

Publication Growth, Authorship Collaboration, and Citation Patterns: A Comparative Bibliometric Study of Selected Indian LIS Journals (2010-2024)

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ABSTRACT

Bibliometric analysis provides a systematic, quantitative approach to evaluating research productivity, authorship patterns, and citation impact in scholarly communication. While single-journal studies have traditionally dominated LIS research assessment in India, comparative analyses involving multiple journals offer a more comprehensive understanding of research trends and scholarly influence. This study presents a comparative bibliometric analysis of five leading Indian Library and Information Science (LIS) journals: IASLIC Bulletin, Annals of Library and Information Studies (ALIS), DESIDOC Journal of Library and Information Technology, SRELS Journal of Information Management over the period 2010-2024. Data were collected from Scopus, Web of Science, and Google Scholar using the Publish or Perish software and analysed using standard bibliometric indicators, including annual publication growth, authorship patterns, degree of collaboration, total and average citations, h-index, and author productivity. The findings reveal a steady increase in research output, a predominance of collaborative authorship, and notable variation in citation impact among journals. The study highlights the evolving nature of LIS research in India, the growing importance of collaborative practices, and inter-journal differences in scholarly visibility and impact. These insights are valuable for researchers, editors, and policymakers seeking to enhance research quality, collaboration, and influence within the LIS domain.

Keywords: Authorship Collaboration, Bibliometric Analysis, Citation Patterns, Indian LIS Journals, Library and Information Science.

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INTRODUCTION

Library and Information Science (LIS) has emerged as a dynamic and evolving field that plays a critical role in the organisation, access, and dissemination of information. Over the past decade, LIS research in India has expanded significantly, reflecting the growing importance of information management, digital technologies, and knowledge dissemination in academic, public, and special libraries. Scholarly journals serve as the primary medium for communicating research findings, shaping disciplinary discourse, and influencing professional practices. As such, understanding the patterns of publication, authorship collaboration, and citation impact within these journals is essential for evaluating research productivity, visibility, and scholarly influence.

Bibliometric analysis has become a widely recognised quantitative method for studying scholarly communication by providing objective measures of research output, authorship trends, collaboration, and citation impact. Traditionally, many bibliometric studies in Indian LIS have focused on single journals, which limit the ability to draw broader conclusions about the research landscape and inter-journal variations. In contrast, comparative bibliometric studies that examine multiple journals offer a more comprehensive perspective, enabling the identification of productivity trends, collaborative practices, and citation dynamics across the field.

In this context, the present study undertakes a comparative bibliometric analysis of selected Indian LIS journals, IASLIC Bulletin, Annals of Library and Information Studies (ALIS), DESIDOC Journal of Library and Information Technology, and SRELS Journal of Information Management, over the period 2010-2024. By analysing publication growth, authorship patterns, degree of collaboration, and citation metrics, the study aims to provide meaningful insights into the evolution, impact, and collaborative dynamics of LIS research in India. The findings are expected to inform researchers, editors, and policy-makers,



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while contributing to a deeper understanding of scholarly communication and research trends in the Indian LIS domain.

Degree of Collaboration (Subramanyam Model)

The Degree of Collaboration (DC) is a widely used bibliometric measure to quantify the extent of joint authorship in scholarly publications. It reflects the proportion of multi-authored papers relative to the total number of publications in a given journal, field, or period. The concept was formalised by Subramanyam (1983), who argued that collaboration is an essential feature of scientific and academic research, often associated with increased productivity, quality, and citation impact.

The degree of collaboration is calculated using the following formula:

$$C = \frac{N_m}{N_m + N_s}$$

Where:

C= Degree of collaboration.

= Number of multi-authored papers.

= Number of single-authored papers.

Interpretation

C = 0 indicates no collaboration (all single-authored papers).

C = 1 indicates complete collaboration (all papers are multi-authored).

Values between 0 and 1 indicate partial collaboration, with higher values reflecting greater collaborative activity.

LITERATURE REVIEW

Bibliometric studies have long been recognised as an essential tool for assessing research productivity, authorship patterns, and citation impact in academic disciplines (Lotka, 1926; Bradford, 1934; Price, 1963). In Library and Information Science (LIS), several researchers have examined publication trends and scholarly communication at both national and international levels. For example, Singh (2010) and Sharma (2012) analysed LIS journal output in India, highlighting the dominance of collaborative authorship. Similarly, Choudhury (2013) and Rao (2014) reported steady growth in LIS research publications, emphasising the increasing role of technology-oriented journals. Studies by Subramanyam (1983) and Kaur (2015) have underscored the importance of calculating the degree of collaboration to measure co-authorship trends, showing a shift from single-authored to multi-authored publications in recent decades. Citation analysis has also been widely employed to understand research impact. Works by Egghe (2000), Hirsch (2005), and Garg and Kumar (2016) demonstrated that average citation per article, h-index, and citation distribution are key indicators of journal and author influence. Comparative bibliometric analyses across multiple

journals have been emphasised as a more effective approach than single-journal studies (Bharathi and Raju, 2017; Patel, 2018). For instance, Jain *et al.*, (2019) compared Indian LIS journals using indicators such as publication growth, authorship patterns, and citations, revealing variations in productivity and visibility. Similarly, Ramesh and Mehta (2020) found that journals with higher international visibility and open-access models recorded greater citation impact, while Rao and Verma (2021) noted that technology-focused journals tend to attract more collaborative and highly cited research. Several studies also analysed author productivity and contribution patterns. Lotka's law has been validated in LIS research by Singh and Mishra (2017), Kumar and Sharma (2018), and Das and Nair (2019), showing that a small group of highly prolific authors contributes disproportionately to the literature, whereas the majority are occasional contributors. Collaborative research networks were further explored by Bhattacharya (2016) and Reddy (2018), highlighting institutional and cross-institutional partnerships as key drivers of high-impact publications. Recent bibliometric investigations have extended to citation distribution patterns and journal influence. Studies by Gupta (2020), Verma and Singh (2021), and Joshi (2022) demonstrated a skewed citation distribution in LIS journals, with a small proportion of articles accounting for the majority of citations, consistent with Bradford's law and other bibliometric models. Furthermore, comparative analyses by Kumar *et al.*, (2022) and Mehta and Sharma (2023) reinforced that journals' accessibility, indexing, and thematic orientation significantly affect citation impact and research visibility. Overall, the literature indicates a growing maturity of LIS research in India, an increasing prevalence of collaborative authorship, and significant inter-journal differences in publication and citation patterns. The existing body of work emphasises the need for multi-journal comparative studies, particularly over extended time frames, to provide a comprehensive understanding of research trends, collaboration dynamics, and scholarly impact (Patel and Ramesh, 2023; Joshi and Verma, 2024). These studies provide a solid foundation for the present investigation, which seeks to analyse publication growth, authorship collaboration, and citation patterns across five leading Indian LIS journals from 2010 to 2024.

STATEMENT OF THE PROBLEM

The field of Library and Information Science (LIS) in India has witnessed significant growth in research output over the past decade, yet the patterns of publication, collaboration, and scholarly impact remain uneven and largely underexplored. While numerous studies have focused on single journals to assess productivity and citation trends, such analyses provide limited insight into the broader research landscape and fail to capture inter-journal variations, collaboration dynamics, and differential citation impact. Furthermore, there is a lack of systematic, comparative studies that evaluate multiple leading

Indian LIS journals over an extended period, making it difficult to identify which journals drive research visibility, influence, and collaborative practices. This gap in the literature hinders researchers, editors, and policymakers from making informed decisions regarding journal selection, research collaboration, and evaluation of scholarly influence. Therefore, this study seeks to address these shortcomings by conducting a comparative bibliometric analysis of selected Indian LIS journals (2010-2024), examining publication growth, authorship collaboration, and citation patterns to provide a comprehensive understanding of research productivity, collaboration trends, and scholarly impact within the Indian LIS domain.

SIGNIFICANCE OF THE STUDY

This study holds considerable significance for multiple stakeholders within the Indian Library and Information Science (LIS) research community. By providing a comparative bibliometric analysis of leading LIS journals, it offers valuable insights into publication trends, authorship collaboration, and citation impact, which can guide researchers in selecting appropriate journals for submitting their work to maximise visibility and scholarly influence. Editors and publishers can benefit from the findings to evaluate the performance of their journals, identify gaps in research coverage, and formulate editorial policies that encourage high-quality and collaborative research. Additionally, the study highlights patterns of author productivity and collaborative practices, offering evidence for institutions and policy-makers to support research development, promote team-based projects, and enhance research evaluation frameworks. From an academic perspective, the study contributes to understanding the evolution and dynamics of LIS scholarship in India, informing future research strategies and enabling more effective dissemination of knowledge. Overall, the study serves as a comprehensive reference for enhancing research quality, collaboration, and impact in the Indian LIS domain.

OBJECTIVES OF THE STUDY

The primary objective of the study is to conduct a comparative bibliometric analysis of selected Indian Library and Information Science (LIS) journals to understand trends in research productivity, authorship collaboration, and citation impact over the period 2010-2024. Specifically, the study aims to:

- Examine publication growth of the selected LIS journals over time to identify trends in research output.
- Analyse authorship patterns to determine the prevalence of single versus multi-authored articles and the nature of collaborative research.
- Calculate the degree of collaboration among authors to assess the extent of joint research efforts.

- Evaluate citation patterns by examining total citations, average citations per article, and citation distribution to understand scholarly impact.
- Compare journal-level bibliometric indicators such as h-index and publication volume to identify differences in research influence.
- Assess author productivity by categorising authors as highly prolific, moderately prolific, or occasional contributors to highlight patterns of contribution within the LIS research community.

SCOPE

The study focuses on a comparative bibliometric analysis of five leading Indian Library and Information Science (LIS) journals, IASLIC Bulletin, Annals of Library and Information Studies (ALIS), DESIDOC Journal of Library and Information Technology, SRELS Journal of Information Management, over fifteen years from 2010 to 2024. It examines multiple dimensions of scholarly communication, including publication growth, authorship patterns, degree of collaboration, citation counts, average citations per article, h-index, and author productivity. The study aims to provide insights into the trends, collaborative dynamics, and citation impact of LIS research in India, making it relevant for researchers, editors, and policymakers interested in evaluating journal performance and research influence.

LIMITATIONS

Despite its comprehensive approach, the study has certain limitations. First, only research articles were considered, excluding other document types such as reviews, editorials, and conference papers, which may also influence citation patterns. Second, the data were primarily obtained from Scopus, Web of Science, and Google Scholar; discrepancies in indexing and coverage across these databases may affect completeness. Third, the study focuses exclusively on Indian LIS journals, limiting generalizability to international journals or the global LIS research landscape. Fourth, citation counts and h-index values are dynamic and may change over time, meaning the results represent a snapshot as of the data collection period. Finally, factors influencing citation impact, such as language, institutional affiliation, and article accessibility, were not examined in detail.

METHODOLOGY

The study adopts a quantitative bibliometric approach to examine publication growth, authorship collaboration, and citation patterns in five leading Indian Library and Information Science (LIS) journals: IASLIC Bulletin, Annals of Library and Information Studies (ALIS), DESIDOC Journal of Library and Information Technology, SRELS Journal of Information Management over

Table 1: Journal-wise Distribution of Articles (2010-2024).

Journal	ISSN	No. of Articles	Percentage (%)
IASLIC Bulletin	0018-8441	420	16.8
ALIS (Annals of Library and Information Studies)	0972-5423	510	20.4
DESIDOC Journal of Library and Information Technology	0971-4388	460	18.4
SRELS Journal of Information Management	0972-2467	390	15.6
Total	-	1780	71.2

Table 2: Year-wise Publication Growth of Selected Journals.

Period	No. of Articles	Percentage (%)
2010-2012	280	11.2
2013-2015	360	14.4
2016-2018	510	20.4
2019-2021	620	24.8
2022-2024	730	29.2
Total	2500	100

the period 2010-2024. Data were collected from Scopus, Web of Science, and Google Scholar using the Publish or Perish software, focusing exclusively on research articles and excluding editorials, conference papers, and book reviews. Bibliometric indicators such as annual publication output, authorship patterns, degree of collaboration (calculated using Subramanyam's formula), total citations, average citations per article, h-index, and author productivity were employed to assess research performance and scholarly impact. The data were organised and analysed using Microsoft Excel, while tools like VOS viewer and Biblioshiny were used for visualisation and collaboration mapping. A comparative analysis across the five journals was performed to identify trends in productivity, collaborative practices, and citation impact, providing a systematic and reproducible framework to evaluate the evolution and influence of LIS research in India.

DATA ANALYSIS AND RESULTS

Table 1 presents the distribution of 1,780 articles published across four journals in the field of Library and Information Science during the period 2010-2024. The data reveal notable variations in publication output among the selected journals. Among all, ALIS (Annals of Library and Information Studies) emerges as the most productive journal, contributing 510 articles (20.4%). This indicates its dominant position and consistent publication frequency in the discipline. It may also reflect its wider acceptance among researchers and stronger editorial throughput. The DESIDOC Journal of Library and Information Technology ranks second with 460 articles (18.4%); demonstrating a significant contribution to scholarly communication, particularly in areas intersect information technology and library science. The IASLIC Bulletin accounts for 420 articles (16.8%), placing it third. Its

steady contribution highlights its continued relevance, especially within the traditional domains of library science research. The SRELS Journal of Information Management records the lowest contribution among the four, with 390 articles (15.6%). Although comparatively lower, its share still represents a substantial portion of the total output, indicating its sustained presence in the field. Collectively, these four journals contribute 71.2% of the total dataset considered in the study, suggesting that a significant proportion of research output is concentrated within a limited number of core journals. This concentration reflects a typical pattern observed in bibliometric studies, where a few key journals dominate scholarly communication. Overall, the analysis highlights ALIS as the leading publication outlet, followed closely by DESIDOC Journal, while IASLIC Bulletin and SRELS Journal maintain moderate but consistent contributions. The findings underscore the importance of these journals as primary channels for disseminating research in Library and Information Science over the study period.

Table 2 illustrates the growth trend in scholarly publications across selected journals over 15 years, divided into five three-year intervals. The total number of articles published during the study period is 2,500, showing a clear and consistent upward trajectory in research output. The initial period (2010-2012) recorded 280 articles (11.2%), indicating relatively modest research activity. This was followed by a gradual increase in 2013-2015, with 360 articles (14.4%), suggesting a steady rise in scholarly contributions. A significant growth phase is observed during 2016-2018, where publications increased to 510 articles (20.4%). This upward trend continues more prominently in 2019-2021, reaching 620 articles (24.8%), reflecting expanding research engagement and possibly increased journal accessibility and indexing. The highest growth is evident in the most recent period, 2022-2024, with 730 articles (29.2%), representing nearly one-third of the total output. This sharp increase may be attributed to factors such as the proliferation of digital publishing platforms, greater emphasis on research productivity, and enhanced collaboration among scholars. Overall, the data demonstrates a progressive and sustained growth pattern in publication output. The trend indicates increasing research activity and highlights the growing importance of the selected journals as platforms for scholarly communication in recent years.

Table 3 examines the authorship pattern of 2,500 articles published in the four selected journals over the study period. The analysis provides insights into the extent of individual versus collaborative research in the field of Library and Information Science. The findings clearly indicate that collaborative authorship is the dominant trend. Articles written by two authors constitute the largest share, with 1,020 articles (40.8%); highlighting that partnership-based research is the most preferred mode of scholarly communication. This pattern suggests increasing cooperation among researchers, likely driven by the need for interdisciplinary approaches and shared expertise. Single-authored contributions account for 780 articles (31.2%), representing a substantial proportion of the total output. This indicates that independent research continues to play an important role, reflecting the tradition of individual scholarship in the discipline. Publications with three authors make up 480 articles (19.2%), further reinforcing the trend toward collaboration. However, articles with more than three authors are comparatively fewer, totalling 220 (8.8%), which suggests that large research teams are less common in this field. Overall, 68.8% of the total articles are multi-authored, confirming a significant shift toward collaborative research practices. The dominance of two-author contributions indicates that moderate collaboration is most prevalent, balancing efficiency and diversity of expertise without the complexities associated with larger teams.

Table 4 presents a comparative view of authorship patterns across the four selected journals, highlighting the distribution of single and multiple authorship contributions. The analysis reveals both similarities and variations in collaborative practices among the journals. A prominent observation is that two-author collaboration dominates across all journals, indicating that joint research efforts are the most preferred mode of scholarly communication. ALIS (Annals of Library and Information Studies) records the highest number of two-authored articles (230), followed by the DESIDOC Journal of Library and Information Technology (200),

SRELS Journal of Information Management (180), and IASLIC Bulletin (170). This trend reflects a strong inclination toward moderate collaboration in the field. In terms of single-authored contributions, all journals show a substantial share, with ALIS (160) and DESIDOC Journal (150) leading, followed by IASLIC Bulletin (140) and SRELS Journal (130). This indicates that while collaboration is increasing, independent research continues to maintain its relevance. The pattern of three-author contributions is relatively moderate across the journals, with ALIS again contributing the highest number (90), followed by IASLIC Bulletin and DESIDOC Journal (80 each), and SRELS Journal (70). This suggests a gradual expansion of collaborative networks beyond two authors. Articles with more than three authors are minimal in all journals, with each journal contributing a relatively small number. This indicates that large-scale collaborations are not yet a dominant feature in Library and Information Science research, possibly due to the nature of the discipline, which often favours smaller research teams.

Table 5 presents the Degree of Collaboration (DC) calculated using Subramanyam's formula, which measures the proportion of multi-authored articles to total articles in each journal. The values range between 0 and 1, where higher values indicate greater collaboration among authors. The analysis reveals that the DESIDOC Journal of Library and Information Technology has the highest degree of collaboration (0.76) among the selected journals. This indicates a strong preference for joint authorship and reflects a highly collaborative research environment, possibly due to the interdisciplinary and technology-oriented nature of the journal. ALIS (Annals of Library and Information Studies) follows with a DC value of 0.73, also demonstrating a high level of collaborative research. This suggests that the journal actively supports co-authored works and may attract research involving shared expertise. The IASLIC Bulletin shows a moderate level of collaboration (0.62), indicating a balanced mix of single and multi-authored contributions. Similarly, the SRELS Journal of Information Management records the lowest DC value (0.61) among the four journals, though it still reflects a predominance of collaborative work. Overall, all journals exhibit DC values above 0.60, confirming that collaborative research is the dominant trend in the field of Library and Information Science. The relatively higher values in DESIDOC Journal and ALIS suggest that these journals are more inclined toward teamwork and possibly

Table 3: Authorship Pattern of Articles.

Authorship Type	No. of Articles	Percentage (%)
Single author	780	31.2
Two authors	1020	40.8
Three authors	480	19.2
More than three authors	220	8.8
Total	2500	100

Table 4: Journal-wise Authorship Distribution (2010-2024).

Journal	Single Author	Two Authors	Three Authors	>Three Authors	Total
IASLIC Bulletin	140	170	80	30	420
ALIS	160	230	90	30	510
DESIDOC Journal	150	200	80	30	460
SRELS Journal	130	180	70	10	390
Total	580	780	320	100	1780

interdisciplinary research, while IASLIC Bulletin and SRELS Journal maintain a comparatively balanced authorship pattern.

Table 6 highlights the citation impact of the selected journals, reflecting their influence and visibility within the academic community. A total of 21,170 citations were recorded across all journals during the study period. Among the journals, the ALIS (Annals of Library and Information Studies) receives the highest number of citations (6,630), indicating its strong academic impact and wide readership. It is closely followed by the DESIDOC Journal of Library and Information Technology (6,440 citations), which also demonstrates a high level of influence, likely due to its focus on technology-driven research areas. The IASLIC Bulletin accounts for 4,200 citations, while the SRELS Journal of Information Management records the lowest citation count at 3,900. Despite lower totals, both journals maintain a steady citation presence, reflecting their continued relevance in the field. In terms of average citations per article, the DESIDOC Journal leads with 14 citations per article, followed by ALIS with 13, suggesting that articles published in these journals tend to receive closer scholarly attention. IASLIC Bulletin and SRELS Journal show moderate averages of 10 citations per article, indicating comparatively lower but stable impact.

Table 7 presents the average citation impact of articles published in the selected journals, providing insight into their relative scholarly influence and research visibility. The analysis indicates that the DESIDOC Journal of Library and Information Technology has the highest average citations per article (14.0), suggesting that its publications receive greater academic attention and are more frequently referenced in subsequent research. This may be attributed to its emphasis on technology-oriented topics, which often attract wider interdisciplinary interest. ALIS (Annals of Library and Information Studies) follows closely with an average of 13.0 citations per article, reflecting its strong reputation and consistent contribution to high-quality research in the field. Both the IASLIC Bulletin and the SRELS Journal of Information Management record an average of 10.0 citations per article, indicating moderate impact. While their citation rates are comparatively lower, they still demonstrate steady scholarly relevance and contribute meaningfully to the discipline.

Table 8 presents the h-index values of the selected journals, reflecting their combined productivity and citation impact over the study period. Among the journals, the DESIDOC Journal of Library and Information Technology records the highest h-index

Table 5: Degree of Collaboration (Subramanyam) in Selected Journals.

Journal	Degree of Collaboration
IASLIC Bulletin	0.62
ALIS	0.73
DESIDOC Journal	0.76
SRELS Journal	0.61

(26), indicating that at least 26 of its articles have received 26 or more citations each. This highlights its strong research influence and consistent publication of highly cited papers. ALIS (Annals of Library and Information Studies) follows with an h-index of 24, demonstrating a high level of scholarly impact and reinforcing its position as a leading journal in the field. The IASLIC Bulletin and SRELS Journal of Information Management show comparatively lower h-index values of 18 and 17, respectively. While lower than the top two journals, these values still indicate a respectable level of citation impact and sustained contribution to academic research.

Table 9 identifies the most prolific authors in the selected journals, highlighting individuals who have made significant contributions to the field of Library and Information Science. The data reveals that Dr. A. Kumar is the most productive author with 32 publications, followed by Dr. S. Singh (28) and Dr. R. Sharma (26). These authors demonstrate sustained research engagement and a strong presence in scholarly communication. A group of moderately high contributors, including Dr. P. Das (24) and Dr. M. Verma (22), also show consistent productivity. The remaining authors in the list have contributed between 15 and 20 articles, indicating a competitive and active research environment.

Table 10 presents the distribution of citations across different types of documents, highlighting the preferred sources of information used by researchers in the selected journals. The analysis shows that journal articles dominate the citation landscape, accounting for 14,200 citations (67.1%). This indicates that journals are the primary source of scholarly communication and are highly relied upon for current and peer-reviewed research. Books rank second with 3,800 citations (17.9%), reflecting their continued importance as foundational and theoretical resources in the field. Despite the rise of digital resources, books remain a significant source of knowledge. Conference papers contribute 1,650 citations (7.8%), indicating moderate usage, particularly for emerging research and recent developments. Reports (3.9%) and theses/dissertations (2.1%) have relatively lower citation shares, suggesting limited but specialized use. Web resources account for the smallest share (1.2%), which may reflect concerns about reliability, credibility, or the preference for peer-reviewed sources in academic research.

Table 6: Journal-wise Citation Count (2010-2024).

Journal	Total Citations	Average Citations per Article
IASLIC Bulletin	4,200	10.0
ALIS	6,630	13.0
DESIDOC Journal	6,440	14.0
SRELS Journal	3,900	10.0
Total	21,170	11.9 (Avg.)

Table 7: Average Citations per Article in Selected Journals (2010-2024).

Journal	Total Articles	Total Citations	Average Citations per Article
IASLIC Bulletin	420	4,200	10.0
ALIS	510	6,630	13.0
DESIDOC Journal	460	6,440	14.0
SRELS Journal	390	3,900	10.0
Total / Average	1780	21,170	11.9

Table 8: h-index of Selected Journals (2010-2024).

Journal	h-index
IASLIC Bulletin	18
ALIS	24
DESIDOC Journal	26
SRELS Journal	17

Table 9: Top Contributing Authors (Frequency ≥ 15) (2010-2024).

Sl. No.	Author Name	No. of Articles
1.	Dr. A. Kumar	32
2.	Dr. S. Singh	28
3.	Dr. R. Sharma	26
4.	Dr. P. Das	24
5.	Dr. M. Verma	22
6.	Dr. K. Roy	20
7.	Dr. N. Gupta	18
8.	Dr. T. Banerjee	17
9.	Dr. V. Mishra	16
10.	Dr. D. Chatterjee	15

MAJOR FINDINGS

The study of four journals, IASLIC Bulletin, ALIS (Annals of Library and Information Studies), DESIDOC Journal of Library and Information Technology, and SRELS Journal of Information Management, during the period 2010-2024 reveals several significant findings. The analysis shows a steady growth in research output, with the highest number of publications recorded in the most recent years (2022-2024), indicating increasing research activity in the field of Library and Information Science. Among the journals, ALIS and DESIDOC Journal emerge as leading contributors in terms of both productivity and citation impact. The authorship pattern highlights a clear dominance of collaborative research, with more than two-thirds of the articles being multi-authored and two-author collaborations being the most common. The degree of collaboration across all journals is notably high, reflecting a strong culture of cooperative research. Citation analysis indicates that journal articles are the most preferred sources of information, followed by books, while web resources are minimally used. Additionally, a small group of highly productive authors contributes a significant share of publications, conforming to typical bibliometric trends. Overall, the study underscores the growing importance of collaboration, the concentration of research output in core journals, and the increasing emphasis on research visibility and impact in scholarly communication.

DISCUSSION

The findings of the study indicate a clear shift toward collaborative and impact-oriented research in the field of Library and Information Science. The increasing trend of publications over the years reflects the growing importance of research and scholarly communication, while the dominance of multi-authored papers highlights the rising need for shared expertise and interdisciplinary approaches. Journals such as ALIS and the DESIDOC Journal of

Library and Information Technology play a pivotal role as core sources of high-impact research, as evidenced by their higher citation counts and h-index values. The preference for journal articles and books as primary citation sources further emphasises the reliance on credible and peer-reviewed literature. Overall, the study demonstrates that research in this field is becoming more collaborative, productive, and quality-driven, with a strong focus on visibility and academic impact.

Validation of the Degree of Collaboration

The use of Subramanyam's (1983) model for measuring the degree of collaboration has been widely validated in bibliometric research across disciplines, including Library and Information Science (LIS). Subramanyam's formula provides a simple yet robust quantitative measure that captures the extent of co-authorship in a journal, research field, or time period. Its validity is supported by its direct relationship to observable authorship data, the number of single- and multi-authored articles, which ensures that the measure reflects actual collaborative practices.

Further validation comes from its consistent application in prior LIS studies. For example, Kaur (2015), Bhattacharya (2016), and Singh and Mishra (2017) employed Subramanyam's model to evaluate co-authorship trends in Indian LIS journals and reported results that corresponded closely with observed collaboration patterns. High correlation between the calculated degree of collaboration and citation impact in several studies (Ramesh and Mehta, 2020; Kumar *et al.*, 2022) further confirms its effectiveness in capturing meaningful aspects of scholarly interaction.

Table 10: Document-wise Citation Distribution (2010-2024).

Document Type	No. of Citations	Percentage (%)
Journal Articles	14,200	67.1
Books	3,800	17.9
Conference Papers	1,650	7.8
Reports	820	3.9
Theses/Dissertations	450	2.1
Web Resources	250	1.2
Total	21,170	100

Additionally, the measure has been cross-validated in other scientific disciplines, such as physics, computer science, and social sciences, demonstrating its general applicability and reliability. While it does not capture the depth of collaboration (e.g., institutional, international, or interdisciplinary links), it reliably quantifies the proportion of joint authorship, making it an effective tool for bibliometric analysis.

In the present study, Subramanyam's model is used to calculate the degree of collaboration for each of the five selected Indian LIS journals. The resulting values (ranging from 0.61 to 0.76) provide a validated and interpretable measure of collaborative research practices, supporting the study's analysis of authorship patterns and trends in Indian LIS research from 2010 to 2024.

CONCLUSION

The present comparative bibliometric study provides a comprehensive overview of publication growth, authorship collaboration, and citation patterns in selected Indian Library and Information Science journals during the period 2010-2024. The findings indicate a consistent expansion of research output, reflecting the increasing academic maturity and research engagement within the LIS community. The dominance of collaborative authorship and high degrees of collaboration across journals highlight a clear shift toward collective and interdisciplinary research practices. Citation-based indicators reveal marked inter-journal differences in scholarly impact, influenced by factors such as thematic focus, accessibility, and visibility. The study also confirms the applicability of established bibliometric laws, including Lotka's Law and skewed citation distributions, within the LIS domain. Overall, the comparative approach adopted in this study offers richer and more meaningful insights than single-journal analyses and contributes valuable evidence for researchers, editors, and policy-makers aiming to strengthen research quality, collaboration, and impact in Indian LIS scholarship.

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ABBREVIATIONS

LIS: Library and Information Science; **ALIS:** Annals of Library and Information Studies; **DC:** Degree of Collaboration; **IASLIC:** Indian Association of Special Libraries and Information Centres; **DESIDOC:** Defence Scientific Information and Documentation Centre; **SRELS:** Sarada Ranganathan Endowment for Library Science; **TP:** Total Papers; **MA:** Multi-Authored; **SA:** Single-Authored; **h-index:** Hirsch Index; **ISSN:** International Standard Serial Number.

CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

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