Advances in Library, Information, and Archival Science during the 13th Five-Year Plan: Post-print Analysis of International Journal Articles

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Abstract

[Purpose/Significance] An investigation of international publication patterns, research hotspots, and disciplinary frontiers in the library and information science field contributes to advancing the development of the LIS discipline and enhancing China' s academic discourse power. [Method/Process] Using high-impact foreign-language journal papers in library and information science indexed by SCI and SSCI as the data source, this study employs tools such as HistCite, CiteSpace, and SPSS to analyze the development status of the LIS field over the past five years (2016-2020) from five dimensions: research status, high-impact scholars, highly-cited papers, research hotspots, and frontier trends. Through annual variation analysis of high-frequency keywords, four types of keywords exhibiting different patterns are summarized, and through examination of low-frequency keywords, development themes across three dimensions—humanities, technology, and management—are identified. [Result/Conclusion] With the continuous development of information technology and the evolving information environment, research topics in library and information science have further extended and evolved from traditional information services to knowledge services, and from knowledge organization and management-related research to knowledge organization system construction. Moreover, emphasizing the integration of theory and practice has increasingly become an important trend in library, information and archival science research.

Full Text

Preamble

Progress of Library and Information Science and Archival Science During the 13th Five-Year Plan: Analysis of Articles in Foreign Journals

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Abstract: [Purpose/Significance] Research on international publications, research hotspots, and disciplinary frontiers in library and information science (LIS) can help promote the development of the discipline and enhance China' s academic discourse power. [Method/Process] Using high-impact foreign journal papers in LIS included in SCI and SSCI as data sources, this study employs tools such as HistCite, CiteSpace, and SPSS to analyze the development of LIS over the past five years (2016-2020) from five aspects: research status, high-impact scholars, highly cited papers, research hotspots, and cutting-edge trends. Through annual variation analysis of high-frequency keywords, four categories of keywords with different trends are identified, and low-frequency keywords are examined to reveal development themes across three dimensions: humanities, technology, and management. [Result/Conclusion] With the continuous development of information technology and changes in the information environment, LIS research themes have further extended and evolved from traditional information services to knowledge services, and from knowledge organization and management to knowledge organization system construction. The integration of theory and practice has increasingly become an important trend in LIS research.

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Understanding the knowledge structure and evolution of a field and correctly evaluating basic scientific research have attracted widespread attention in academia, becoming an important research topic for scholars in the information age. As early as 1998, renowned scientometrician and Derek de Solla Price Award recipient Professor H.D. White [1] used author co-citation analysis to conduct a bibliometric analysis of 12 LIS journals from 1972-1995, systematically examining the discipline' s status, development trajectory, and trends. Reviewing disciplinary research achievements helps reveal developmental trajectories; analyzing current research status helps grasp research dynamics [2]; tracking research hotspots and frontiers enhances China' s academic discourse power and LIS research standards. Existing domestic and international studies on LIS progress adopt both quantitative analysis and qualitative review paradigms, revealing findings and conclusions from retrospective and prospective perspectives. For example, Qiu Junping et al. [2] analyzed 13 high-impact foreign LIS journals using bibliometric methods, finding that international LIS research generally unfolds across three dimensions: measurement, management, and technology, with the field entering a new period of prosperity. Building

on this, this study examines papers published in 2016-2020 in high-impact foreign journals included in SCI and SSCI, introducing tools such as CiteSpace, HistCite, and SPSS to explore LIS research achievements and hotspots from perspectives of literature statistics, high-impact authors, high-frequency keywords, and low-frequency keywords, aiming to reveal the development and characteristics of LIS from a scientific quantitative perspective.

2 Data Sources and Methods

This study uses the Web of Science database published by the Institute for Scientific Information as its data source. This database offers advantages including long time spans, large volume, and high-quality literature, maximizing data completeness while providing export formats compatible with analytical software. Regarding database selection, different databases may yield varying results. At the macro level, bibliometric indicators commonly used in academia are derived from large multidisciplinary databases such as SCI and CSCD, which attempt to cover national or global literature. Although each database has differences and each bibliometric indicator has limitations for evaluation, these differences are negligible at the macro evaluation level. At the micro level, the quantity of retrieval results is also an important factor affecting comprehensive analysis. For instance, using the LISA database with the same retrieval strategy yields 5,239 papers. Since LISA has broad coverage without detailed quality classification of specific literature, according to Pareto' s principle, although SCI-EXPANDED and SSCI include fewer papers, they can reflect important progress and trends in the field. Considering the authority and high quality of the SCI-EXPANDED and SSCI databases under the WoS Core Collection, this study selects these two citation indexes as data sources.

The specific method is: using the search query "WC=(Information Science & Library Science) AND CU=(China)" (this category includes some management science and engineering journals such as *Mis Quarterly*, *Information Systems Research*, and *International Journal of Information Management*), limiting the publication time to 2016-2020, the citation databases to SSCI and SCI-EXPANDED, and the document type to articles, the refined search yielded 2,270 valid papers (as of April 25, 2020). The original bibliographic data for these 2,270 papers were exported with full records (including cited references) saved in plain text format.

This study primarily employs CiteSpace developed by Professor Chen Chaomei of Drexel University and IBM' s statistical software SPSS for word frequency statistics and visualization analysis, supplemented by citation analysis software HistCite to analyze citation frequency in Web of Science and within the collected sample dataset. Using CiteSpace 5.5.R2, SPSS v26.0, and HistCite Pro 2.1, and adjusting various parameters, we analyze research hotspots and frontiers through high-frequency keyword annual variation analysis and low-frequency keyword classification methods. High-frequency keyword annual variation identifies research hotspots, while low-frequency keyword classification reveals fron-

tier trends in LIS, providing a comprehensive analysis of the field' s development.

3 Results Analysis

3.1 Literature Statistics

Literature volume statistics constitute an important component of basic theoretical research, reflecting research activity in a discipline to some extent. A total of 2,270 papers were published in LIS foreign journals from 2016-2020 (statistics as of April 25, 2020), with annual output exceeding 400 papers during the 13th Five-Year Plan period and showing noticeable growth from 2018 onward (2020 data is incomplete and thus not analyzed in detail).

In terms of citations, the 2,270 papers received a total of 12,522 citations, averaging 5.79 citations per paper. During the 13th Five-Year Plan period, LIS research achieved pioneering progress in both breadth and depth, with continuously enriched research outcomes covering various types of journal papers. To further examine citation counts within the current database and global attention, this study introduces two citation metrics from HistCite: LCS (Local Citation Score) and GCS (Global Citation Score). LCS indirectly reflects research status within the field, while GCS indirectly reflects the discipline' s impact on scientific research. The relevant citation statistics are shown in Table 1 .

Due to citation lag and the fact that citation peaks typically occur two years after publication, LCS and GCS values during the 13th Five-Year Plan period show a declining trend. Overall, however, LIS publications continue to grow, with research output over the past 15 years increasing markedly (see Figure 1 [Figure 1: see original paper]). Since 2006, China' s international LIS journal publications have increased annually, with papers published during the 13th Five-Year Plan period exceeding the total of the previous decade and reaching peak growth in 2019 (2020 shows fewer papers due to statistics only through April). LCS peaked in 2013, while GCS peaked in 2012, both at relatively low levels previously, reflecting lower research capabilities and limited external influence at that time. Subsequently, with the popularization of emerging information science and technology, connections and integration with other disciplines became closer. Combined with Figures 1 and 2 [Figure 2: see original paper], we can see that LIS is currently in a stage of open growth, with rapid increases in international publications and greater emphasis on academic impact, demonstrating significantly increased research investment in the discipline.

3.2 Analysis of High-Productivity and Highly Cited Authors

High-impact scholars include not only founders of disciplines and schools and pioneers of classic theories but also active frontline researchers [3]. Statistical analysis of author productivity and citation frequency can reveal core figures and trends in disciplinary research practice [4]. Analysis of author productivity and citation frequency during the 13th Five-Year Plan period shows that the

maximum number of papers published by a single author was 12, and the highest citation count was 210.

According to Price' s Law, half of all papers are written by a group of highly productive authors whose number equals approximately the square root of the total number of authors [5]. Assuming the most productive scholar published n_{max} papers and the total number of papers is P(1, n_{max}), Price' s Law can be expressed as Formula (1) [6]:

$$P(1, m_{\max}) = P(m, n_{\max}) = P(1, m) \quad \text{Formula (1)}$$

where m represents the threshold number of papers. Based on Lotka' s Law, Price derived $m \approx 0.749(n_{\max})^{1/2}$ [7], meaning authors with more than 3 papers can be defined as highly productive. In LIS foreign journals, there are 124 highly productive authors during this period. The top five authors by productivity are Wu Dan, P. Lo, D. Nicholas, Zhao Rongying, and Hu Xiao, with P. Lo and D. Nicholas showing high collaboration with Chinese scholars and relatively mature research fields. Core highly productive authors demonstrate continuous research with valuable contributions for subsequent research. Moreover, these authors are often interconnected with overlapping research areas, indicating enhanced academic exchange and research collaboration.

The top five authors by citation frequency are V. Venkatesh, W.L. Shiau, I. Hashem, T. Abaker, Y. Yao, and S. Nambisan, who are high-impact authors making important contributions to LIS development and providing academic leadership. Additionally, scholars such as Zhang Lin, Liu Xiaoping, and P.B. Lowry have also achieved fruitful results with considerable influence. Regarding highly cited papers as indicators of academic contribution and institutional reputation, the top three most-cited papers in the field are by foreign scholars, suggesting that Chinese scholars could strengthen international exchange and collaborate with top foreign research institutions (such as Leiden University) in areas like information resource management and informetrics to produce more highly cited papers (see Figure 3 [Figure 3: see original paper] and Figure 4 [Figure 4: see original paper]).

3.3 Analysis of Highly Cited Papers in Foreign Journals

Since citation peaks typically occur more than two years after publication and the most recent papers in this study were published in 2020, citation data for 2019 and 2020 lack practical significance and are not analyzed here. Table 2 lists the top five most-cited papers from 2016, 2017, and 2018. Comprehensive analysis of these highly cited papers reveals hotspots in LIS during this period, focusing on academic research, technology studies, and discussions of social relations in the big data era.

In LIS theoretical research, *Digital innovation management: Reinventing innovation management research in a digital world* [8] questions basic assumptions

about innovation boundaries, institutions, and processes in the digital context. *Emerging trends and new developments in information science: A document co-citation analysis (2009-2016)* [9] describes knowledge structures and research evolution as important components of information science.

In technology research, *The role of big data in smart city* and *Sensing spatial distribution of urban land use by integrating points-of-interest and Google Word2Vec model* [10-12] explore efficient utilization of information resources using cloud computing and other information technologies to promote smart city development and urban land use.

Additionally, many foreign journal papers address social relations in the big data era, suggesting researchers' emphasis on LIS impact on real-world social relationships. *Big data reduction framework for value creation in sustainable enterprises* [13] constructs an end-to-end data reduction business model for enterprise applications, proposing a novel concept of reducing big data through early-stage execution to achieve multiple objectives and create enterprise value. *Digital transformation by SME entrepreneurs: A capability perspective* [14] conducts qualitative research on digital transformation of cross-border e-commerce SMEs on Alibaba' s digital platform, investigating how entrepreneurs with limited capabilities and resources drive digital transformation and providing new insights into digital entrepreneurship and transformation. These research outcomes reflect the diversification of LIS scholars' perspectives, with the data and intelligence eras also triggering sociological reflections on privacy, risk, and other issues.

3.4 Hotspot Analysis

Keyword analysis data were derived from papers published from 2016-2020, excluding special issues and non-academic articles (2020 journal data remains incomplete). After extracting and counting keywords from journal papers, 7,280 keyword entries were obtained, covering 2,270 papers. During processing, synonyms and near-synonyms were standardized and merged, such as combining "Wechat," "Facebook," "Twitter," and "Microblog" into "Social media"; "Web" and "Network" into "Internet"; and "University library" and "College library" into "Academic library." Generic terms were then counted, aggregated, and sorted.

Since keywords belong to natural language and some cannot clearly reflect research themes, this study eliminated keywords with limited retrieval value such as "China," "Strategy," "Motivation," "Impact," and "Support." Specific procedures included: removing keywords without practical retrieval significance; merging singular/plural forms, abbreviations, and synonyms; selecting the most commonly used keyword as the standard when synonyms appeared; and standardizing and merging effective keywords.

Given the large number of keywords, this study comprehensively applied Price' s formula and Sun Qinglan' s high-low frequency threshold method from 1992 to determine the frequency threshold. According to Price' s formula:

$$M = 0.749 \times \sqrt{N_{\max}} \quad \text{Formula (2)}$$

where $N_{\max}$ represents the maximum citation frequency of academic papers during the 13th Five-Year Plan period. From Table 2, $N_{\max} = 195$, thus $M = 10$ (original $M = 10.459$, rounded here). According to Sun Qinglan' s threshold formula:

$$n = \frac{-1 + \sqrt{1 - 4D}}{2} \quad \text{Formula (3)}$$

where D represents the number of distinct terms [15]. After classification, screening, and merging, the final number of keywords is 1,031, yielding a high-low frequency threshold $n = 31$ (original $n = 31.613$, rounded here). Both methods are widely used in academia, but the calculated values differ significantly in this study. To avoid single-method bias, this study adopts a frequency threshold of 20.

After multiple rounds of screening and data processing, 223 keywords with frequency above 10 were obtained. To more accurately analyze trends in high-frequency keywords during the 13th Five-Year Plan period, this study also counted their frequencies during the 11th and 12th Five-Year Plan periods (2006-2015). The results categorize keywords into four types: (1) Keywords showing an overall upward trend despite fluctuations, such as "Absorptive capacity," "Citation analysis," "Classification," and "Indicator" ; (2) Declining keywords like "Algorithm," "Bibliometrics," and "Case study" ; (3) Fluctuating keywords without regular patterns, such as "Cluster analysis," "Data mining," and "Consumer trust" ; and (4) Emerging hot topics during the 13th Five-Year Plan period, such as "Altmetrics," "Big data," "Social media," and "Information technology" (see Table 3).

Based on Table 3 and Figures 5 [Figure 5: see original paper], 6 [Figure 6: see original paper], and 7 [Figure 7: see original paper], several conclusions can be drawn:

First, keywords showing upward trends have been slowly increasing since 2006-2015 (some with fluctuations, but overall trends prevail) and continued steady progress during the 13th Five-Year Plan period, indicating they are current research hotspots and will remain core topics in LIS. Examples include "Citation analysis," "Classification," "Community," and "Indicator." Citation analysis research primarily includes: citation quantity analysis, citation network relationships, and thematic relevance reflected by citations, such as measuring disciplinary influence and importance and exploring literature aging patterns, covering temporal, citation volume, national, and concentration/dispersion patterns with increasingly sophisticated techniques and expanding applications. Chinese scholars are also enthusiastic about new journal evaluation metrics beyond tra-

ditional indicators, such as g-index, h-index, and e-index, representing research hotspots of this period.

Second, declining keywords like "Accessibility," "Algorithm," "Case study," and "Customer satisfaction" represent shrinking research hotspots. However, decreased frequency does not necessarily indicate reduced interest. For example, "Algorithm" research has evolved from studying algorithms per se to model construction, recommendation system improvements, and artificial intelligence deep learning. Another declining keyword, "Bibliometrics," integrates mathematics, statistics, and documentation, emphasizing quantitative comprehensive knowledge with roots tracing back to the early 20th century [16]. Although bibliometrics has gradually occupied a core position in informetrics' logical structure [17], domestic and foreign scholars have conducted comprehensive research, forming a relatively systematic system. With the emergence of altmetrics, scholars' attention has shifted.

Third, fluctuating keywords like "Acceptance," "Consumer trust," "Data mining," and "Digital library" show no regularity during the statistical period, with research activity influenced by policies, era backgrounds, and multiple factors. For instance, "Digital library" originated in the 1990s [18] as a service system using internet technology to manage library collections and provide information [19]. In 2016, research on digital library evaluation systems and software entered a stage of theoretical controversy, resulting in higher publication volume. Subsequently, due to the complexity and technical requirements of digital library resource construction and increased intellectual property infringement cases, research on this theme has been constrained, showing fluctuating patterns.

To more intuitively demonstrate relationships among high-frequency keywords, this study clustered them by relevance, conducting co-word retrieval on keywords during the 13th Five-Year Plan period to obtain a 54$×$54 raw co-occurrence matrix (see Table 4).

In bibliometric analysis, co-occurrence frequency is influenced by individual word frequencies. To accurately reveal relationships and reduce statistical errors, this study converted the co-occurrence matrix into a dissimilarity matrix and performed cluster analysis using SPSS' s hierarchical clustering with between-groups linkage and Euclidean distance (see Table 5).

In SPSS cluster analysis, high-frequency keywords were classified by similarity measured through inter-variable distances. The dendrogram is shown in Figure 8 [Figure 8: see original paper]. Clustering results reveal:

First, research on disciplinary theory and practice. Basic theoretical research continues to deepen, exploring LIS theoretical foundations, research objects, and disciplinary structures. China' s fundamental LIS research fields and important hotspots remain stable, such as "Academic library" and "Cluster analysis." However, with continuous IT development, LIS shows new characteristics: informatization of intelligence work, innovation in information technology, digitization of information retrieval, personalization of user services, and humanization of

basic theories. This demonstrates that Chinese LIS research content keeps pace with the times, with broad radiation scope and promising prospects.

Second, research on digital resources. Digital resource research has evolved from digitization to resource integration, then to new data processing methods. User needs and service methods in the digital era have developed from simple to complex, planar to three-dimensional, and exclusive to shared directions, as seen in keywords like "Digital library," "Digital divide," and "Data mining." Current scholarly attention focuses on: privacy protection in digital libraries, integration with social media, interactive evaluation between users and digital resources, and exploring problems and potential in data, technology, services, and users through big data mining—these represent highlights and hotspots in recent digital resource construction research.

Third, research on informetrics and journal evaluation. As a growth point in LIS, informetrics and journal evaluation greatly extend the disciplinary knowledge system. Although the quantitative evaluation system has drawn criticism, the root cause lies in improper use by research institutions. Research on evaluation indicators has transitioned from single to multiple indicators. While single bibliometric indicators enrich evaluation options, none have universal applicability verification. Multi-indicator comprehensive evaluation primarily measures relationships among indicators and fitting degrees. Chinese scholars mainly adopt quantitative evaluation methods for their objectivity and operability, whether standard TOPSIS, factor ideal solutions, or utility function synthesis—the selection of comprehensive evaluation methods remains a research direction.

Fourth, research on information organization and retrieval. Information technology has become more diverse, with personalized services attracting more attention. P. Yue [20] proposed machine learning methods for predicting computational intensity, improving traditional computing through AI and machine learning; W. Zhang [21] constructed sentiment binary trees and dependency-based sentiment computing rules using Word2Vec and cosine word vectors, exploring frameworks suitable for deep learning methods through big data analysis to examine information dissemination strategy mechanisms. In personalized services, research focuses on user-defined personalized needs and information retrieval, involving technical dimensions like cloud computing and data mining, and humanities dimensions like satisfaction and behavioral intention. User classification research is key to personalized services, affecting service effectiveness.

3.5 Research Trends

Analysis of high-frequency keywords over the past five years reveals some keywords that suddenly emerged as hot topics while receiving limited attention in the previous decade (see Figure 9 [Figure 9: see original paper]). These keywords are analyzed below.

First, the rise of Altmetrics represents the convergence of Article-Level Metrics, Eurekometrics, Erevnametrics, Scientometrics 2.0, and other research streams

[22], closely related to networked scientific communication. It addresses the need to improve scientific communication efficiency and reflects changing preferences in academic exchange in the internet era. In 2010, Priem formally proposed "Altmetrics," which Chinese scholars typically translate as "alternative metrics." As an emerging research area, altmetrics emphasizes comprehensive evaluation of academic impact through metrics based on social networks and social media. Current research remains in its infancy, focusing on the connotation of altmetrics indicators and data sources. Developing a complete and systematic methodological system for altmetrics will require considerable time, making it a key research direction for the foreseeable future.

Second, big data emerged around 2012 [23]. Chinese scholars' research on big data involves knowledge management, data mining, intelligent decision-making, mobile terminals, risk identification, cloud computing, and cloud services. Examples include developing information anchoring methods, key distribution methods, information encryption algorithms, and anti-counterfeiting algorithms based on blockchain models; building intelligent communities integrating information architecture and business models through big data. Big data is a product of in-depth information society development and an important marker of the transition from information society to smart society. The technological upheaval it causes increasingly guides LIS research, and as a discipline closely related to information technology, LIS is continuously exploring its positioning and development in the big data and AI era, pursuing disciplinary hotspots to promote knowledge renewal.

Third, model construction mainly includes existing theoretical models such as "information retrieval models"and "knowledge science theoretical models,"as well as newly established models such as "model simulation" and "semantic models." Using intelligent technologies and theoretical tools to build virtual academic communities through computation and simulation provides new digital services. Based on current research status, model construction will remain a research hotspot.

Fourth, LIS information technology research mainly focuses on information processing, using IT to support industry development and exploring relationships between information needs and acquisition preferences. As society develops, people increasingly prefer using information technology, with internet technology widely applied across domains. LIS research in the internet context includes improving library services under internet thinking, cultivating public information literacy under "infodemics,"and internet-led digital libraries. Since 2016, domestic research based on internet conditions has shown annual increases. Against the backdrop of thriving "Internet Plus," Web 2.0 development and mobile internet usage have expanded rapidly. Social software types like Facebook, Twitter, and Microblog have proliferated, with various social media becoming major channels for information dissemination and communication through interpersonal communication distinct from mass communication. Academic exchange has gradually adopted social media, enriching information knowledge diffusion

and interaction methods and expanding LIS information exchange channels and development directions into various new fields. It can be predicted that internet-related research will continue to grow in the coming years.

Low-frequency keywords generally do not represent disciplinary hotspots, but some reflect changes in local research hotspots, especially newly emerged low-frequency keywords that may signal research frontiers. To further explore disciplinary frontiers and new growth points, this study analyzed keywords with total frequencies of 5-20 over five years. Selection principles were: (1) newly emerged in later years; (2) relatively large frequency increases; and (3) potentially representing emerging hotspots despite small increases. Accordingly, 64 low-frequency keywords were selected and analyzed across three dimensions: humanities, technology, and management [24].

Since high-frequency keywords (frequency > 20) were already analyzed, examining keywords appearing only once or twice would be meaningless. Therefore, we focus on low-frequency words (frequency 5-20).

Humanities Dimension (26 keywords, see Table 6): These primarily focus on user behavior, institutional mechanisms, and perceived usefulness:

- User behavior research includes "Purchase intention," "Behavioral intention," "Consumer trust," "Individual difference," and "User experience," analyzing patterns based on intention, difference, and experience indicators to identify problems and combine them with relevant theories. This approach will continue to deepen in future research.
- Institutional mechanism research reveals two aspects: traditional library services, systems, privacy issues, and deep learning research to improve social service functions; and user rights protection research, such as "Privacy concern" and "Freedom of information." Combined with high-frequency keywords like "Information resource," "user rights protection mechanisms from a humanities perspective" will become a trend in library science institutional research.
- Perceived usefulness research includes "User satisfaction," "Consumer trust," and "Initial trust," exploring how external factors affect user beliefs, attitudes, and intentions. This positively correlates with attitudinal tendencies and significantly influences personal information disclosure intentions, primarily manifested in recognition of information system value, information transparency, and system flexibility. Research on this keyword helps understand individual information behavior and may become a future hotspot.

Technology Dimension (25 keywords, see Table 7): These can be summarized as data mining and Web 2.0-based information services. Data mining searches for hidden relationships in large datasets through statistics, information retrieval, online analytical processing, and machine learning. Web 2.0-based information services like "RSS," "Visualization," "Open source software," and

"Real-time consultation" have attracted scholarly attention in the Web 2.0 era. Researchers have explored how to provide new digital services from sociological, business, and organizational/information systems perspectives, using core technologies like RSS and Tag to expand information scope, extend information services, and discover tacit knowledge. Based on current research, these two aspects will become important research themes.

Management Dimension (13 keywords, see Table 8): LIS foreign journal research in management focuses on library interaction, positioning, and technological innovation. Library science research has introduced management concepts like "Business outsourcing," "Crisis management," "Library management," and "Human resource management,"with greater emphasis on performance management ("Library evaluation,""Quality evaluation"). This trend arises because: (1) information-era development drives university libraries to provide specialized services for enterprises using information resources, cutting-edge technology, and scientific methods; and (2) challenges from the information society, market economy drivers, networking, digitization, and environmental changes compel continuous management transformation in libraries. Management remains an important focus and will continue to attract increasing attention.

Conclusion

This study analyzed 2,270 papers from high-impact foreign journals using informetric methods to examine research hotspots and frontiers in LIS over the past five years. Using relevant literature analysis software, we conducted visual analyses of LIS research status, hotspots, and frontiers. Based on statistical data, we analyzed four aspects: research status, high-impact authors, research hotspots, and frontiers, reaching the following conclusions:

First, we identified high-impact authors in recent LIS research through publication volume and citation frequency. These researchers are extremely active in LIS, promoting disciplinary development and progress while guiding future research directions.

Second, analysis of highly cited articles reveals that hotspots during the 13th Five-Year Plan period concentrated on basic theory, cutting-edge technology, and real-world social relations.

Third, through annual variation analysis of high-frequency keywords, we identified three categories: core hot topics, sustained hotspots, and fluctuating keywords.

Finally, frontier analysis shows that with continuous IT development and information environmental changes, LIS research themes are shifting from traditional information services to knowledge services, and from knowledge organization and management to knowledge organization system construction. The integration of theory and practice is becoming an important trend in LIS research.

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Author Contributions

Zhao Rongying: Topic selection, framework design, and paper guidance
Zhu Weijie: Data analysis, paper writing, and revision
Chang Ruru: Data preprocessing
Duan Xiangting: Data downloading

Note: Figure translations are in progress. See original paper for figures.