Annals of Library and Information Studies
Vol. 73, September 2026, pp. 335-343
DOI: 10.56042/alis.v73i3.33767

# Bibliometric Analysis of Library and Information Science Research in BRICS Countries

Chetan A. Patel[a] and Meghna J. Vyas[b]

[a]Librarian, Shree SKPCPER Pharmacy College, Ganpat University, Mehsana, Gujarat, Pin 384012, India, chetankumarpatel807@gmail.com

[b]Head & Professor of Library& Information Science, Sardar Patel University, Vallabh Vidyanagar, Gujarat, Pin 388120, India, meghnavyas08@spuvvn.edu

*Received: 13 July 2026; Accepted: 11 August 2026*

This study presents a bibliometric analysis of Library and Information Science research produced by BRICS countries during 2000–2025. A total of 6,875 publications were retrieved from the Scopus database. Then the data was visualized with the use of the Biblioshiny tool. As per the results, the publication rate has remained steady. The most prolific author is Zhang Y. who has written 179 papers and received 4,299 citations. Moreover, China is seen as the largest contributor to LIS research in BRICS countries as it has produced 2,699 papers, whereas Medicine (United States) is seen as the most prolific source one with 362 papers.

**Keywords**: Bibliometrics, BRICS Countries, LIS, Biblioshiny

## Introduction

Scientific research is a fundamental driver of social progress[2], with developed nations leading in research productivity while developing countries increasingly invest in scholarly inquiry to address critical challenges. Research output has emerged as a key determinant of national competitiveness, and Library and Information Science (LIS) a discipline central to knowledge production and dissemination plays a vital role in this regard. The significant growth in LIS publications over the past two and a half decades necessitates a systematic evaluation of research trends, prompting the present bibliometric analysis of LIS output from BRICS nations.

The use of bibliometrics, a term derived from the work of Pritchard (1969), refers to the statistical analysis of scholarly publications and is the underlying methodology in this study. An analysis of available literature suggests that there is an inadequacy of bibliometric studies in relation to the LIS studies in the BRICS framework[1]. Earlier studies, using the LISA database, have considered factors like authorship trends, journal preferences, publication trends, and LIS research trends in BRICS countries, and the science citation index-based analysis has focused on scientific collaborations, which has found more collaboration amongst certain selected BRICS countries[1]. Nevertheless, none of the above studies consider a comprehensive analysis of the BRICS LIS research for the period 2000-2025.

## About BRICS Countries

BRICS is a multilateral coordination forum that comprises eleven countries namely, Brazil, Russia, India, China, South Africa, Saudi Arabia, Egypt, United Arab Emirates, Ethiopia, Indonesia, and Iran. The forum was founded to enhance coordination between member countries on matters of economic, political and social cooperation between developing countries[4]. Some of the key aims of the forum include increasing multilateral coordination between member countries, giving a louder voice to developing countries on world affairs, and increasing legitimacy and efficacy of major world organizations including the US, International Monetary Fund, World Bank, and World Trade Organization.

This bloc was formally established in 2006 at the Foreign Affairs Minister level at the UN General Assembly meeting in New York, while the first summit of Heads of States took place in 2009 in Yekaterinburg, Russia. The bloc was initially made up of five founding members, namely Brazil, Russia, India, China, and South Africa, but underwent substantial expansion in 2024–2025, when six other states joined the bloc: Egypt, Ethiopia, Indonesia,

Iran, Saudi Arabia, and the UAE, increasing its membership from five to eleven in 2025[5].

**Review of Literature**

Patel *et al*. (2024) assess the research productivity of Library and Information Science in SAARC nations for 20 years (2000-2021), which includes 1,183 papers from Scopus database. Analysis was done using MS Excel software and VOS viewer tool. There is an increasing trend in the publication production throughout the research period and reached a maximum level of 231 publications in 2021. Articles make up more than two-thirds of the entire database. Contributions to the discipline from India are overwhelming, accounting for roughly 73%, followed by publications from Pakistan at around 20%. The average citation rate per paper is highest in Nepal. Overall authors contributing to this field are 1,891, and Ameen K. and Mahmood K. are among the top authors.

Singh *et al*. (2021)The scientometric analysis of thirty years' (1990 to 2019) academic production from the Forest Research Institute Dehradun, conducted by, is done with 893 articles listed in Scopus database. The study made use of collaboration parameters (DC, CC, MCC) and bibliometric visualization tool VOS viewer. Annual publication output reached its highest point at 75 in 2008, but citations were highest (480) in 2007. More than 90% of the academic publications were research papers. Collaboration was a key feature, accounting for around 90% of the total publications. V. K. Varshney proved to be the most active scholar, while V. Kumar topped the list in terms of citation score and h-index. Indian Council of Forestry Research and Education was the leading institution collaborator, followed by the United States as the lead international collaborator. The key publication source was Indian Forester. Agricultural and Biological Sciences were the primary subject areas, and India as the connecting keyword was prominent in co-occurrence analysis.

Islam *et al*. (2026) have conducted a bibliometric study to analyze library studies research among African universities, taking into consideration 529 scholarly publications from Web of Science-indexed journals from 2002 to 2024. The database analyzed was studied through MS Excel and Biblioshiny software. Publication rate grew steadily during the time span of the research, peaking in the year 2023, while citation impact reached its maximum in 2014; articles published in 2020 had the greatest average number of citations each year. The African Journal of Library, Archives & Information Science and Library Management journals belonged to the most prolific sources, whereas the most cited journal was the Journal of Academic Librarianship, having received 402 citations. According to Bradford's law, there were four core journals which comprised over 37% of the analyzed material. Lotka's law also worked – about 80% of authors wrote one article only. Bangani S. and Onyancha O. B. belong to the list of prolific authors.

Patel *et al*. (2021) bibliometric analysis focuses on the 295 articles indexed in the Scopus database from 2006 to 2020. The authors have revealed that both publications and citations achieved their peak in 2020 with 92 articles and 273 citations correspondingly, with an average annual increase of 11%. The collaboration index of 2.72 points to consistent collaboration activities. At the national level, the country with the largest contribution was Iran with 63 articles, whereas India and the USA followed. The institution publishing the highest number of articles was the University of Tehran. The most productive and highly cited author was A. Noruzi. Research papers were over 92% of all publications. The topic analysis has revealed that the keywords citation analysis, Iran, and open access received the strongest representation, which highlights the multidisciplinary nature of Webology at the intersection of web technologies, library sciences, and computer science.

Brahma & Verma (2018a)An analysis of the national library website through webometrics is provided This includes measures like domain authority, page authority, diversity of file type, external popularity, and Web Impact Factor. These data were obtained during the month of July 2018 from sites like Open Site Explorer and Google. China's National Library had a top ranking for domain authority (67) and page authority (73), while being the best in external link popularity. Russia's national library performed better with internal and basic Web Impact Factors with ratings of 1210.36, 326.6, and 1530.3. All five national libraries had country-code top-level domains. Brazil's National Library showed a great diversity in file formats (7), whereas Brazil and India were among the few that had newly discovered external links. Spam factor was low for all the libraries except China's with very high C-block linking value (1,044).

## Objectives

**The main objectives of this study are:**

- To analyze the year-wise growth rate of documents on LIS literature published in BRICS countries during 2000–2025.
- To identify the most prolific authors of LIS research in BRICS countries.
- To analyze the research productivity & publication trends of BRICS countries in LIS research.
- To find out the most preferred sources of Library and Information Science research by BRICS countries.
- To study the visualization of co-occurrence of keywords in publications of BRICS countries.

## Methodology

### Data Source

The Scopus database created by Elsevier was employed to conduct bibliometric analysis on LIS Research in BRICS Countries from 2000-2025. Scopus is one of the most extensive abstracts and citation databases. It encompasses scientific journals, peer-reviewed literature, books, conference proceedings, and much more.

### Search Strategy

Research data related to LIS of the BRICS nations over the past 25 years, namely, 2000 to 2025, was obtained from the Scopus database. The search strategy adopted for the same was " (TITLE – ABS - KEY (library AND information AND science) AND (LIMIT- TO (AFFILCOUNTRY, "Brazil") OR (LIMIT-TO (AFFILCOUNTRY, "Russia") OR (LIMIT- TO (AFFILCOUNTRY, "India") OR (LIMIT- TO (AFFILCOUNTRY, "China") OR (LIMIT- TO (AFFILCOUNTRY, "South Africa") OR (LIMIT- TO (AFFILCOUNTRY, "Iran") OR (LIMIT- TO (AFFILCOUNTRY, "Saudi Arabia") OR (LIMIT- TO (AFFILCOUNTRY, "Egypt") OR (LIMIT- TO (AFFILCOUNTRY, "Ethiopia") OR (LIMIT- TO (AFFILCOUNTRY, "United Arab Emirates") OR (LIMIT- TO (AFFILCOUNTRY, "Indonesia") AND (LIMIT- TO (PUBYEAR, 2000) OR ……..OR LIMIT-TO (PUBYEAR, 2025)". A total of 6,875 records were retrieved from the Scopus database on April 22, 2026.

The dataset included all document types that are indexed in Scopus, namely journal articles, books, book chapters, conference papers, editorials, errata, letters, notes, retracted papers, reviews, and short surveys.

Only publications in the English language were considered for the study. Duplicate records were removed from the retrieved dataset.

### Data Analysis and Visualization

Data analysis was performed with the help of MS Excel in order to perform statistical analysis and graph formation. The network visualization of data was conducted using the software package named Biblioshiny. In order to obtain the exact result The software packages were used to obtain the results. Different measures such as annual growth rate of documents, most productive authors, research production of BRICS countries, journal citations, and keyword co-occurrence were considered in the study.

## Data Analysis and Interpretation

**Year wise Growth Rate of Documents**:

The number of 6,875 LIS papers published within BRICS countries and indexed in the Scopus database from 2000 to 2025 was considered for evaluating the dynamics of yearly increase in the three different phases. Phase I (2000-2008) is the initial phase during which there was an incremental increase in the number of yearly publications from 13 to 71. The temporary decrease in 2007 of 7.84% is explained by the early stage of the development of the field and the low level of scholarly communication around the globe. Phase II (2009-2021) is the mobilization phase which saw an unusually high growth rate of +66.20% in 2009 and reached the maximum of 756 papers in 2021 due to higher interest in research, increasing funding at the national level, open-access publication platforms, and even due to the COVID-19 pandemic.

Phase III (2022-2025) : Post Pandemic Stabilization The editorial department will clear its backlog and increase its quality control leading to a negative growth rate of -14.15% IN 2022. This will be followed by a small increase (+3.39% in 2023) and a slightly better performance (+5.81 % in 2024 and +5.35% in 2025). The Gompertz growth model also supports this trend and expects a carrying (k) of 15.353 total publication by 2026-2027 (Table 1 and Figure 1).

### Most Prolific Author

Most Active Authors Based on Number of Publications The data set comprises 17320 distinct authors where 609 of these have produced single authored papers, Table 2 presents the top 15 most

Table 1 — Year-wise Publication Output and Growth Rate

| Publications | Year | Growth Rate (%) |
|---|---|---|
| 756 | 2021 | 31.02% |
| 748 | 2025 | 5.35% |
| 710 | 2024 | 5.81% |
| 671 | 2023 | 3.39% |
| 649 | 2022 | -14.15% |
| 577 | 2020 | 35.45% |
| 426 | 2019 | 50.00% |
| 284 | 2018 | 32.71% |
| 242 | 2013 | 23.47% |
| 238 | 2014 | -1.65% |
| 214 | 2017 | 4.90% |
| 204 | 2016 | 6.81% |
| 196 | 2012 | 10.11% |
| 191 | 2015 | -19.75% |
| 178 | 2011 | 17.88% |
| 151 | 2010 | 27.97% |
| 118 | 2009 | 66.20% |
| 71 | 2008 | 51.06% |
| 51 | 2006 | 41.67% |
| 47 | 2007 | -7.84% |
| 36 | 2005 | 9.09% |
| 33 | 2004 | 13.79% |
| 29 | 2003 | 20.83% |
| 24 | 2002 | 33.33% |
| 18 | 2001 | 38.46% |
| 13 | 2000 | |

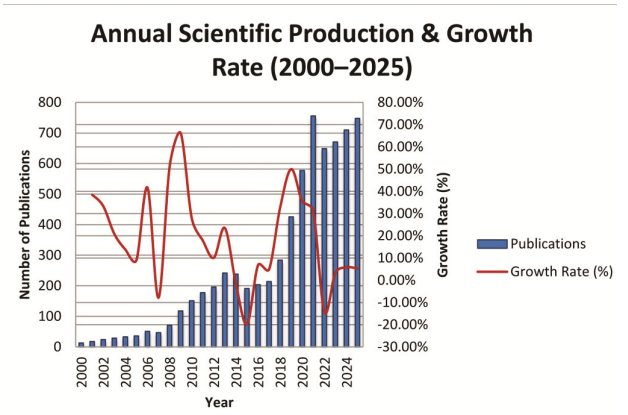


Fig. 1 — Year-wise Publication Output and Growth Rate

prolific authors based on publication and citation indicators.

As shown in Figure 2, Zhang Y has the highest local impact based on the h-index value at 31. The author is active since 2000, which shows an early contribution to the field with continued efforts thereafter.

The second in line comes Li Y ranks second with 163 publications and has the highest g-index of 62 among the listed authors. Li X has an h-index of 26 based on 124 publications, indicating comparatively strong citation impact.

It may be observed that a strong presence of Chinese surnames (Zhang Li, Wang, Liu, Chen) in all the top positions is in keeping with our finding that 39.26% of corresponding authors in the sample are from China. This observation speaks volumes about the country ‘s consistent efforts and investment in scientific research activities.

MAROYI A is seen as having the highest fractionalized article count of 54.50, the highest in the entire listing through she has a lower total number of articles published (57). This extremely high fractionalized article counts that MAROYI s work is predominantly individual and non-collaborative in nature.

## Research Output of BRICS Countries

The countries from the BRICS alliance Brazil, Russia, India, China, and South Africa collectively have become major players in the world‘s scientific arena. Table 3 and Figure 3 provides a comparative analysis of publications share of corresponding authors and citations for the BRICS countries based on data obtained.

China takes the first position among all the BRICS countries producing the largest number of publications 2699 compared to the second largest producer, India, at about 3 times the number 807 Total citations made by the country stand at 45107 and account for almost 65% of the total citations made by all the BRICS countries.

On the other hand, India comes second in terms of quantity while having the second least average citation rate of 11.2 per article compared to that of China at 16.7, thus showing that India employs a breadth strategy over depth in publishing.

Iran produces 503 articles with an MCP similar to that of Brazil (18.09%). Its total citations of 6599 lag behind those of China and India.

Brazil number of publications 446 comes second in terms of international collaboration with a MCP of 19.73 % the highest among the BRICS countries and it also boasts the second highest average citation per article (18.2) showing that Brazilian scholars concentrate on collaborative and impactful papers.

South Africa produces the least number of publications 263 among BRICS countries. Its MCP is relatively high (18.25%), owing partly to international cooperation conducted by UNIISA. Average citation rate stands at 9.0, the lowest among BRICS nations.

Table 2 — The list of Top 15 Most Prolific Authors — Publication Metrics

| Author | Total Articles | Frac. Articles | h-Index | g-Index | Total Citations | Active Since |
|---|---|---|---|---|---|---|
| ZHANG Y | 179 | 34.28 | 31 | 61 | 4,299 | 2000 |
| LI Y | 163 | 28.90 | 28 | 62 | 4,261 | 2004 |
| WANG Y | 147 | 26.62 | 25 | 48 | 2,762 | 2006 |
| LIU Y | 130 | 26.55 | 22 | 47 | 2,503 | 2007 |
| LI X | 124 | 24.38 | 26 | 59 | 3,660 | 2009 |
| WANG L | 114 | 24.70 | 18 | 43 | 2,080 | 2001 |
| LI J | 113 | 19.62 | 19 | 35 | 1,564 | 2002 |
| WANG X | 105 | 22.33 | 23 | 52 | 2,882 | 2008 |
| WANG J | 101 | 19.31 | 20 | 40 | 1,864 | 2003 |
| CHEN Y | 97 | 17.45 | 21 | 35 | 1,442 | 2005 |
| ZHANG J | 95 | 21.97 | 20 | 41 | 1,828 | 2003 |
| ZHANG X | 94 | 15.82 | 19 | 40 | 1,846 | 2008 |
| ZHANG L | 93 | 17.86 | 19 | 36 | 1,573 | 2005 |
| ZHANG H | 85 | 15.05 | 22 | 50 | 2,630 | 2005 |
| MAROYI A | 57 | 54.50 | 6 | 11 | 176 | 2014 |

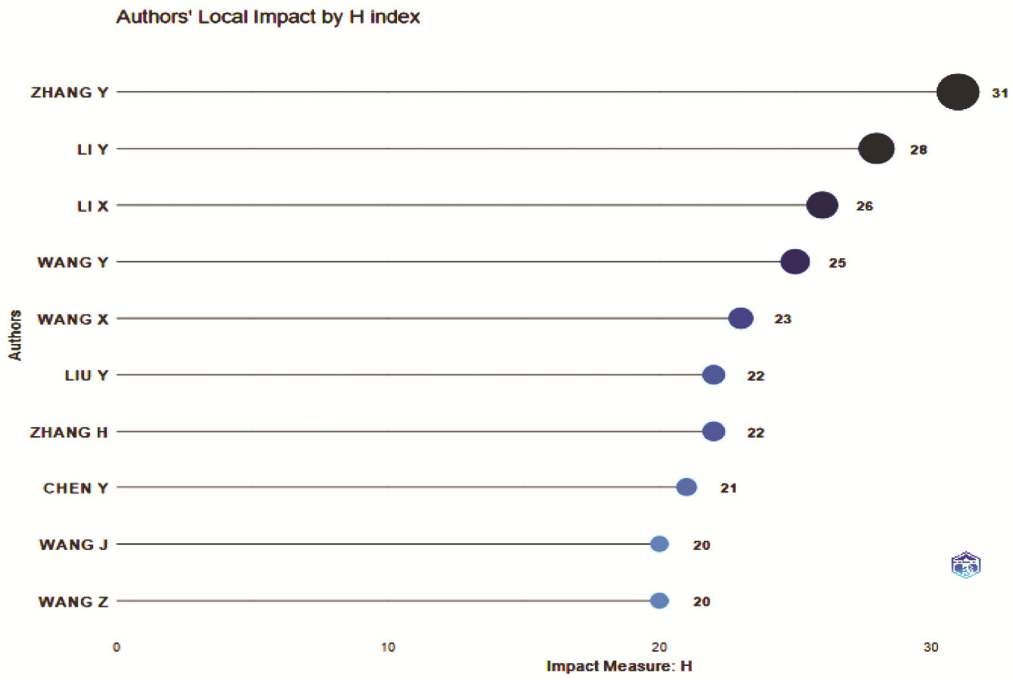


Fig. 2 — The list of Top 15 Most Prolific Authors — Author Local Impact

## Highly Preferred Publication Formats

The total of 6,875 documents in the database belong to 2,352 sources, which is like Bradford's Law of Scattering, where the smallest group of core journals is responsible for the largest number of documents produced. Table 4 below shows the top 15 sources that belongs on the number of documents, along with citations such as Total Citations (TC), h-index, g-index, and m-index. Figure 4 shows the most relevant sources.

Medicine (United States) is the source having highest number of publications (362 publications), consistent with the clear focus on biomedicine of the research literature. Nevertheless, it has a relatively low number of citations per document (7.33), pointing to the highly dispersed, but somewhat homogenous nature of the published material. Although the Journal of Ethnopharmacology ranks only fifth in terms of the numbers of publications, it scores highest on impact citations (100.16 citations per document), H-index

Table 3 — BRICS Country Research Output and Citation Metrics

| Country | Total Publications | CA Share (%) | SCP | MCP | MCP (%) | Total Citations | Avg. Cit/Article |
|---|---|---|---|---|---|---|---|
| China | 2,699 | 39.26% | 2,416 | 283 | 10.49% | 45,107 | 16.7 |
| India | 807 | 11.74% | 743 | 64 | 7.93% | 9,000 | 11.2 |
| Iran | 503 | 7.32% | 412 | 91 | 18.09% | 6,599 | 13.1 |
| Brazil | 446 | 6.49% | 358 | 88 | 19.73% | 8,095 | 18.2 |
| South Africa | 263 | 3.83% | 215 | 48 | 18.25% | 2,360 | 9.0 |

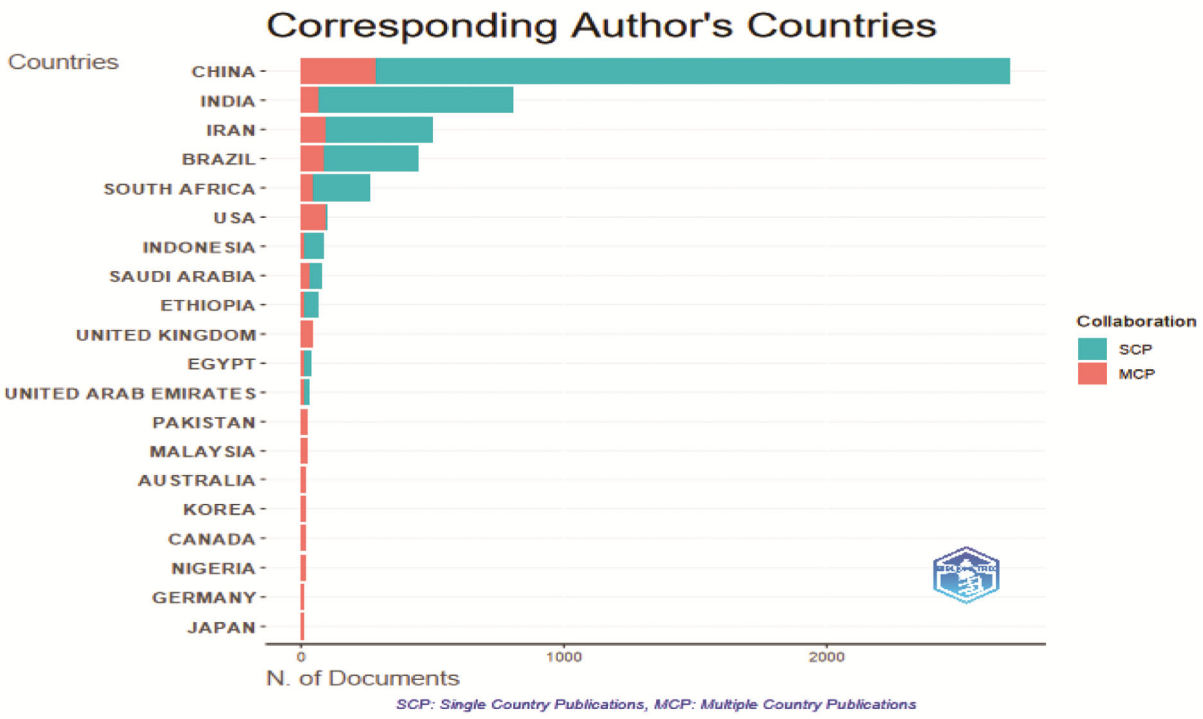


Fig. 3 — BRICS Country Corresponding Author's Country

(56) and G-index (95). An M-index of 3.50 makes it one of the most reputable journals that have a very rapid growth within the overall literature base. Scientometrics reaches 49.92 citations per document and H-index 24, confirming its position as the main journal for bibliometric methods of analysis - a self-referential result for the current bibliometric study.

Library Philosophy and Practice, despite ranking second in document volume (308 publications), records the lowest citation-per-document ratio (2.92), suggesting its function as a widely accessible open-access venue that, while prolific, attracts limited international citation uptake. Notably, the Journal of Medical Internet Research does not appear among the top 15 by publication count; nevertheless, its 36 post-2019 documents yield an M-index of 2.00 the second highest in the dataset underscoring its rapidly growing influence within the digital health information domain.

**Representation of the Co-occurrence of Keywords**

The co-occurrence network for the keywords was built based on 29858 keywords plus (ID) and 16288 Author's keywords co-occurrence is the number of times that two or more keywords are found in the same document and it helps to discover topics sub-fields and research trends, The top 30 keywords by occurrence are provided in Table 5. Figure 5 represents word cloud.

**Recommendations**

In order to increase the productivity of LIS research within the BRICS countries specifically South Africa, Russia and Brazil, there is need for governments to create national research models that include PhD programs, research institutions in LIS, as well as incentive programs based on the existing models of China and India. Despite the high Multiple Country Publication (MCP) rates among various

Table 4 — Top 15 Publication Sources — Documents, Citations and Impact Metrics

| Source (Journal/Publication) | Documents | Total Citations | Cit/Doc | h-Index | g-Index | m-Index |
|---|---|---|---|---|---|---|
| Medicine (United States) | 362 | 2,656 | 7.33 | 21 | 34 | 1.91 |
| Library Philosophy and Practice | 308 | 898 | 2.92 | 13 | 19 | 0.62 |
| BMJ Open | 131 | 1,282 | 9.79 | 17 | 30 | 1.31 |
| DESIDOC J. of Lib. & Info. Tech. | 98 | 566 | 5.78 | 11 | 16 | 0.73 |
| Journal of Ethnopharmacology | 95 | 9,515 | 100.16 | 56 | 95 | 3.50 |
| PLOS ONE | 88 | 1,978 | 22.48 | 21 | 43 | 1.40 |
| Scientometrics | 71 | 3,544 | 49.92 | 24 | 59 | 1.14 |
| Electronic Library | 65 | 1,049 | 16.14 | 20 | 29 | 0.80 |
| Intl. Info. and Library Review | 63 | 476 | 7.56 | 13 | 20 | 0.50 |
| Advanced Materials Research | 55 | 66 | 1.2 | 4 | 5 | 0.25 |
| Lecture Notes in Comp. Sci. | 54 | 232 | 4.29 | 7 | 13 | 0.25 |
| Intl. J. of Info. Sci. and Mgmt. | 51 | 193 | 3.78 | 5 | 12 | 0.26 |
| Scientific and Technical Info. Proc. | 51 | 121 | 2.37 | 6 | 10 | 0.37 |
| Annals of Lib. and Info. Studies | 48 | 205 | 4.27 | 9 | 12 | 0.56 |
| Journal of Librarianship & Info. Sci. | 46 | 408 | 8.86 | 10 | 19 | 0.52 |

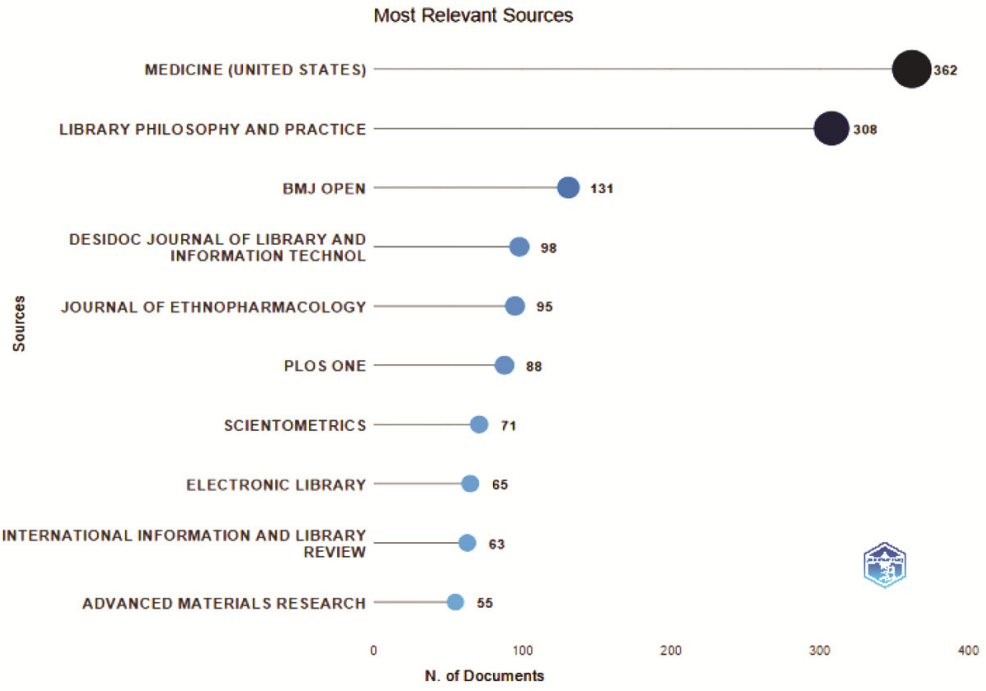


Fig. 4 — Most Relevant Sources

members of BRICS, there is need to develop intra-BRICS scholarly collaboration through the creation of a BRICS LIS Research Consortium which will operate within the bilateral arrangements in the BRICS Science, Technology and Innovation (STI) Framework Programme. Countries that produce high publication outputs like China and India need to focus on producing quality publications rather than high volumes through peer review mentoring, open access, and self archiving. LIS dedicated funding schemes, investment in library digitization, and interoperable metadata structures are vital to furthering not only research capacity but also cross-border information access. LIS professional associations from each of the BRICS countries need to take an advisory function by tracking bibliometric statistics using bibliometric dashboard systems and participating in regular research assessment in the spirit of the UK Research Excellence Framework (REF).

Table 5 — Representation of the Co-occurrence of Keywords

| Rank | Keyword / Term | Occurrences |
|---|---|---|
| 1 | Human | 3,006 |
| 2 | Humans | 2,205 |
| 3 | Systematic Review | 2,072 |
| 4 | Meta-Analysis | 1,647 |
| 5 | Review | 1,627 |
| 6 | Article | 1,065 |
| 7 | Web of Science | 978 |
| 8 | Medline | 956 |
| 9 | Cochrane Library | 926 |
| 10 | Randomized Controlled Trial (Topic) | 917 |
| 11 | Female | 907 |
| 12 | Meta-Analysis (method) | 766 |
| 13 | Information Retrieval | 698 |
| 14 | Adult | 692 |
| 15 | Male | 668 |
| 16 | EMBASE | 664 |
| 17 | Procedures | 630 |
| 18 | Data Extraction | 515 |
| 19 | Information Science | 471 |
| 20 | Outcome Assessment | 466 |
| 21 | Digital Libraries | 441 |
| 22 | Randomized Controlled Trials | 429 |
| 23 | Treatment Outcome | 418 |
| 24 | Quality Control | 406 |
| 25 | Libraries | 367 |
| 26 | Priority Journal | 362 |
| 27 | Library and Information Science | 348 |
| 28 | Information Processing | 342 |
| 29 | Scopus | 335 |
| 30 | Sensitivity Analysis | 326 |


Fig. 5 — Word Cloud

## Conclusion

Although Library and Information Science (LIS) is a new field of academic interest, it has received considerable scholarly attention on a global scale in recent years. However, scientific output produced by scholars from BRICS countries within LIS remain few and thus deserve closer analysis. Hence, this paper explores LIS outputs from BRICS countries published between 2000 and 2025, analyzing their dynamics, citation rate, as well as the characteristics of authors and publications involved. The results suggest that during the stated period, the total publication output amounted to 6,875 publications with an average yearly growth indicative of continuous development and the average citation rate of 16.7. Moreover, 2021 saw the highest annual publication output among other years due to the heightened international interest in health and information science associated with the coronavirus pandemic. Zhang Y. became the author of the largest number of papers, publishing 179 articles and accumulating 4,299 citations in total. In terms of countries, China stands out as the one producing the greatest number of scientific outputs, followed by India and Brazil. Lastly, Medicine (United States) was the most used publication source for authors working in the field of LIS in BRICS countries.

## References

1 Brahma K, Verma MK, Evaluation of national libraries websites of BRICS countries: a webometric analysis, *International Journal of Web Applications*, 10 (4) (2018) 117-126.

2 George TT, Obilana AO, Oyenihi AB and Rautenbach FG, Moringa oleifera through the years: a bibliometric analysis of scientific research (2000-2020*), South African Journal of Botany*, 141 (2021) 12-24.

3 Islam MN, Rahman MA, Haque MS and Chigwada J, A bibliometric analysis of research on academic libraries in Africa (2002-2024), *Journal of Academic Librarianship*, 52 (3) (2026) 103250.

4 Khan MI, Hayat S, BRICS expansion and future prospects: implications and policy consideration for Pakistan, *Journal of BRICS Studies*, 3 (2) (2024) 1-8.

5 Naidu S, De Carvalho G, BRICS expansion: redefining global structural power in a changing world order, *South African Institute of International Affairs*, 160 (2025) 1-19.

6 Narayan AI, Chogtu B, Janodia M and Venkata SK, A bibliometric study on the research outcome of Brazil, Russia, India, China, and South Africa, *F1000Research*, 10 (2021) 213.

7 Patel AK, Singh K, Research trends on open science: a bibliometric analysis and visualization, *Management of modern libraries in new normal,* (2022) 197-204.

8 Patel AK, Singh M, Singh K, Patel AK, Varma AK and Kuri R, Visualizing publication trends in Webology Journal: a bibliometric review based on the Scopus database (2006-2020), ***Library Philosophy and Practice,*** 5995 (2021) 1-24.

9 Patel AK, Singh K, Singh M and Patel AK, Publication trends in financial inclusion: a scientometric assessment and visualization, *Library* ***Philosophy and Practice***, 5115 (2021) 1-20.

10 Rawat DS, Singh K, Singh M, Patel AK and Patel AK, Research productivity of Wadia Institute of Himalayan Geology, *Library* ***Philosophy and Practice***, 5804 (2021) 1-22.

11 Salmeron-Manzano E, Garrido-Cardenas JA and Manzano-Agugliaro F, Worldwide research trends on medicinal plants, *International Journal of Environmental Research and Public Health*, 17 (10) (2020) 3376.

12 Singh I, Singh P, Rawat P, Patel AK, Singh M, Singh K and Patel AK, Research productivity of Forest Research Institute, Dehradun during 1990-2019: a scientometric approach, *Indian Forester,* 147 (8) (2021) 767-777.

13 Tripathi M, Jeevan VK, Babbar P and Mahemei LK, Library and information science research in BRICS countries, *Journal Information and Learning Science,* 119 (3-4) (2018) 183-202.

14 Wani JA, Webometric analysis of selected university library websites of India, *Library Philosophy and Practice,* 3686 (2019) 1-8.