. SUGGESTION

8.1 Enhancing Digital Presence

LIS journals listed on the UGC-CARE List should prioritize enhancing their digital presence through strategic web development and optimisation strategies. This includes improving website design, content organisation, and user experience to attract and retain visitors.

8.2 Increasing External Links

Journals should actively seek opportunities for external linking from reputable websites, academic institutions, and scholarly platforms. Collaborations and partnerships with other organisations can facilitate the exchange of links, thereby increasing the journal's external visibility and impact.

8.3 Internal Linking Improvement

To improve navigational coherence and internal connectivity, journals should focus on enhancing self-linking within their websites. This can be achieved through the implementation of clear and intuitive navigation structures, cross-referencing of related content, and the use of internal hyperlinks.

8.4 Regular Website Maintenance

Regular monitoring and maintenance of websites are essential to ensure optimal functionality and user experience. Journals should conduct periodic audits to identify and rectify broken links, outdated content, and other technical issues that may hinder accessibility and usability.

9. CONCLUSION

It may be concluded that the study provides valuable insights into the digital presence, visibility, and impact of LIS journals listed on the UGC-CARE List in India. Webometric analysis has revealed varying degrees of web impact, internal linking structure, and external referencing among the surveyed journals. The findings underscore the importance of digital strategies in enhancing scholarly communication within the LIS domain. By implementing the suggested recommendations, journals can improve their online visibility, accessibility, and influence, thereby contributing to the advancement of academic discourse and knowledge dissemination in India. Overall, this study contributes to a deeper understanding of the evolving landscape of scholarly communication and underscores the significance of digital presence in academic publishing.

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He has contributed introduction, literature review, objectives, methodology, collected the entire data for this study, analysed and interpreted of data.