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# **A Bibliometric Study on Information Seeking Behavior Research in Library and Information Science using Biblioshiny and VOSViewer**

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## **Abstract**

The primary aim of this attempt is to provide a thorough overview of Information Seeking Behavior (ISB) research within Library and Information Science (ISB) utilizing sophisticated bibliometric analysis tools. We searched the bibliographical data from Scopus and examined with the help of Biblioshiny and VOSviewer to demonstrate the visualization. A total of 1957 documents were included in the dataset. The growth rate is calculated at 7.88%. The total quantity of references quoted across all the documents in the dataset amounts to 57870. The study exposed that the highest number of articles (n=140) were produced in the year 2012 followed by the year 2013 (n=130). The study found USA was the top (Total production=1825) publishing country leading by a significant margin, followed by the UK, India, Canada, China, Iran, Australia, Nigeria, Pakistan, and South Africa. Library Philosophy and Practice leads with the highest number of publications, indicating its significant relevance and impact in the field, followed by other journals like Health Information and libraries journal, Journal of the medical library association. The study highlighted the frequency of usage of specific information and information-seeking terms in the dataset such as human and humans and information seeking as the most commonly used terms. The study delivers a

bibliometric study of publications available in the Scopus database on ISB in the area of LIS of the period of 1966-2022.

**Keywords:** *Information Seeking, Biblioshiny, VOSViewer, Scopus, Bibliometric analysis.*

## **1. Introduction**

Information Seeking Behavior (ISB) is a key notion in Library and Information Science (LIS) that inspects how individuals search, detect, and utilize data to accomplish their information desires. It refers to the process of searching for and obtaining information (Michael et al., 2014). Information-seeking behavior is a stretch used to define how library users look for and utilize retrieved knowledge. The term was introduced by Wilson in 1981, who argued that the concept of information needs was not useful for research purposes because it could not be directly observed (G.H., 2017). However, the success or failure of finding relevant information depends on various aspects such as the quality of the information source, the search strategy used, and the individual's information literacy skills (Ali & Jan, 2020). In the literate community, libraries are the preferred source of knowledge and information for researchers, as they provide reliable and easily accessible information that aids in ongoing research, along with other sources such as the internet, teaching faculty, and supervisors (Humbhi et al., 2022).

Due to the profusion of information sources and mechanical developments, the digital era has brought about substantial changes in ISB. Research on information behaviors should cover emotions, differences between intra- and inter-organizational seeking, brief exchanges, long-term collaborations, evolving information needs, factors influencing source selection, and predictive capabilities of different information systems (Hertzum, 2017). Moreover, IT has made digitized articles easily accessible on the internet, resulting in quicker and better information retrieval, increased productivity for

researchers and authors, and the ability to provide more updated information in publications (Bhattacharjee & Sinha, 2016).

In the subsequent sections of this article, we delve into the methodological approach employed for the bibliometric analysis, present the findings related to research trends, keyword analysis, productive countries, prolific journal source, and discuss the implications of the study's outcomes. Through this exploration, we hope to enrich the collective understanding of ISB research within the LIS discipline and foster an environment conducive to informed decision-making, innovative research, and collaborative endeavors. By utilizing sophisticated bibliometric analysis tools, this study seeks to provide a thorough overview of ISB research within LIS.

## **2. Literature Review**

The literature review conducted for this article encompassed a wide range of scholarly works, archival guides, and professional standards to provide a comprehensive understanding of archive management in university libraries. Key themes and best practices emerged from the review, shedding light on various aspects of archival practices and informing the development of the model plan.

Thakuria & Chakraborty (2021) conducted a bibliometric study of different research outputs on ISB in the area of LIS during the last couple of years, available in 68 research journals, authored by 1614 authors. The study aims to identify the most prolific writers, publications, sources, affiliations, and countries and to identify future research directions in Information seeking habits. O'Brien et al., (2017) explored the level and nature of research in Information Science and Information Retrieval. It conducts a study of information searching and recovery investigation from 2000 to 2015 to deliver an indication of the publications, publication volume, procedures, models, and study consequences. A bibliometric analysis of the publications on information searching habit

in health disciplines from 2000-2007 is carried out by Abubakar & Harande (2010). It highlights the exponential growth of the literature and the combined tactic of experts in the arena. Patel & Zala (2021) analyzed and compiled the prevailing works on Information searching techniques using bibliometric homework. The study was conducted using Elsevier's Scopus database and reveals numerous results interrelated to the investigation zone. The study revealed various findings related to the research area, for example, the most productive author, the most productive organization, the number of publications, and citations received by authors. The paper contributed to the field of Information Seeking Behaviour by providing insights into the research area and identifying the major contributors to the field. Kingrey (2002) discussed the importance of information seeking in library studies and librarianship, and how theories from psychology and communication can enhance the understanding of information seeking. It also explores whether these theories are present in practical library literature. Marouf & Anwar (2010) explored the information searching behavior of teachers of a University using a review technique. The study found that the teachers heavily depend on books and journals for training and investigation purposes. Dutta (2009) conducted a review of research on the information demands and information-searching habit of urban and countryside residents in emerging nations. It drew conclusions about human information behavior and identifies important issues that show a character in their information demands and habit. Fidzani (2006) discussed the significance of information needs and information-searching behavior of students. The study aims to regulate what their information necessities are and define their consciousness of library facilities obtainable for them. The paper discusses the changes in information seeking behavior of academic scholars due to the convenience of digital materials. Another study was conducted to capture the current behavior, and the results showed amplified faith on online materials and electronic database. Baro et al., (2010) studied on information demands, journals, and seeking techniques of students. The study found that students

heavily rely on textbooks, periodicals, and the online, and complete search strategies like opening, binding, browsing, observing, and retrieving. The findings suggested the need for integrating information literacy courses into the school curriculum and educating students about the information environment. Al-Suqri (2011) suggested an integrated model of social science information-seeking behavior based on known models and examined its applicability in describing the current information-seeking behavior of social science researchers in an institution. The study discovered that the study sample's information-seeking behaviors could be easily matched to the model's stages, suggesting that information-seeking behavior follows stages that are universally applicable and that the model can be used to describe modern information-seeking despite changes in the information environment.. Li et al., (2015) aimed to map publication movements and identify hot areas of research on Internet health information-searching habits through a bibliometric analysis and biclustering analysis. The study found ten major research hot areas that could shares clues for investigators when induction of new schemes. Tan & Hao (2022) conducted a comprehensive study of the growths and tendencies in research on information announcement, looking for, and distribution in disasters. The study used bibliometric analysis to map the growth trends of publications, disciplines, sources, affiliations, and provincial collaboration in the field. Kloda (2016) carried out a study to recognize study and publication inclinations connected to health-seeking evidence through online with the help of bibliometric analysis and biclustering analysis. The study found that the quantity of papers available on health information-seeking behavior has consistently amplified from the year of 1985, with the Journal of Medical Internet Research publishing the greatest publications on this theme. Su & Sun (2020) presented an international literature review on library users' information retrieval behavior, using bibliometric analysis and social network analysis approaches. The researchers identified the main branches and focus of the area, including apparatuses and model study of users' info recovery behavior, users'

information needs, information literacy, and data rescue system and optimization. The paper provided a clear indication and location of the research area, based on a bibliometric perspective. The digital library also provides opportunities for students to access previously unavailable information sources, such as unpublished information and virtual data via newsgroups and listservs. Students often pursue assistance from library staff at the beginning and during their searches, which presents facilities for teaching about the system and information pursuing strategies (Seiden et al., 2016). However, Research should focus on alternative practices to traditional one-shot library instruction sessions, such as for-credit library classes or multiple library instruction sessions, to effectively change students' information seeking behavior (Martin, 2008).

### **3. Objectives and Research Question**

The prime objective of the article is to operate a thorough bibliometric study on information-seeking behavior in university libraries. Through this analysis, the article aims to provide a comprehensive overview of the state of research in this field, including publication patterns, influential countries, prominent journals, and most used keywords. By exploring these bibliometric insights, the article seeks to enhance our understanding of the scholarly output and impact of research related to archives and record management within the academic setting. To achieve this goal, the following questions were put forth:

**RQ1.** How was the scientific growth of information-seeking behavior-related publications?

**RQ2.** Who are the top countries, journals, and Most Frequent Words and key-words co-occurrence?

The bibliometric study on information seeking in library begins with data collection from the Scopus database. Scopus is a comprehensive and widely used bibliographic

database that covers a vast range of academic journals, conference proceedings, and other scholarly publications. The search query has been carefully constructed to retrieve relevant articles published within a specific time period (1966-2022), focusing on the subject of information AND seeking AND library, excluding publication year of 2023 and being limited to English language. The total 1,957 document results.

#### **4. Significance of the study**

The study's results will offer valuable intuitions into the information needs, seeking behavior, and satisfaction level of faculty members and graduate students at the University of Chittagong Library. These insights can inform evidence-based improvements in library services, resources, and facilities, enhancing the overall user experience and better meeting the diverse information requirements of the academic community.

#### **5. Result and Discussion**

Table-1 provides the main information about the data collected between 1966 and 2022. The data provides insights into the growth of published documents over time, the average age and citations of documents, the prevalence of keywords, the number of authors and their collaboration patterns, and the distribution of document types. It also highlights the international collaboration among authors and the diversity of document types present in the dataset. These statistics provide valuable insights into the dataset's composition, the collaboration patterns among authors, the types of documents, and the content of the documents in terms of keywords and references. 322 journals, books, and other publications were used as sources for the data. A total of 1957 documents were included in the dataset. The growth rate is calculated at 7.88%, while each document has been cited, yielding an average of 12.81 citations per document. The total number of references cited across all the documents in the dataset, amounting to



57870, the number of unique additional keywords (beyond author-assigned keywords) associated with the documents, totaling 2514, and the author's keywords totaling 3397. It indicates the total count of individual authors who have contributed to the documents in the dataset, amounting to 3419, and the number of authors who have authored documents without any collaboration, totaling 691. Authors' collaboration indicates the number of documents that have been authored by a single author, totaling 794, the average number of co-authors for each document, which is 2.17 and the extent of international collaboration among authors, calculated at 6.745%. Document Types indicates the number of articles in the dataset, totaling 1597, books totaling 19, book chapter amounting to 72, conference paper totaling 109, conference review totaling 3, editorial totaling 3, notes totaling 14, retracted 1, review articles totaling 139.

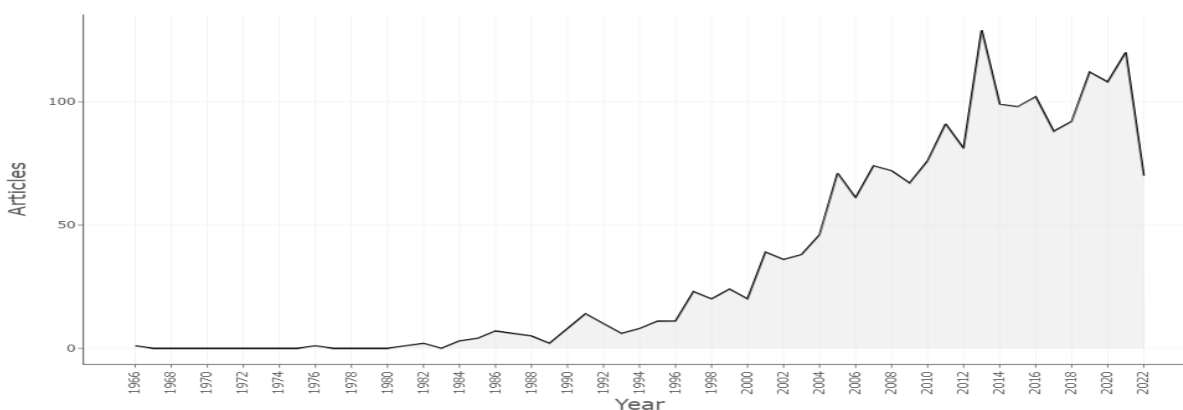
**Table 1.** Main information about data during the period of 1966 to 2022

<b>Description</b>	<b>Results</b>
<b>Sources</b> (Journals, Books, etc)	322
Documents	1957
Annual Growth Rate %	7.88
Document Average Age	11.7
Average citations per doc	12.81
References	57870
<b>DOCUMENT CONTENTS</b>	
Keywords Plus (ID)	2514
Author's Keywords (DE)	3397
<b>AUTHORS</b>	
Authors	3419
Authors of single-authored docs	691
<b>AUTHORS COLLABORATION</b>	
Single-authored docs	794
Co-Authors per Doc	2.17
International co-authorships %	6.745
<b>DOCUMENT TYPES</b>	
Article	1597
Book	19
book chapter	72
conference paper	109

conference review	3
Editorial	3
Note	14
retracted	1
review	139

### 5.1 Annual scientific growth

As seen in Figure-1, the highest number of articles (n=140) were produced in the year of 2012 followed by the year 2013 (n=130), the year 2021 (n=121), the year 2019 (n=112), the year 2020 (n=109), the year 2016 (n=105), the year 2016 (n=105 the year 2018 (n=92), the year 2022 (n=70), the year 2017 (n=89,) and the year 2015 (n=101) and 2014 (n=99). The moderate number of articles were produced in the period of 1991 to 2006. The least number of articles were produced in the year of 1966 and 1990.



**Figure 1.** Annual growth of the publication

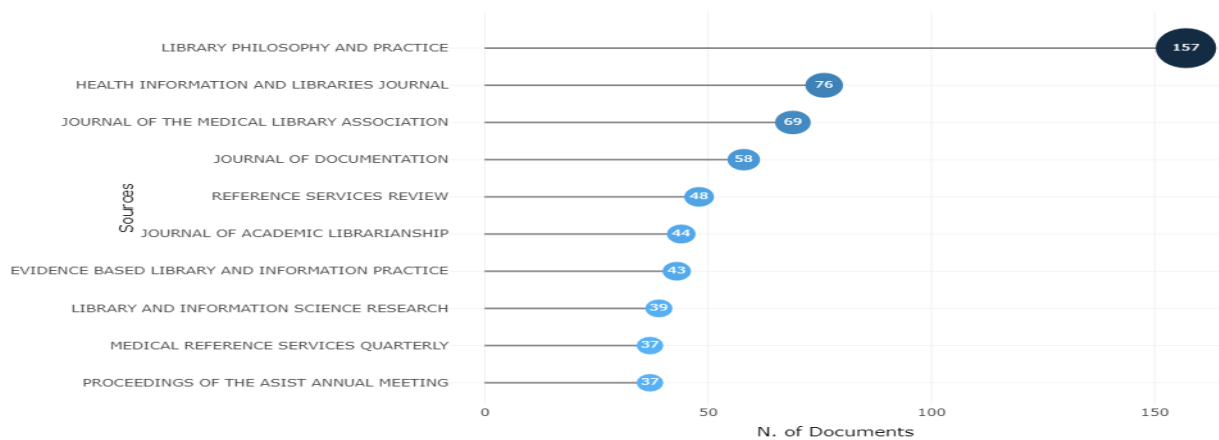
### 5.2 Most Prolific Countries

The figure 1 indicates the countries that have been cited the most in the documents included in the dataset, with the USA (Total production=1825) leading by a significant margin, followed by UK (Total production =401), India (247), Canada (184), China (140), Iran (113), Australia (111), Nigeria (110), Pakistan (108) and South Africa (Total production =59). The produced publications provide insights into the global prolific production and recognition of research from these countries.

<b>Table 2.</b> Most cited and productive countries on information seeking behavior	
<b>Prolific countries</b>	<b>Frequency</b>
USA	1825
UK	401
INDIA	247
CANADA	184
CHINA	140
IRAN	113
AUSTRALIA	111
NIGERIA	110
PAKISTAN	108
SOUTH AFRICA	59

**5.3 Most Relevant Journal (Sources)**

The figure 2 demonstrates the most relevant journals as sources of publications, constructed on the quantity of times they were quoted in the dataset. The figure showcases the most influential and frequently referenced journals as sources for publications in the dataset. Library philosophy and practice (Total publication=157) leads with the highest number of publications, indicating its significant relevance and impact in the field, followed by other journals, Health information and libraries journal (Total publication=76), Journal of the medical library association (Total publication=69), Journal of documentation (Total publication=58), Reference services review (Total publication=48), Journal of academic librarianship (Total publication=44), Evidence based library and information practice (Total publication=43), Library and information science research (Total publication=39), Medical reference services quarterly (Total publication=37), and Proceedings of the ASIS&T annual meeting (Total publication=37). Researchers often turn to these journals as credible sources for their work, contributing to their prominence in the dataset.



**Figure 2.** Most relevant journal source on archives management

#### **5.4 Most Frequent Words and key-words co-occurrence**

Table 3 and Figure 3 presented the most relevant information seeking words used in related publications, along with the number of times each word appears in the dataset. The table highlights the frequency of usage of specific information and information seeking terms in the dataset such as human (234 occurrences) and humans (191 occurrences) and information seeking (180 occurrences) are the most commonly used terms, followed by library (151 occurrences), article (149 occurrences), information retrieval (140 occurrences), internet (109 occurrences), female (107 occurrences), adult (96 occurrences) and male (96 occurrences). These terms reflect the focus and relevance of the dataset on topics related to archival practices, management, and digital storage. Researchers in this field commonly use these terms, indicating their significance in the literature related to archives and information science.

**Table 3.** Most frequent words used in the publications

human	234
humans	191
information seeking	180
library	151
article	149
information retrieval	140



- Exploring the emerging trends and new research directions in the field.
- Conducting a comparative analysis of literature available and accessible on ISB using different databases.

These are some possible future research directions that could be explored based on the outputs of this investigation.

## **6. Limitations of the study**

The study may be limited by potential biases inherent in self-reported data. The findings may also be influenced by the specific context of the University of Chittagong Library and may not be fully generalizable to other libraries.

## **7. Conclusion**

The study provides a comprehensive overview of the research trends and research current area in the field of Information-seeking behavior in library and information management. The study could also help policymakers to develop policies and regulations connected to the provision of information-seeking behavior in libraries and information institutions of academic organizations. The outcomes of this bibliometric investigation are poised to contribute significantly to the LIS community and beyond.

**Conflict of interest:** The authors have no conflict of interest.

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