

# Measuring Knowledge in the Digital Age

# Webometrics, Informetrics, and Scientometrics

## ABSTRACTS



17th International Conference on  
*Webometrics, Informetrics, and Scientometrics (WIS)*  
08-10 December 2023, Dhaka, Bangladesh

**EDITOR**  
**Dr. Dilara Begum**



Dr. S. R. Lasker Library  
*Gateway to Knowledge*



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# **ABSTRACTS**

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Dr. S. R. Lasker Library  
East West University



# **Measuring Knowledge in the Digital Age**

## ***Webometrics, Informetrics, and Scientometrics***



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## PREFACE

I am delighted to present the Book of Abstracts of the 17<sup>th</sup> International Conference on Webometrics, Informetrics, and Scientometrics (WIS), held on 8-10 December 2023 at East West University in Dhaka, Bangladesh. I am also glad to host the WIS conference and 22<sup>nd</sup> COLLNET Meeting at East West University organized by COLLNET in association with the Society for Library Professionals (SLP) and the Asian Community of the Special Libraries Association (SLA), who have been instrumental in supporting us in the organization and execution of this event.

This year's conference marks another significant milestone in the journey of COLLNET, a global interdisciplinary research network dedicated to "Collaboration in Science and Technology." The conference revolves around the pivotal theme of collaboration and communication in science and technology, a theme that resonates deeply with COLLNET's mission of fostering interdisciplinary collaboration. The conference serves as a platform for contributing evidence-based knowledge about scientific research and practices. Such insights are invaluable for informing and shaping institutional, regional, national, and international research and innovation policies.

Founded on January 1, 2000, under the visionary leadership of Hildrun Kretschmer, Liming Liang, and Ramesh Kundra, COLLNET continues to highlight the importance of collaborative processes in scientific and technological advancements. At COLLNET 2023, I am proud to present a diverse array of research topics and contributions from a global community of librarians, information professionals, researchers, and practitioners. The range of subjects covered in this year's conference reflects the multifaceted nature of our field, covering areas such as Scientific Mapping, Bibliometric Analysis, Scientometrics, Webometrics, Altmetrics, Snowball Metrics, Global Research Trends, Collaborations, Information and Knowledge Management and so on. I am also delighted to inform that the responses to the call-for-papers had been overwhelming both from Bangladesh and from overseas. Unfortunately, many manuscripts could not be accepted due to the rigorous peer-review process and capacity constraints. Eighty abstracts have been accepted for oral presentation. All abstracts were selected through a double-blind peer-review process.

I am particularly proud of the significant international representation at this conference, drawing participants from across Asia, Europe, and North America. This global perspective enriches our discussions and collaborations, allowing us to address complex challenges with a holistic approach. I extend my deepest gratitude to all contributors for their insightful and thought-provoking papers. It has been an honor to receive papers from our esteemed keynote speakers which added a new dimension to this publication. A special acknowledgment goes to the reviewers for their constructive feedback, ensuring the high quality of the presentations.

My sincere gratitude to the East West University authority for giving their permission and all necessary support to host this conference. Especially, I am grateful to Professor Dr. Mohammed Farashuddin, Honorable Chief Adviser and Founder Vice Chancellor, Founder President, Board of Directors, East West University for his continuous guidance and support.

I would like to extend my warm regards to the sponsors for their generous contributions to the conference. I would also take the opportunity to thank all the members of the organizing committee of the conference for their relentless efforts in making this event a grand success. The names of Mohammed Motiur Rahman and M. Abdul Gani deserve special mention because of their efforts in coordinating the activities of the conference.

As we engage in discussions, share knowledge, and build networks, we look forward with anticipation to the continued growth and evolution of COLLNET. I am certain that this publication will offer readers a comprehensive overview of the most recent discoveries in the thematized research areas, and it will serve as a useful reference for ongoing research as well as inspiration for future collaborations.

Editor

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# KEYNOTES





## **The scientometrics of interdisciplinarity – from concepts to measurement**

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### **ABSTRACT**

Interdisciplinarity has become a main characteristic of contemporary scientific research and poses severe challenges to scientometrics. Interdisciplinary research (IDR) is strongly connected with specific patterns of scientific communication in terms of requirements, mechanisms, effects, and impact, which results in various manifestations. Scientometrics has developed methods and tools for the quantitative analysis of scholarly and non-academic communication in the past, yet the complexity of IDR requires well-structures strategies and approaches to meet the challenges in the context of interdisciplinarity. This presentation attempts to outline the complexity of interdisciplinary research (IDR) in the mirror of possible scientometric strategies and approaches. This paper is intended to sketch approaches and methods particularly developed for conceiving and measuring it. It is shown that the scientometrics of IDR needs to follow four important steps, starting from conceptualisation, followed by the definition and choice of appropriate subject classification and granularity, before the observed patterns can be quantified and finally a meaningful measurement can be conducted. The presentation stresses the possibility of different solutions, which, however, can be based on the same or at least similar methodology. The steps within the outlined framework are illustrated by relevant examples. The paper is based on recent literature and, most notably, on results from research conducted by the Leuven bibliometrics group.

**Keywords:** Interdisciplinarity, Interdisciplinary research (IDR), scientometrics, scientific communication.

## **A review of current approaches to scholarly impact metrics**

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### **ABSTRACT**

Scholarly impact metrics, also known as research metrics, are useful tools for assessing the impact of scholarly publications and determining a scholar's reputation in the scientific community. The study aims to examine the major scholarly metrics and indicators that are currently used. Based on the systematic review of scientific literature, the study identifies traditional citation-centred bibliometrics as well as emerging alternative metrics like altmetrics and open science. Metrics measuring scholarly impact can be applied at the journal, article, and author levels. In contrast to the article-level metrics, which include citation counts, field-weighted citation impact, field citation ratio, and relative citation ratio, the journal-level metrics include Journal Impact Factor (JIF), CiteScore, SCImago Journal Rank (SJR), Journal Citation Indicator (JCI), Eigenfactor Score, etc. Author impact is measured using the h-index, m-index, g-index, and i10-index metrics. Even though these metrics have some shortcomings, they are still useful for shaping scholarly communication and determining the value of scholarly work. In order to promote a more robust and equitable research ecosystem at different levels, the study makes recommendations for improved metrics utilization.

**Keywords:** Scholarly impact metrics, research metrics, bibliometrics, citation analysis, altmetrics, scholarly communication.

**Analysis of the dynamics and influence of the research work  
of Dr Hildrun Kretschmer, the founder of COLLNET  
network, using an hybrid approach combining community  
role detection with topic tracking**

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**ABSTRACT**

Authors' influence is mostly based on the capacity of authors to form specific self-centred and/or active research communities or topics as well as to initiate fruitful satellite research issued from the said communities or topics. Precisely estimating author influence and its indirect effect in motivating external research creativity must be thus based on very precise community role as well as topic-role analysis on citing material. In this presentation we will show how to exploit, compare, and combine two different kinds of knowledge mapping approaches for tracking authors' influence during time, that are, a recent topic-based mapping approach and a recent hybrid community-based mapping approach published in Scientometrics journal. The experimental context of our study is the analysis of the dynamics and of the influence of the research work of the creator of the COLLNET network, that is Dr Hildrun Kretschmer. The proposed analysis is based on the papers citing Dr Hildrun Kretschmer research. We show that this methodology is prone to highlight all the extent of her outstanding influence in the scientometrics area.

**Keywords:** Knowledge mapping, topic-based mapping approach, hybrid community-based mapping approach, scientometrics journal, COLLNET network, Dr Hildrun Kretschmer research



# **INVITED PAPERS**



## Research Analytics and Visualization

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### ABSTRACT

Research analytics and visualization is one of the most important areas in today's context as far as the research ecosystem is concerned. On this topic I'll be covering some of the most advanced tools that are being used for the research design; article design; framing research questions; for research model justifications etc. In my session, I will emphasize on certain frameworks or research canvas that are available in open access domain, which can be extensively used for writing a good quality research paper or writing a proper research proposal. I will also be showcasing in my presentation several software platforms which can be categorized into two parts, i.e., either it could be AI driven or it could be non-AI driven. These platforms are either free of cost or priced. I will be showcasing some of these platforms to all the participants they will get an exposure that how this platform can help them visualizing their research output. These platforms are AI driven and create different types of collaborative network analysis and these are extensively used for different kinds of research purposes. Let us take one of the examples of these platforms are like for example Connected Papers. If you write a paper on a particular area and with the help of the connected papers visualization platform you can showcase that who are the other researchers working globally on the same area. It helps you to connect with other researchers who are working in the same domain. During my presentations, I will be also showcasing which are the platforms available free of cost and which are free models, which can easily be used for initializing the research purpose. It is also suggested that when the researcher is very well versed with the given platform then only, he/she can go for a priced version of it. Some of these platforms are both free and fee based also.

**Keywords:** Research ecosystem, research analytics, research visualization, AI driven research tools.



## **Big data in library management: - local experience - global impact**

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### **ABSTRACT**

Big Data refers to extensive and complex data sets that cannot be easily managed, processed, or analyzed with traditional data processing tools. Big Data, the vast and complex data sets that are too large and intricate for conventional data processing tools, hold immense significance in today's data-driven world. Its impact permeates various industries and aspects of our lives, revolutionizing decision-making, personalizing experiences, fueling scientific breakthroughs, enabling innovative business models, and driving positive social change. Big Data empowers initiatives to tackle pressing social challenges on a broader societal scale. Accordingly, educational institutions harness Big Data to improve student outcomes, identify at-risk students, personalize learning experiences, etc. Big Data plays an increasingly significant role in library management worldwide, transforming how libraries operate and serve their patrons. Libraries collect and analyze vast amounts of data, including patron records, circulation data, resource usage data, and social media interactions based on such collected data. Libraries are harnessing the power of Big Data to transform their services and operations. By analyzing data, libraries can provide personalized recommendations, enhance collection management, optimize operations, foster collaboration, and knowledge sharing. This data-driven approach leads to more efficient, effective, and user-friendly libraries for all. We aim to determine the opportunities and difficulties posed by the extensive data management procedures now in use in the libraries of different universities of Bangladesh, especially the Central Library of the Bangladesh University of Engineering and Technology. Using the notions of Big Data to analyze patron usage for identifying popular resources and predicting future demand is essential. This information is used to make informed decisions about collection development and acquisition. The Central

Library, BUET plans to utilize Big Data analytics to manage and analyze vast collections of digital resources. This includes optimizing the organization of digital catalogues, tracking resource usage, and recommending relevant materials based on user preferences and historical data. Using Big Data in the Central Library, BUET is expected to provide personalized recommendations for books, articles, and other electronic resources. Thus, patrons can create profiles that indicate their interests and preferences, and the library's recommendation system will suggest resources that match their needs. The Central Library, BUET plans to use Big Data analytics to understand how library spaces and resources are utilized. The Central Library, BUET use advanced data management techniques to ensure the long-term accessibility and integrity of digital resources. The library can also use data analytics to improve reference services and other user-support functions.

We envision that the outcomes of such usages of Big Data can be used to inform and improve extensive data management practices in university libraries of different countries of the world by making better decisions about how to collect, store, and analyze Big Data. The outcomes can help university libraries of developing countries to come up with new and innovative ways to use Big Data to personalize the user experiences. The usage of Big Data can lead to increased satisfaction and engagement among library users, cost savings, and improved resource allocation. Usage can also promote collaboration among university libraries of different developing countries. Accordingly, users from different parts of the world can access digital resources, scholarly articles, and multimedia contents, transcending geographical boundaries. Additionally, by aggregating and analyzing citation data, libraries can identify influential research, support international collaborations, and contribute to the worldwide advancement of knowledge. Big Data also supports open-access initiatives by providing insights into the usage patterns of open-access resources. Further, libraries can use analytics to assess the impacts of open-access publications and adjust their collections to align with global trends in open research. In a nutshell, the global impacts of Big Data in library management extend beyond individual institutions, fostering collaboration, inclusivity, and the dissemination of knowledge on an international level contributing to the evolution of libraries as dynamic and responsive hubs in the digital age.

**Keywords:** Big data, analytics, library management, transformation.

## **Role of NEP 2020 in creating career and job opportunities in Indian LIS field**

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### **ABSTRACT**

This article provides an in-depth exploration of the historical trajectory and contemporary status of Library and Information Science (LIS) education in Indian universities and offers a focused examination of the intersection between Library and Information Science (LIS) education and the National Education Policy (NEP) of 2020 in the Indian context. Tracing its roots back to the establishment of the first library science program in 1911, the study navigates through the evolutionary milestones that have shaped LIS education in India. The gradual transition from traditional library management to embracing modern information sciences is examined, highlighting key developments such as the introduction of information technology and the paradigm shift towards digital libraries.

This study also investigates into the present status of LIS education in Indian universities, emphasizing the dynamic nature of the curriculum. It scrutinizes the integration of cutting-edge technologies, digital preservation, and the cultivation of information literacy skills within the LIS programs.

This study also explores how Library and Information Science (LIS) students are equipped with a versatile skill set that opens doors to a great career opportunities. Traditionally associated with roles in libraries and archives, the field has undergone a significant transformation in response to the digital revolution and the information age. Beyond the shelves of physical collections, LIS professionals now play integral roles in managing and leveraging information in various sectors.

This study also outlined the foundational principles of the NEP 2020, emphasizing its holistic approach to education, emphasis on flexibility, and the integration of technology. It explores how these principles resonate with the goals of LIS education, particularly in the context of cultivating information literacy, adapting to technological advancements, and fostering a multidisciplinary approach. It analyses specific recommendations within the NEP 2020, such as the promotion of research and innovation, the encouragement of interdisciplinary studies, and the emphasis on lifelong learning. It assesses how these recommendations align with the core objectives of LIS education, including the development of critical thinking skills, research-oriented practices, and adaptability to evolving information.

**Keywords:** Interdisciplinary studies, lifelong learning, NEP 2020.

# **CONTRIBUTED PAPERS**



## **Scholarly communications on COVID-19: An Indian research performance study**

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### **ABSTRACT**

Society must know its past; it has to understand its present, and it has to comprehend the moves of the future. In the exponentially evolving medical sciences, research plays a substantial part and becomes pertinent to analyze the research performance of various subjects.

This study deals with the Indian research performance on novel coronavirus (COVID–19) outbreaks with data retrieved on 03. 04. 2023 from the Scopus database during these recent years (2020, 2021 and 2022).

Further, a scientometrics analysis of research output, authorship pattern, citation received, most preferred sources, and funding of various publications can be made to set

a holistic reflection of the state of research in COVID-19 in India. It is such a disease caused by a new coronavirus. This study highlights the degree of collaboration, Bradford's law of scattering, Leimkuhler model and the most preferred sources.

This digital environment helps researchers to exchange their thoughts and ideas with other researchers throughout the globe. The health science researchers connect themselves with their education, technological learning and the rhythm and sparking of their perfect foot step. Self-confidence and dedication to the profession are social needs that make things happen against all adversities.

**Keywords:** COVID-19, scholarly communication, Leimkuhler model, open access journals.

## **Virtual reality (VR) and augmented reality (AR) technology in libraries**

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### **ABSTRACT**

Libraries are constantly evolving and adopting new tools and techniques to meet the changing needs of their communities and provide better access to information and resources. Adopting new tools and techniques, Libraries are providing better services to their communities and staying relevant in an increasingly digital world. Today, Virtual reality (VR) and augmented reality (AR) technology are being adopted by Libraries. They are important because they offer new and innovative ways to engage with information and experiences. This paper is an attempt to provide information on VR and AR technology and the reasons why VR and AR technology are important in libraries.

**Keywords:** Virtual reality, augmented reality, libraries, access to information and resources.



## **Analysis of the Iranian research network in the field of Neurological diseases**

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### **ABSTRACT**

Awareness of the all-authorized network of researchers in the field of neurological diseases in Iran based on the indicators of network analysis and illustration of the scientific communication network can provide solutions for planning in research and technology of medical sciences.

The purpose of the present study was to analyze the scientific communication network of Iranian researchers in the field of neurological diseases on the Web of Science website.

The present applied research has utilized science-based methods as well as co-authoring and social network analysis techniques. All Iranian researchers in the field of neuroscience who have published articles on the Web of Science website from 2000 to 2019 were selected to participate in the current study. A total of 3223 articles related to the field of neurological diseases were identified and finally analyzed. To examine the status of co-authoring in the field of neurodegenerative diseases, the software Bibexcel, Ucinet and its complementary Netdraw package were used.

The results showed that researchers with more documentation had more tendency to cooperate. Considering the social networking authorship, the H index and the most cited researchers, it can be stated that Mohammad Ali Sahraian is the most influential researcher in the field of neurological diseases. Scholars who have published more papers are better in terms of the number of citations received, and researchers with higher degree of centrality, closeness, and interstitial index ranked higher in terms of

productivity (number of articles) and efficiency (number of citations). It should be noted that scientific collaboration in the medical and other fields has a great impact on promoting the community and the individual at national and international levels. Scientific or co-authoring or co-authoring encourages people to write more articles. People at the top make other researchers and writers more inclined to co-author them. Authors have a greater desire to collaborate with foreign writers, which makes them international.

In general, the results show that the scientific collaboration of researchers contributes to the promotion of science in society and the promotion of individuals in scientific circles.

**Keywords:** Co-authorship, scientific collaboration, Iranian Neurological diseases, Web of science, central measures.

## **14 years of producing scientific resources at the Journal of Information Literacy (JIL): A scientometrics study between 2007-2021**

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### **ABSTRACT**

Publishing scientific articles is the key role and aim of scientific resources. Scientific journals are the main sources of information. This research tries to survey producing scientific resources in the Journal of Information Literacy (JIL) for the period of 2007 to 2021 by using the Scientometric methods. All types of documents published at JIL from the beginning of the issue until 2021 have been downloaded and analyzed. Excel software spreadsheet was used for data analysis, and the author's collaboration coefficient was computed. A total of 382 documents by 593 people were published on JIL during the time of this research. Women with 426 (72%) compared with the men with 167 (28%), had more roles as producers of scientific resources at JIL. From the viewpoint of the document type, 88 book reviews, 74 Research articles, 25 Peer-reviewed articles, 51 Conference updates, 59 Project reports, and only one Brief communication as the scientific resources have been published at JIL during the research time. The average number of authors per article was 1.7. Amongst the universities, according to affiliation, the first rank belongs to Cardiff University and the London School of Economics (with 13 documents). The University College London, with nine articles, and then the London Metropolitan University, with eight articles, respectively, were in the next places in publishing articles in JIL. From the total of 382 documents published at JIL, only 266 resources have a single author and 22 articles have four authors and more. The average collaboration coefficient amongst authors of JIL is 0.2, which seems it is important to be considered by the editorial team. Finally, the co-word map of published articles at JIL was drawn.

**Keywords:** The journal of information literacy (JIL), collaboration rate, authors collaboration coefficient, scientometric, the co-word map of articles.

## **Bibliometric analysis of gender-specific aspects of publication behavior at Technical University Ilmenau**

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### **ABSTRACT**

Various studies show that there are gender-specific differences in the productivity of scientists. In this paper, bibliometric data from the TU Ilmenau between 2012 and 2021 are examined for gender-specific differences. The results show that women are underrepresented in all areas at the TU Ilmenau and that their gender has a negative influence on the publication frequency but not on the citation rate. These differences can be mitigated by other factors, such as the research area (faculty) or the title of the employee.

**Keywords:** Gender analysis, productivity analysis, citation analysis, collaboration analysis.

## **The pattern of Russian research on sociology and its interconnections with other research areas: A bibliometric analysis of the post-soviet period**

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### **ABSTRACT**

Sociology was forbidden in the USSR until 1966, when a group of prominent historians and philosophers formed the 'Society of Sociologists.' Our goal is to explore Russian publication patterns in sociology during the post-Soviet period, focusing on the interrelationship between references and citing publications. We collected metadata from 6,450 Russian records (including 111,444 references) in the SC 'Sociology' of the Social Sciences Citation Index (SSCI) and uploaded it to a dedicated MS SQL database. The analysis revealed contrasting trends in the share of publications on sociology within the broader field of Social Sciences (SS) between global science and Russia. Globally, the share of sociology publications in SS gradually declined from 4.3% in 1993 to 2.3% in 2020. In contrast, in Russia, there was a significant increase in the share of sociology

publications from 4.4% in 1993 to 16.4% in 2020. Our analysis indicates that there is a degree of similarity in the distribution of subject categories by references and citing publications. Moreover, it allowed us to identify existing knowledge transfer in the research field beyond the boundaries of sociology. This finding is supported by a Kendall rank correlation coefficient of 0.7. We evaluated the impact of funding agencies and Open Access (OA) on the publication patterns of sociologists. By examining these factors, we gained insights into how funding initiatives and the availability of OA influenced the research and publishing practices of sociologists in Russia.

Our data could provide a better empirical basis for science policy and will benefit the academic society.

**Keywords:** Publications, Russia, sociology, social sciences, references, citing publications, global science, Web of science.

## **Research contribution of India in mitigating effects of COVID-19 pandemic: A bibliographical analysis of publications from Indian authors**

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### **ABSTRACT**

China reported the first few cases of COVID-19 infection in late 2019, followed by international realization that this virus had the potential of severe devastation to mankind. By early March 2020, after WHO declared it as a pandemic, the world was panicking. The panic was more corroborated by the fact that medical science had very little knowledge of the virus and its behavior and effect on human beings. Very little knowledge was there on how it would communicate and, if infected, how the infected person would be treated. There was no medicine to cure the patients except the symptomatic drugs that were administered to a large number of patients, but they were not proving to be adequate. The virus started communicating at a mass level, and in the absence of any scientific knowledge, no healthcare administrator could advise the masses on how to save them from infection. As the number of infected started growing exponentially and hospitals started getting unmanageably flooded, most of the governments had no option but to resort to lockdown so that people would not mingle, and the number of infections was reduced. This was an unscientific and economically devastating way of facing the pandemic, but the world had no option as there was no scientific solution to face the challenge. In this situation, the only hope was the quick response of the scientific community to provide an immediate solution of having suitable drugs to treat the affected, rapidly do research to find a vaccine to evade infection and find technological and scientific products to prevent infection at

community level Fortunately for the humanity, scientific community all over world rose to the occasion in spite of the fact that many laboratories had to be closed due to number of researchers infected and a large number of researchers all over the world succumbed to the infection. However, this disease opened the floodgate of an unprecedented collaboration among the scientific community. Research in various aspects to mitigate or minimize the effect was carried out at lightning speed. The papers were published quickly so as to have widespread and rapid communication for the quick advancement of knowledge. Everyone, including researchers, publishers and their editorial teams, worked in a coherent manner, which yielded very quick and positive results. As a result of collaborative research, almost within a year, new vaccines were rolled out, new and effective drugs were introduced, and there was a halt to infection. Probably for the first time, science came up so quickly to see that the world was back to normal and all economic and social activities that had been stalled for some period came back to almost normal. The number of publications on COVID-19 is much larger because all spheres of life suffered, and every subject area expert published papers on that. If we just take papers published in science, a look at databases demonstrates that more than two hundred thousand papers have been indexed. Indian researchers did not lag behind and have published many papers, too. The word COVID counted only in the titles of research papers published in journals indexed by Clarivate Web of science is more than eleven thousand.

Bibliographic data of all the papers published till March 2023 by authors working in research laboratories and hospitals of India have been downloaded from Web of science.

The bibliographic and citation data of these publications have been analyzed using Bibexcel to have a statistical interpretation. A complete analysis of the data has been made and presented in graphical form. The result clearly demonstrated that a significant number of contributions from researchers working in Indian research laboratories and clinical establishments have been made to mitigate the negative impact of the pandemic. The results notably justify the notion that India's response to COVID has been second to none, whether in terms of Indian vaccines, repurposing of drugs, or in many other areas. The publications of Indian scientists corroborate the popular sentiment of appreciation of people and government about the contribution of scientists.

**Keywords:** Bibliographical analysis, Indian authors, COVID-19 pandemic, Research contribution of India.



## **Mapping the landscape of indigenous knowledge research in SAARC countries during 2013-2022: A review based on scientometric tools**

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### **ABSTRACT**

This study aims to explore the evolution of the research landscape on indigenous knowledge in SAARC countries over the last ten years (2013-22), as the SAARC countries have a rich cultural heritage and diverse indigenous knowledge systems.

This study employed standard Scientometric tools to evaluate the research publications. The study collected bibliographic data from 1,299 articles published between 2013 and 2022 from the Scopus database. Data were analyzed using MS Excel, Tableau, VOSviewer and Biblioshiny software.

Research on indigenous knowledge in SAARC countries has been growing gradually over the years, with India (n=948) and Pakistan (n=217) being the most active countries in terms of publications. Bussmann, R.W. (Ilia State University, Tbilisi, Georgia) is identified as the most productive researcher (n=40). The study also identified key research themes, including traditional medicine, agriculture, biodiversity conservation, sustainability, livelihood, etc. The research on "ethnobotany" was the most influential in the last decade.

This study provides a valuable overview of the current state of research on indigenous knowledge in SAARC countries, which can be used to inform future research efforts, policy development, and community-based initiatives that promote the preservation and utilization of indigenous knowledge for the benefit of society.

**Keywords:** Indigenous knowledge, traditional knowledge, scientometric, SAARC countries, research landscape.

## **Gender disparity in scholarly communication on scientometrics research in India during 2013-2022: An evaluation**

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### **ABSTRACT**

The disparity between men and women can be seen in India in every sphere of work since the ancient period. The study of the differences or disparity of gender in scholarly research is a new interest to researchers across the globe. The present study aims to identify the status of women's participation in scientific scenarios by considering the research productivity on Scientometrics in India during 2013-2022 through the lens of the Scopus database. The study identifies the research growth on scientometrics gender of first author sequence of the research publications to identify the most influential author, journal, affiliation, and highly cited papers. The results revealed that in India, women's visibility, and contribution to Scientometrics research are very low; the rate of first author sequence in the publications is found to be 15% for female authors and 85% for male authors. Satish Kumar was found to be the most prolific author. The journal Library Philosophy has produced the most research publications on bibliometrics and Scientometrics, and the affiliation Banaras Hindu University has produced the most research on Scientometrics.

**Keywords:** Gender disparity, research growth, scientometrics, bibliometrics, altmetrics.

## **Adoption of open access scholarly publishing in social sciences: A bibliometric analysis of open access publications of top ranked central universities in India**

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### **ABSTRACT**

This study aims to analyze the adoption of Open Access (OA) publishing in social sciences in top-ranked central universities in India, with a focus on various aspects such as the growth of OA literature, the utilization of different OA routes, and collaboration patterns.

Ten central universities were selected based on their rankings in the National Institute Ranking Framework (NIRF) 2022. Data for investigating the adoption of OA publishing in social sciences were collected from the Social Science Citation Index of the Web of Science database using the advanced search query "(CU=India OR AD=India) AND PY= (2003-2022) NOT PY= (2023)". The data analysis was performed using MS Excel (v16.0), BibExcel (version - 2017), Biblioshiny (version 4.1.2), and Google Open Refine (version 3.7).

The study revealed that 30.40% (n=1040) of the total publications were OA publications, with Banaras Hindu University (BHU) securing the top rank at 41.66% (n=177 out of 403) OA publications. The year-wise analysis demonstrated a consistent increase in OA publishing, reaching its peak at (n=209) in 2022. Among the top 10 journals, "Sustainability" and "Plos One" published the highest number of research papers, with 103 and 34 papers respectively. The majority of authors chose the Gold OA route, with approximately 26% (n=270) of OA publications opting for it, followed by the Green Submitted and Green Published OA models, which accounted for 25.57%

(n=266) and 20.48% (n=213) of research papers respectively. Furthermore, the study observed an increasing trend in the number of publications and citations arising from collaborations involving one to four authors. Indian authors exhibited the most prolific collaboration with the USA, followed by the UK and Australia.

The positive trend in OA publications over the years indicates growing acceptance and benefits of OA in academia, guiding policymakers and funding agencies to support OA initiatives.

This is the first study that analyses the adoption of OA in the field of social sciences in high-ranked central universities in India and has implications for promoting OA and increasing accessibility to research outputs. Universities with higher OA ratios can lead in this regard and encourage others to adopt similar practices for overall OA growth.

**Keywords:** Scholarly publishing, open access, open access publishing, research collaboration.

## **Dissemination of information and knowledge through Institute of Urban Transport (India) library and information centre: A case study**

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### **ABSTRACT**

Special libraries act quite differently from traditional libraries. They satisfy users through their different specialized services. They basically focused on everything from traditional services to up-to-date services in specialized field. Each special library connects with its own parent body and facilitates the needs of their organization. Each special service like health, different science sectors, art/music/literature, law, corporate has its specialized field with special information service. A larger number of special libraries are providing supporting services to government and private agencies. They assist the overall aims of the organization and provide employees/members with the information they need to complete their jobs or roles.

The paper aims to examine the role of the Institute of Urban Transport library in the dissemination of urban transport information. It also explores how this library markets urban transport information services to the community it serves.

The paper uses the Institute of Urban Transport library as a case study. The survey methodology using questionnaires was followed to solicit required information from respondents' members, staff and users. Data were collected from both IUT library staff and users using questionnaires and interviews.

The result of the study showed that the IUT library makes an effort to provide accurate and useful urban transport information to members of the community by collecting and making available both print and electronic urban transport information sources. The findings further indicated that marketing programs include outreach, library brochures/leaflets, newsletters, and training programs, capacity building programs and annual conferences conducted by IUT.

For more effective dissemination of urban transport information, libraries should establish working relationships with urban transport agencies, government offices, institutions, communication organizations, or media houses with the objective of cooperatively developing collections, referrals, and shared training.

**Keywords:** Special Library, Urban transport library, Knowledge dissemination, User perceptions, Information resources, Knowledge management.

## **I-KOAL contributions: A bibliometric study**

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### **ABSTRACT**

Bibliometrics is a study or measurement of format aspects of texts, documents, books, and information. Bibliometric study plays a pivotal role in research evaluation, and it has been applied to evaluate the performance of the individual as well as the organization's level. The required data has been accessed through conference proceedings. A total of 410 research papers have been identified during the study period. The study findings showed that in publications, there is a fluctuating trend from I-KOAL-2015, I-KOAL-2017, I-KOAL-2018, I-KOAL-2019, I-KOAL-2022& I-KOAL-2023. The authors made efforts to analyze several bibliometric parameters like Year-wise growth of publications, Year-wise authorship pattern, Different Categories of Authors, Foreign/Indian authors, and Male/Female Authors. Library professionals have contributed the maximum number of papers in I-KOALs, and in second place, the librarian has contributed to the publication of the paper. Among the male and female authors, the contributions of male authors are higher in comparison to the female authors.

**Keywords:** Bibliometric study, IKOAL.

## **Study on the global distribution characteristics and influencing factors of Confucius Institutes**

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### **ABSTRACT**

With the development of China, the pace of Chinese culture "going out" has been accelerating. As an important carrier of Chinese culture to the outside world, Confucius Institutes undertake the mission of spreading Chinese culture to the world and are excellent samples for studying the characteristics of Chinese culture to the outside world. Therefore, with the help of ArcGIS, SPSS and other tools, this paper comprehensively uses density, geographical concentration index, nearest neighbor index and other indicators to explore the location characteristics and core influencing factors of the layout of Confucius Institutes. The results show that the geographical distribution of Chinese culture in the global spread is uneven, which is mainly influenced by economic, political, and cognitive differences. This study will help to grasp the spatial structure characteristics of Chinese cultural transmission and have a deeper understanding of the factors affecting the distribution of Confucius Institutes.

**Keywords:** Cultural communication, Confucius Institute, distribution characteristics, influencing factors.



## **Factors affecting the scholarly impact of research: A study of library and information science research in India**

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### **ABSTRACT**

The present study is intended to examine the determinants that influence the scholarly impact of library and information science (LIS) research published in India during 2011-2020.

The "Advance Search" option of the Web of science (WOS)- core collection database was employed with the following search statement: ("CU=India AND WC=Information & Library Science", "Date Range=2011-01-01 to 2020-12-31", AND "Document Type=Articles"). A total of 1058 publications were retrieved using the above search strategy. The full record of all the retrieved publications was exported to a CSV file for further analysis. The descriptive and inferential analysis for the present study was performed using MS Excel (2021) and IBM-SPSS (20).

Out of the total of 1058 publications analysed, a noteworthy 11.25% were published as Open Access (OA) through various OA routes, while the remaining 88.75% of publications were published under closed access. Notably, 132 (12%) of the total publications (n=1058) secured funding from diverse prominent funding agencies, while the remaining 88% of publications were devoid of financial backing from sponsoring bodies. Further analysis revealed that 20.79% (n=220) of the total publications were attributed to individual authors (sole-authored publications), with the remaining 79.21% (n=838) being a product of collaborative efforts involving two to ninety-nine authors. The findings unequivocally establish a statistically substantial dominance in median citation rates for OA, collaborated, and funded publications when juxtaposed against their closed-access, sole-authored and non-funded counterparts.

The findings of the study offer evidence-based strategies for policymakers, researchers, and institutions to strengthen LIS research in India. By leveraging these insights, stakeholders can collaboratively foster impactful research, enhance collaboration, and contribute to the continued growth and significance of LIS research in India and beyond.

This is the first attempt to examine the determinants that influence the citation impact of LIS research in India. The study is intended to ascertain the correlation between characteristics of publications (OA availability, research funding, research collaboration) and their citation impact and how the scholarly impact is inclined to these factors.

**Keywords:** Scholarly impact, citation impact, research collaboration, LIS research, research funding, open access availability, scholarly publishing, OA publications.

## **Workplace level of job satisfaction among women LIS professionals of Assam, India for managing next-generation library system: An exploratory study**

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### **ABSTRACT**

Job satisfaction plays a very important role in the shape and growth of any organization. Regarding the nature of the work, job satisfaction is a personal feeling for any individual or a state of mind. A satisfied employee plays a great role in the success of any organization or institution. Job satisfaction plays a very important role in achieving the goals of organizations or institutions. The library profession is also one of the most important professions that involve the collection, organization, and dissemination of information to society. A large number of women nowadays are entering the library profession, and they are very active and play a great role in the success of their organization. Various factors come under job satisfaction, e.g., nature of the work, degree, quality of physical environment, etc.

The purpose of the study is to determine the job satisfaction level among women LIS professionals in Assam. This study would open a new arena of research in the job satisfaction field.

For the present study, the survey method has been adopted using an online questionnaire as a data collection tool. The questionnaire has been designed in Google form and circulated among the Women LIS Professionals of Assam through WhatsApp Group and personal e-mail. On the basis of responses received from the respondents, the data have been tabulated and analyzed with respect to demographic profiles and various parameters of job satisfaction levels among women LIS professionals of Assam, India. The study was conducted from April 2021 to December 2021. The study sample was drawn from the working Women LIS Professionals of Assam. For this study, a purposive sampling technique was adopted to select the sample. The results show that many Women LIS Professionals in Assam are slightly satisfied with their job. Some of the Women LIS Professionals are not satisfied with their salaries and prospects of promotion avenues.

**Keywords:** Library profession, job satisfaction, women LIS professionals, Assam.

## **Calculation of G20 countries national library website: A web metric study**

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### **ABSTRACT**

"The G20 (Group of Twenty) is an international forum that brings together the world's major economies to discuss global economic issues and cooperation. The present study explores the web metric of the G20 Countries National Library website. The study examines the Domain, Domain age, external and internal links, and Web Impact factors. After the analysis, we found that the National Library of France is the oldest National library in the G20 Countries. The National Library of South Korea (2009) is the newest library in the G20. The National Library of India has 62 top page speed on Mobile, and the National Library of Australia website with 17 is the lowest Desktop speed in this study. Forward the desktop speed of the British Library, which has the 81 top page speed in the desktop version, and the University of Russia, which has the 20 lowest page speed on the desktop. The National Library of Mexico has 82, the highest domain pages, and the National Library of Saudi Arabia has 39 is the lowest domain. Authority, the National Library USA Library of Congress found a maximum of 1,65,00,00,000 web pages available online. LOC National Library found the Maximum web impact factor IWIF 6.336151441, EWIF 5.554267853, SWIF 13.69949126. "

**Keywords:** Webometrics, web impact factor, website, domain, web Link, page link, domain link, webpage domain, G20 countries.

## **Web impact factor top five Indian institutions in QS Asia university ranking 2023: A web metric study**

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### **ABSTRACT**

The Study aims to examine the website analysis of Top Five Indian Universities in QSAsia University ranking 2023. After the investigation, we found that IIT Bombay is a top institution in this ranking India perspective. The second rank is IIT Delhi with 46 rank and third is IISc Bangalore with 52 in Asian ranking 2023, the fourth rank is IIT Madras with 53 rank, fifth rank IIT Kharagpur with 61 ranking that IIT Bombay top page speed with 68 in this table, the lowest mobile speed find out IIT madras with 54, the desktop page speed analysis that IIT Bombay with 74 is top page in desktop view the IIT Kharagpur with 59 is lowest Page speed in Desktop website IIT Bombay with 76 Domain authority and page authority with 64 find out in the table, The lowest domain authority find out the IIT Kharagpur with 60, the minimum lowest authority find out the IISc Bangalore with 55. IIT Bombay with IWIF 20.8396, EWIF with 0.1527 and SWIF 21.0217, IIT Delhi IWIF 0.2245, EWIF 0.0268 and SWIF 0.02514, IISc Bangalore with IWIF 2.5381, EWIF 0.1673, SWIF 2.0183, IIT Madres 20.8691 IWIF, EWIF 0.0983 and SWIF 20.9856, IIT Kharagpur with IWIF 4.3785, EWIF 0.2859 and SWIF 4.7775"

**Keywords:** Web metrics, web impact factor, website, domain, web link, Asian ranking 2023, webpage.

## **Path and evolution of China-Nordic science and technology cooperation: Based on bibliometrics and social network analysis**

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### **ABSTRACT**

The Nordic region and China have remained a diversified and reciprocal partnership in the field of scientific research and innovation in the past several decades. This paper aims to reveal the mechanism and dynamic evolution of international science and technology (S&T) collaboration between China and Denmark, Finland, Iceland, Norway, and Sweden.

The international cooperation policies, major inter-government projects, and joint academic papers between China and Nordic countries from 1980 to 2022 are revealed and analyzed using bibliometrics and social network analysis methods.

It is discovered that the international cooperation policies provided a sound environment for China-Nordic collaboration, inter-government projects spurred a huge increase in cooperation, and joint publications revealed a small-in-scale, high-in-impact, and highly professional pattern of China-Nordic research collaboration.

Hopefully, this paper will provide insights into past patterns and references for future China and Nordic collaborations.

**Keywords:** Bibliometrics, social network analysis, China-Nordic international collaboration, evolution.

## **Article retraction: A bibliometric study of retracted articles in ScienceDirect**

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### **ABSTRACT**

Plagiarism, fabrication, falsification, duplicate publication, etc., are some examples of academic misconduct that lead to the retraction of articles from publication. Advancements in ICT facilitate the identification of this kind of academic misconduct easily and quickly. Due to various reasons, authors are under pressure to publish articles. Knowingly or unknowingly, they commit misconduct during the publication of their research output.

Retractions of scientific publications from scholarly literature rapidly increased over the years. The retraction happens due to an honest error or purposive error. The consequence of the author's over-retraction of the publication is severe. So, it is important to know whether the retraction of publication affects the authors' academic career or not. Therefore, a bibliometric study of retracted articles from scholarly literature is necessary.

The research questions are as follows: (i) Is academic misconduct prevalent in the publication of scholarly articles or not?; (ii) What are the reasons for articles being retracted from the database?; (iii) what is the time gap between the publication and retraction of an article?; (iv) whether the retracted articles continue to be cited or not?; and (v) whether the retractions affect the research and publication activities of an author or not.

The main aim of the study is a bibliometric analysis of retracted articles from scientific literature. The specific objectives are: (i) to quantify the retracted items of scholarly publications; (ii) to identify and classify (allegation categories) the reasons (taxonomy of errors) for retraction; (iii) to examine the time gap between the publication and retraction of an article; (iv) to assess the authorship pattern of the retracted articles; (v)

to identify and classify the sources of retracted articles; (vi) to find out citation pattern of retracted articles; and (vii) to study the impact of article retraction on research and publication.

The ScienceDirect database of Elsevier has been chosen for the study. The articles published from 2010 to 2019 have been taken for analysis. All language items and all types of literature during the study period have been considered for the study.

The methodology adopted in this study is as follows:

- Data Source: The ScienceDirect of Elsevier has been chosen to identify the retracted articles during the study period, i.e., 2010 – 2019. The database has been searched using the search key 'retraction', and the search result yielded 48,908 items. After ignoring the irrelevant items, 3037 items were exported to Mendeley, a reference management software, for data manipulation.
- Data Curation: After eliminating the unwanted / duplicated items from the retrieved items, 1990 records are exported in RIS file format. Then, the exported records were imported into Microsoft Excel to do data analysis.

To achieve the objectives of the study, the following data analyses were carried out:

- Quantification of Retracted articles
  - The Year-wise quantum of retracted articles with percentage.
  - Publication type-wise quantum of retracted articles during the study period.
  - The proportion of retracted articles with the number of articles published in a year.
  - The quantum of subject categories-wise retracted articles during the study period.
  - The language-wise distribution of retracted articles.
  - Institution-wise retracted articles during the study period.
  - Country-wise distribution of retracted articles.
  - Quantum of India retracted articles in the study period.
- Retraction Responsibility
  - Year-wise distribution of reasons for retraction
  - The number of single reasons for retraction and multiple reasons for retraction.
  - Year-wise distribution of retraction responsibility for retraction of articles.
- Retraction Gap
  - The time gap between the article's publication and retraction.
  - Mean/Average time period of retraction gap.
- Authorship Pattern
  - Single Vs. Collaboration
  - Single author items
  - Multiple authors items
  - Collaboration pattern
  - Intra / Inter institution collaboration
  - Inter-country collaboration
  - Authorship indicators



- H-index
- Total number of publications (2010-2019)
- Total number of citations received (2010 -2019)
- Source Analysis
  - Number of retractions in a journal
  - Impact factor of the journals
  - Publication language of the journal
  - Whether the journal is a member of COPE?
  - Country / continent of origin of the journal
- Citation Analysis
  - Number of retractions received before retraction and after retraction
- Article Retraction and Research & Publication Activity
  - A number of articles were published after the first retraction.
  - The growth rate of publications after being penalized due to academic misconduct.

Academic misconduct prevailed in the research and publication activities of researchers will be identified with the help of this kind of study. The retraction of articles increasing or decreasing over the period of time could be revealed. The advancement of technology made it possible to easily identify academic misconduct such as plagiarism, fabrication, falsification, etc. The roles of authors, editors, publishers, and other stakeholders such as library professionals and peers are important in the protection of authors' intellectual property as well as publication ethics.

**Keywords:** Article retraction, bibliometric study, ScienceDirect, Elsevier, academic misconduct.

## **Vertebrates in Wikipedia: A study in comparison with encyclopedia Britannica**

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### **ABSTRACT**

Wikipedia, the free encyclopedia, is an online encyclopedia. It is multilingual, available in more than 50 languages and covers a wide spectrum of diversified subjects. Meanwhile, Encyclopedia Britannica is the oldest English language general encyclopedia. First published in 1768, it has provided printed service for more than two centuries. Both are considered the best reference services of all time.

By evaluating the treatment, coverage, and visibility of class 'Vertebrates' of subject zoology (DDC Class no.590), this paper intends to perform a comparative study between the online reference service, i.e., Wikipedia as well as the printed reference service, i.e., Encyclopedia Britannica.

Content analysis was opted as the research methodology. The articles were evaluated based on four criteria: representation, authoritativeness, scope for further research, and up-to-dateness. The findings were compared to give rise to a comparative study.

Findings: After careful evaluation, it was noticed that Wikipedia has proved to be a more dependable reference source when it comes to representation, scope for further research, and up-to-dateness. But, in the matter of being the more trustworthy source, Encyclopedia beats Wikipedia by a considerable margin.

Since the emergence of Wikipedia in 2001, a lot of comparison studies have taken place among Wikipedia and different reference sources. But this is probably the first research that has dug deeper and compared the diversified and intriguing fields of zoology in two different media of reference sources.

The study started with the aim of comparing two reference sources on a particular subject: zoology. Even though it showed some bright sides of both Encyclopedia Britannica and Wikipedia, it also pointed out their lacunas. It is sincerely hoped that the

concerned authorities will take this study into consideration and work on the inadequateness to make the reference sources a staple for the students and the subject specialists.

**Keywords:** Wikipedia, encyclopedia Britannica, zoology, reference services, reference source.

## **Mapping of global productivity and trends in tourism: A bibliometric study**

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### **ABSTRACT**

The purpose of the study was to have a wider understanding of the scholarly global tourism output during the period 2013 to 2022. The article helped in exploring the pattern and development in research areas of tourism and heritage. The study included a total of 2004 research articles on global productivity from the Scopus database during a span of 10 years (2013-2022). The research data was collected using the keywords TITLE-ABS-KEY ("heritage"), TITLE-ABS-KEY ("culture"), and TITLE-ABS-KEY ("tourism"). The selected research articles were analyzed using 'Biblioshin' and 'VOS viewer' on the basis of several parameters.

**Keywords:** Heritage, tourism, global pattern, country, citation.

## **A bibliometrics study on recent trends in metrics study on library and information science**

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### **ABSTRACT**

The intention of the study is to investigate the publication trends of the scholarly journal Library and Information science and highlight its various important aspects.

The paper presents the results of Bibliometric analysis of 304 articles which were published during the period 2000-2022 in Scopus Indexed journals.

The results specify that the widely held contributions by single authors and the majority of cited documents are journal articles. The study highlights the sequential distribution of articles, authorship pattern, geographical sharing of authors, institution-wide sharing, citation pattern and length of articles.

As yet there have been no studies conducted that investigate the Recent Trends in Bibliometrics study on Library and Information Science of Scopus Indexed journal. It evaluates the publication trends in the field of Library and Information science and has significant implications for scholars and researchers.

**Keywords:** Bibliometrics, library and information science, Scopus.

## **Research trends on library security in SAARC countries during 2013-2022: An assessment based on scientometric tools**

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### **ABSTRACT**

As a source of knowledge and information for academics, students, and people of all ages, libraries have played a crucial role in human society. However, to remain relevant and provide useful services to their patrons, libraries have grown and changed with Information and Communication Technologies (ICT). Libraries today offer an extensive number of additional services to their patrons and are no longer limited to books and other printed documents. Instead, they have evolved into digital hubs. One of the biggest issues facing librarians is protection in the libraries. The measures made for safe and secure facilities for library employees, library resources, equipment, and library patrons may be defined by the term "library security." Since there are more people and resources available, there are more opportunities for theft and other associated problems. The SAARC countries, including Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka, have many reputed libraries. Due to its importance and growing interest in recent years, this study aims to explore the evolution of the research landscape on library security in SAARC countries over the last ten years (2013-22), focusing on growth trends and collaboration among authors and countries mapping through Scientometric tools. Initially, the analysis focused on measuring the research growth and performance of the key players. Then, the study performed scientific knowledge mapping, visualizing the relationships between different concepts and topics within the field.

A systematic literature review was conducted using Scopus databases, resulting in a final sample of 607 articles published between 2013 and 2022. Data were searched using the search terms "library" AND "safety" OR "security" OR "protection" OR "surveillance" in the "Article titles, Abstract, Keywords" section of the Scopus database on 19-04-2023. Data was exported in the .csv format for further analysis. The most influential article publications were identified based on the citation counts. The study will be done in MS Excel to analyze the chronological publication, productive authors, journals, and countries' growth trends. A library security assessment on collaboration patterns, trending research topics, and co-citation will be conducted using VOSviewer software.

The results indicate that the publication is growing continuously. The maximum number of articles was published in the year 2022, Das, A.K. was found to be the most prolific author, the journal „Library Philosophy and Practice“ has produced the most research publications, and the affiliation 'SRM Institute of Science and Technology' has produced the maximum research. The study concludes by suggesting future possibilities and directions for research in the field.

**Keywords:** Library security, information security, RFID technology, library surveillance, library safety.

## **Bibliometric analysis of Millet research using Scopus database**

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### **ABSTRACT**

Millets are valuable crops because of their short growing season and better output in hot and dry circumstances, which makes them particularly useful in semiarid areas. Millets are frequently grown in regions where sorghum and maize crops may fail. Millet grain is ideal as food and feed since it is rich in minerals and phenolic compounds that have positive health effects. The present paper tries to analyze the growth and development pattern of Millet research based on the publication output from 2013-2022 using the data retrieved from Scopus. A total of 8255 records were analyzed to find out the year-wise productivity, country-wise distribution, most productive journals, most productive author, subject-wise scattering of millet research and scientific productivity of Indian authors. India is the leading producer, marketer, and consumer of the world. Hence, R&D activity is assumed to be high on this subject. Some inferences are also suggested based on the output of the analysis.

**Keywords:** Millet research, bibliometric analysis, publication productivity, quantitative analysis, prolific author and VOS viewer.



## **Mapping the research trend and international collaboration of IIT Delhi**

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### **ABSTRACT**

The primary purpose of this study is to find out the trend in research publications and the growth of international collaboration in the domain of science, engineering, technology, management, etc., of IIT Delhi from 2001 to 2022 within India and globally.

Web of Science is one of the largest and most reputed bibliographic databases covering global publications in science, engineering, technology, etc. The publication records covered in the Web of Science database were extracted using the affiliation search for 22 years from 2001 to 2022, and the publications found are 24893. The scientometric techniques have been used to identify research trends, international collaborations, and research impact.

The study is confined to the Indian Institute of Technology Delhi, and the period is restricted from 2001 to 2022.

Almost all publications are in English, except two papers, and most are article types, accounting for 92.094%. The number of publications has consistently grown from 2001 (374) to 2022 (2514). The number of citations received also increased over time, with a total of 551326 citations received by the 24893 publications, and the average citations per publication is 22.15. The collaboration in research publications has consistently grown over the last 22 years. In 2001, the record count was 80, and by 2022, it increased to 842, indicating a substantial increase in global collaboration in research. The difference in the average citations between with and without international collaborated publications is 5.14. The data shows that the USA is the leading country in research publications, but Canada has the highest average number of citations per publication,

indicating a high impact on its research. The most significant aspect is multiple authorships, with three-authored papers being the most common. The degree of collaboration of authors is 0.03.

There are many studies on the research productivity of the institutes and countries. However, few studies have been found on institutions' global collaboration and impact on the scientific community. This study benefits the researchers, educationists, administration and sponsoring bodies to make informed decisions and investments.

**Keywords:** Research trend analysis, scientometrics, bibliometrics, mapping research collaboration, Indian institute of technology Delhi.

## **Global research output on Rhododendron publications based on web of science database: A scientometric study**

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### **ABSTRACT**

This study aims to conduct a comprehensive analysis of research publications on Rhododendron from the Web of Science Core Collection database. The primary objectives are to identify the growth trend of publications, prolific authors, productive countries, and influential organizations within the field of Rhododendron research.

A total of 3082 records from 1989 to 2022 were extracted from the Web of Science Core Collection database. The data were analyzed using MS Excel, and VOS viewer software was used to determine the most frequently used keywords in the publications.

The analysis shows that the number of research publications on Rhododendron has been increasing steadily over the years. The year 2022 recorded the highest number of publications (213), indicating growing interest and continued research activity in this specialized area. The top 10 most prolific authors are dominated by individuals from China, with Li Yong leading with 26 publications. The United States Department of Agriculture, Agricultural Research Service, and Mae Fah Luang University ranked second and third, respectively, among the most productive organizations. China emerged as the most prolific country in terms of the number of research publications on Rhododendron, followed by the United States and India. The keywords most frequently occurring in the publications include "rhododendron," "Ericaceae," and "plants," reflecting the central focus of research in this area.

The findings of the study are limited to the data available in the Web of Science Core Collection database from 1989 to 2022.

This study offers a comprehensive analysis of the growth and trends in Rhododendron research, highlighting the contribution of prolific authors, productive countries, and prolific organizations. The findings contribute to a better understanding of the scientific

landscape within this field and can help in shaping future research directions and discoveries related to Rhododendrons.

**Keywords:** Rhododendron, Burans, medicinal plant, Ericaceae, scientometrics, Web of Science.

## **Research on predictive model for technology transfer based on citation network analyses**

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### **ABSTRACT**

Patent citation reflects knowledge flow and technical influence on subsequent technologies. This paper analyses and predicts the potential for technology transfer from patents on the basis of patent and paper citation networks.

From the perspective of dynamic development, this paper constructs a predictive index system for the evaluation of the transferability of patents, containing 16 structured indicators covering dynamic and static types, which is based on the following three factors: the degree of technological innovation, the quality of the document, and intellectual property rights (IPR) protection. Patent transfer data of graphene sensors were used as proxy variables for technology transfer potential to construct the training

sample set. The indicators were considered by adopting the dichotomous classification algorithm of machine learning to construct the evaluation model and applying the decision tree analysis method.

It was found that the dynamic characteristics of the citation network are an important factor in the evaluation of the potential for technology transfer. This paper's patent technology transfer potential prediction model based on citation network indicators and decision tree algorithm is highly predictive.

By monitoring the dynamic characteristics of the patents and using the model to evaluate the transfer potential, the patents that can be easily transferred or licensed are screened out in a timely manner for a targeted industrialization operation.

**Keywords:** Technology transfer, citation network, patent, paper, machine learning.

## **Measuring the social impact of medicine journals of China: An altimetric analysis**

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### **ABSTRACT**

The aim of this study is to evaluate the social impact of the publications of top medicine journals in China through altmetric indicators. The study also aims to calculate the correlation between traditional metrics and altmetrics and to find the best altmetric sources, authors, organizations, and countries based on the articles that have an altmetric presence.

This study considered the top five Medicine journals of China (Protein and Cell, Infectious Disease Modelling, Genomics Proteomics and Bioinformatics, Frontiers of Medicine, and Emerging Contaminants) as listed by Scimago Journal & Country Rank, 2021 and the journals were checked for their continuous presence in the Scopus database for the last five years. A total of 1,706 articles were published by the journals from 2018 to 2022. The citation count and altmetric data were collected from the Dimensions database. The study also examined the relationships between Altmetric Attention Score (AAS) and Mendeley readership count with citation count. Further, by using VOSviewer, the study visualized the authors, organizations, and countries through Co-authorship analysis for the publications having  $AAS \geq 1$ .

According to the findings of the study, 1075 (63.01%) of the 1706 publications had an  $AAS \geq 1$ . Twitter (94.97%), News Outlets (14.88%) and Blogs (8.65%) were the top three altmetric sources where the articles were discussed. Results of the spearman correlation showed a significant medium positive relationship between Citation count and AAS ( $r(1073) = .312, p < .001$ ) and a significant large positive relationship between citation count and Mendeley Reader Count, ( $r(1073) = .824, p < .001$ ). Among 7034 authors 'liu, guang-hui', 'qu, jing' and 'zhang, weiqi' are the top 3 authors with 24, 22 and 21 number of publications having link strengths of 344, 322 and 315, respectively. Out of 1112 organizations, the University of Chinese Academy of Sciences

and the Chinese Academy of Sciences and Institute of Zoology are the top 3 organizations with contributions of 154, 85, and 48 publications and link strength of 617, 414, and 264, respectively. Among the countries, China, the United States and the United Kingdom are the top countries based on the link strength.

This is one of the first altmetric studies done in the top medicine journals of China as listed by Scimago Journal and Country Rank, 2021. This study will be useful for journal editors and researchers so that they can reach a wider audience and be more visible on the Web using Twitter, Facebook, Blog, research highlight tools, Wikipedia, etc.

**Keywords:** Altmetrics, altmetric analysis, China, medicine journal, Twitter, Mendeley.



## **Use of books by researchers of Kurukshetra University, Kurukshetra: An analysis of doctoral theses submitted in 2022**

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### **ABSTRACT**

Doctoral theses represent the original research work conducted under the supervision of an experienced supervisor for the doctoral degree of a particular university. These sources have a unique quality of fulfilling all the parameters defined by an academic institution for standard research work before the degree is awarded. The institutional affiliation of the doctoral candidate enables the utilization of institutional resources, including information resources supported by the library. Although digital availability of information has opened avenues of information access other than the library, customized and quality information is still mostly priced and subscribed/purchased by the library. The present study is intended to explore the doctoral research output of Kurukshetra University, Kurukshetra, the dependence of researchers on books, and the availability of the cited books in/through the university library.

Almost all the theses submitted during the year 2022 have been evaluated and degrees awarded, so the year 2022 has been selected for the study. Since full text of the theses is available in the INFLIBNET maintained repository Shodhganga, so the repository will be the source of data. The bibliography and /or references appended at the end of chapters will be analyzed to identify books. The OPAC is accessible over a campus-wide Wi-Fi network and shall be searched for the availability of books in the university library. The books will also be checked for being available in open access. It is found from the professional literature that researchers not only rely on their own library but also make use of other libraries and information centers for research work. The main purpose of the proposed study is to reveal the effectiveness of the information system and e-resources of the library under study besides dependence on other resources.

**Keywords:** Use of books, doctoral research, Kurukshetra university, INFLIBNET, Shodhganga.

## **Doctoral degree in botany in Visva-Bharati University during 2011-2022: An analytical study**

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### **ABSTRACT**

The purpose of the present study is to analyze the content of the Doctoral thesis in the field of Botany subject of Visva-Bharati University, West Bengal, submitted during the period 2011 to 2022. This study helps to find out the current trends of research areas in the subject of Botany at this University. This article needs to provide readers with a comprehensive overview of the doctorate research conducted by Visva-Bharati University's Department of Botany, which is widely acknowledged as the most significant scientific endeavor in the whole higher education system.

The data was collected through a personal visit to Visva-Bharati University's Central Library. For this study, data was also obtained from the Shodhganga (A digital archive

of theses and dissertations submitted to Indian universities). Excel spreadsheets were used to document sample data from doctoral theses that had been physically verified and cross-checked from the online portal. Content analysis is a methodical and reproducible methodology. Because content analysis is a means of assessing written, spoken, or visual communication messages and because it encompasses both qualitative and quantitative methods, it was decided that content analysis would be the most suitable method to use for the purpose of this research. Therefore, the authors choose the content analysis technique to examine factual documentation. The descriptive analysis method was used to get the same results as the content analysis method. The data has been presented in the tabulation and graphical forms. For subject categorization, the Universal Decimal Classification schedule has been used.

To comprehend current research trends in Botany, a content analysis of all doctorate theses submitted at Visva-Bharti University was carried out, and various developments and inconsistencies in thesis writing were revealed. The process of condensing numerous words of text into fewer content categories based on specific principles of coding is called content analysis. This study aims to illustrate the existing state of affairs and provide a route for further investigation. The content analysis carried out for this research is beneficial. Furthermore, this study examined research kinds and themes, allowing academics to better understand the present state of research and trends in the area. This research also helps to find out what other countries have contributed to the subject and what research trends are happening. In view of the above, this study made an attempt to assess the output of PhD theses on Botany at the Visva-Bharati University, West Bengal, as a test case. Finally, the results of this study may serve as a compass for future researchers when they choose the subject matter of their studies. The findings gave valuable insight into the knowledge foundation of the University's research output in this particular field.

This study is the original research of the authors that is collected based on different secondary data collected through reliable resources.

**Keywords:** Content analysis, Botany, citation analysis, theses, Shodhganga.

## **A content analysis on the notion and practice of research support services in the universities of India and Bangladesh: A web-based evaluation**

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### **ABSTRACT**

The field of research support services is emerging in the ever-evolving world of libraries, bringing with it new opportunities and challenges. The study aims to analyze the "Research support services" provided by the libraries of higher education institutions in India and Bangladesh. The research support services can be associated with libraries to give researchers excellent research support to achieve their research objectives. The main goal of Research support services is to assist researchers at every stage of the research process, from early planning and proposal drafting to data gathering, analysis, and dissemination. Anything a library does to assist researchers in their research task is called research support services. The researchers depend highly on the research support service to aid them in various research-related tasks, including research design, research data management, literature searches, data analysis and interpretations, and writing a proposal for a research grant. The role of librarians is very important as they are experts in information management and can provide research support services to the fullest. The study examines content analysis of the library websites of the top 5 universities in India and the top 5 universities in Bangladesh. Almost all universities taken for the study have a separate website for library and Research support. The top five universities covered for the survey in India are the Indian Institute of Science (Bengaluru), Jawaharlal Nehru University (New Delhi), Jamia Milia Islamia (New Delhi), Jadavpur University (Kolkata), Amrita Vishwa Vidyapeetham (Coimbatore) and the top five universities taken for the survey in Bangladesh are Bangladesh University of Engineering and Technology (BUET) (Dhaka), University of Dhaka (DU) (Dhaka), BRAC University (BracU) (Dhaka), North South University (NSU) (Dhaka), Daffodil International University (DIU) (Dhaka). The study's findings show numerous methods through which research support services are provided. These services assist researchers in conducting their work successfully and efficiently, leading to outstanding research output. Research collaboration and multidisciplinary research are frequently made possible by research

support services that unite researchers. Access to online journals and databases is provided. Anti-plagiarism tools are available, and the most commonly used tools by the university libraries are URKUND and Turnitin. Grammarly is provided to the users, which not only helps as a grammar corrector, but its suggestions are comprehensive, which helps researchers communicate effectively. All the universities commonly use citation management tools, and Zotero and Mendeley are most commonly used. Most universities use data analysis and management tools such as SPSS and STATA. It promotes integrity and ethical conduct by offering advice and assistance for moral research procedures. The university libraries have various facilities, and some of the major ones are research tool recommendations, research data management, and research metric measures. The advent of the significant data age and the expansion of the e-research environment have created several new issues for researchers. Researchers should utilize professional education and training to update their knowledge base and become proficient with new technologies and techniques. It will increase the effectiveness of their study. Academic libraries should actively promote various research support services to make them the norm as they deal with the transformation of the knowledge innovation mode.

**Keywords:** Research support services, universities, libraries, research data management, research support tools.

## **Problems of educational system for the Santal children: A Santali community study of Jhargram district in West Bengal, India**

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### **ABSTRACT**

The research study on problems of the educational system of the Santal Children of Jhargram District is an interesting aspect of the tribal education system of West Bengal, India. Santals community from Jhargram District are the largest community than the other tribe in West Bengal. Education of the Santal communities has helped in the preservation of social structure and target achievement. The Santal community are largely residing in the Jhargram District of West Bengal. The development of education of the Santals of Jhargram District is the main part of the tribal educational system of the state of West Bengal. West Bengal is the third largest state in the tribal history of India, and it is also the homeland of a number of tribes. Different developmental programs and schemes for education have been implemented by the Governments of India and Non-governmental agencies like- NGOs for the educational improvement of the Santals children of West Bengal. On the basis of the field study made by the earlier scholars, including the present authors, the people of the Santal community are largely residing in the Jhargram district of West Bengal. The researcher found that most of the tribes in West Bengal have no written languages, but the Santala tribe has a written language with a specific "Ol Chiki;" script founded by Pandit Raghunath Murmu in 1925. The Santal children of Jhargram District are more interested in modern education than other tribal children of West Bengal. Now, the Santal community of Jhargarm District has been able to organize socio-cultural associations for the preservation of their

traditional culture. The main aim of this research study is to focus on the educational system for the Santal children of Jhargram District of West Bengal and to highlight their receptive minds to receiving a modern educational system for their moral as well as physical development for entry into the mainstream of modern society. Finally, both the primary and secondary sources have been carefully utilized in the present research study.

**Keywords:** Educational system, Santals community, children, Jhargram district, West Bengal.

## **ChatGPT: Unleashing the power of conversational AI for library reference services**

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### **ABSTRACT**

The purpose of the study is to explore the impact of AI and ChatGPT on library information services. A sample of twenty-two reference questions is fed to ChatGPT, and the answers are evaluated for quality and accuracy.

ChatGPT are excellent in information retrieval in some areas, but it is not comparable to a reference librarian in others.

The findings may not be conclusive due to the small sample size. The practical implications of the study are to understand AI and ChatGPT and their behavior.

The knowledge from the study can assist librarians in adjusting their services to better serve users since no research has been done in this area.

**Keywords:** AI, ChatGPT, library information services, information retrieval.



## **A scientometric study of Microbiology and Immunology: Post COVID-19 pandemic assessment**

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### **ABSTRACT**

**Background:** The last decade has witnessed many advances in the understanding of Immunology, Human Immune system and how every cog in the Immune system works to protect the body against infection. Immunology is a complex subject. Immunology and its varied aspects become essential to study in depth for medical students, primary caregivers, surgeons, and healthcare professionals. Microbiology is the biology of organisms – bacteria, viruses, algae, fungi, protozoa, etc. There are many specific methods used to study and observe these tiny and mostly unicellular organisms, which are different from the methods applied to study other biological organisms. Advanced DNA and gene technology use these microorganisms, mostly bacteria and viruses, to manipulate these gene sequences to produce DNA-sequenced products. Microbiologists study and conduct research on these unicellular microorganisms. These scientists pursue careers in many fields where microbiology plays a key role, such as agriculture, environment, public health, pharmaceuticals, industry, and education. A career in microbiology after graduation and at the master's level will lead to jobs in medical, dental, and healthcare-related industries. Immunology is one of the most significant contemporary research areas of biomedical science. The Covid pandemic has also infused this field with optimism and a renewed sense of purpose for the identification of stubborn diseases and for the development of treatments and therapies to prevent these infections. Cancer and AIDS have always been the hotspot in the research aspect of immunology, but since 2020, COVID and the prevention of pandemics in the near future have also taken center stage in laboratories and lab-based research.

This study is assessing the effects of pandemic on the research in the field of Immunology and microbiology, especially within India and around the world. Within Microbiology, there are areas of specialization. It is the study of various effects of microorganisms. Various techniques developed by microbiologists are used as a foundation for studying higher organisms in molecular biology and cell biology. Immunology is the study of the immune system, including its structure and functional

disorders of the immune system, blood, immunization, and transplantation (Kaur & Gupta, 2009)

The study assesses the volume of publications in Immunology and microbiology, especially in the world, changes in the pattern of international collaboration co-authorship of these papers with respect to India, and the possible link between changes in journal metrics and the pandemic. The aim is also to identify important sources of research in immunology and microbiology in India and the world and study the changes in the bibliometric characteristics of these journals due to the pandemic.

Two approaches are used: a short-term analysis through which changes during the first year of the outbreak are examined and a longitudinal approach through which changes are examined in comparison to the previous four years. The study uses metrics and indicators to quantify and evaluate the pattern of publication in Immunology and Microbiology, especially in India and the world. M.S. Excel was used to evaluate and visualize the collaborative interaction among the variables for the study. Data regarding publication is retrieved via Scopus. The Scopus database currently is the world's largest abstract and citation database of peer-reviewed scientific literature compared with PubMed or Web of Science.

In the findings, many broad areas pertaining to this topic will be answered. The hypothesis and their validation will give the results and findings of this study.

- Study the pattern of co-authorship changes in immunology and microbiology. Analyze the co-authorship and mega-authorship trends and the evolvement in times of pandemic.
- Study international collaboration, the diversity of countries and rate of increase in collaboration in the field of Immunology and Microbiology.
- Study the change in the volume of scholarly literature in Immunology and Microbiology in India and the world due to the pandemic. Specifically, understanding the gap between the quantity and the quality of these papers and the rush to publish excessively is another question.
- Study the reduction in the volume of publications of other non-COVID-19 papers in Immunology and Microbiology and the intentional rise in COVID-19 papers.
- Study the changes in the pattern of top journals in India and the world evolved in the Pandemic.

**Keywords:** Scientometrics analysis, Immunology and Microbiology, Scopus, research output, COVID.

## **Exploring global contribution in the development of 5G: A bibliometric study**

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### **ABSTRACT**

5G, or the Fifth generation, is in high demand at the present time. It was implemented in 2020 because of the population's high demand for better communication. Communication has totally changed in the present time due to the lack of time. Everyone wants to have a higher speed on the internet and communication. 5G is related to IoT or the Internet of Things. The centre of interest of this study is to explore the citation trends, production of countries, and keywords used in the 5G research.

This is a bibliometric analysis using the SCOPUS database for relevant documents based on 5G research with popular keywords during the period from 2016 to 2022. In this study, VOSviewer software is used for network visualization, and MS Excel is used for preparing statistical data.

This study reveals that 5G research is globally rising. Asian countries have played a significant role in the 5G research. China, the United States, and India provide the maximum output related to this research. There are 681 authors who published 13279 documents that indicate the richness of the literature in 5G research. China contributes in large amounts by the contributions of its authors. Surprisingly, India achieved the dream position with their contributors, which showed 5G communication is popular around the world.

This study presents a novel bibliometric study that investigates global contributions and trends in the development of 5G technology, providing valuable insights into the evolution of this transformative technology.

**Keywords:** 5G, Bibliometric analysis, citation, IoT.

## **Visualization of global research productivity of digital divide using Web of Science database: A bibliometric analysis**

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### **ABSTRACT**

The aim of the study was to have exploring the global research productivity of digital divide phenomena during the period 2002 to 2022. The study will be helpful for investigation the growth pattern of literature concerning the digital divide. The conducted study comprises a total of 749 research articles on global productivity from the Web of Science database in a span of 20 years (2002-2022). The secondary data has been collected from the Web of Science database by using keywords digital divide and library (All Fields), digital divide or virtual library (All Fields) and digital divide and digital library (All Fields), and digital divide and ICT skills (All Fields) and Digital divide or teaching (All Fields) or digital divide and pedagogy (All Fields) or digital divide and information literacy (All Fields) and Digital divide or Digital literacy (All Fields) and Digital divide or computer science (All Fields) and digital divide or mobile app (All Fields).

**Keywords:** Digital, divide, global, research, library, funding.

## **Gen Z, metrics, and academic libraries: The use of metrics in shaping academic library for Gen Z**

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### **ABSTRACT**

The term "Gen Z" refers to the group of people who were born between 1996 and 2010 and who are thought to have grown up on social media, digital technology, and the internet. Gen Zers are often very online, having been the first generation of true digital natives. In Asia, Gen Zers spend six or more hours a day on their phones; they are recognized for working, shopping, and forming friendships online (McKinsey & Company (2023).

The primary objective of the study is to explore the characteristics of Gen Z and their pattern of using information. This study will also highlight the importance of quantitative metrics in identifying the needs of the Gen Z for developing plans to meet their diverse information needs.

This study is conceptual in nature and will follow a qualitative approach. The authors will extensively review relevant articles on the topic and articulate the concept of Gen Z and their features, importance of metrics in developing plans for academic libraries. To deal with the diverse needs of Gen Z, the authors will use their insights and experiences.

This study will highlight the areas where metrics can be applied to understand the existing nature of Gen Z in academic libraries. The academic libraries need to develop plans or strategies based on the collected data from the Gen Z. The metrics should be applied on a regular basis to explore the changing needs of Gen Z. Without proper analysis of metrics, it is not possible to meet the diverse needs of Gen Z. It is also important to understand that a single plan or strategy will not be applicable for a longer period of time. The behavior of Gen Z will change radically with change in technology. AI-based (Artificial intelligence) tools are now predominantly used by Gen Z. Therefore, academic libraries particularly need to develop strategies for an existing situation rather than a long-term plan.

This study will help information professionals of academic libraries to understand the need of metrics in shaping academic libraries based on the demand of Gen Z.

**Keywords:** Gen Z, Metrics, academic libraries, developing country.

**Reference:**

McKinsey & Company. (2023, March 20). What is gen Z?  
<https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-gen-z>

## **Global progress in geopolitics research: A fifty-year bibliometric outlook**

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### **ABSTRACT**

Geopolitics is a method of studying international relations from the perspective of geography. It is used to understand, explain, and predict international political behavior through geographical variables focusing on international relations. Geopolitics exerts powerful influences on the course of economic and political development in the world. In recent times many changes have happened around the world due to the war situation in the European region (Russia-Ukraine conflicts) and developments happening in Indian subcontinents. Due to the geopolitics subject of geopolitics is to study for policy decisions and interpretation. It is essential to have a systematic analysis of research happening around the world, especially focused on the SAARC region, to analyze its impact on international geopolitics.

Using bibliometric methods, the objective of this paper is to review the research progress in geopolitics from an international perspective with more focus on the SAARC region using bibliographic data from SCOPUS for a period of fifty years, starting from 1973 until 2022.

The search strategy with keywords “Geopolitics” or “Geopolitical” in Title, Abstract and Keywords fields yielded over 30701 articles. The key areas of research that emerge over time include geopolitics, international relations, foreign policy, globalization, climate change, war, and regional security are the prime areas of research. Meanwhile, China, the United States, Russia, Europe, and India are the most covered regions for geopolitics research.

At the same time, trends in geopolitics research appear to be escalating, especially towards humanism-embeddedness (such as emotional geopolitics, feminist geopolitics, migration, energy policy, etc.

The bibliometric analysis reveals that the most number of articles have been published in Geopolitics and Political Geography. Among SAARC countries, India and Pakistan have contributed a good number of articles on geopolitics. Before the year 2010, the

publication growth followed a linear pattern, but thereafter, exponential growth can be observed as a trend that the geopolitics is increasingly set in the context of geographical implications.

This paper aims to analyze the contribution and geopolitical impact of the SAARC region. Through the analysis, it is also found that the economic condition, border security, and hunger are emerging areas of research reported through geopolitics. So, it is concluded that geopolitics is an important area of research, and it helps researchers to analyze the context, especially in the area of policy decisions and the results reported in this research shall be a guiding path into that direction,

**Keywords:** Geopolitics, bibliometrics, international relations, research trends SAARC region.



## **Research assessment and management: The narratives from academic libraries' efforts**

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### **ABSTRACT**

Research assessment is an efficient interaction that academic institutions use to evaluate students' test performance. In addition, it helps in collecting information regarding students' attitudes, skills, and knowledge. The selection of projects and researchers for funding, the determination of career advancement, and the evaluation of research institutes and units all rely on research assessment. Throughout the research lifecycle, research assessment is an ongoing and necessary activity to support research excellence and integrity by prospective students and staff, journal referees, grant reviewers, university managers, research funders, and hiring committees.

The current paper explains various Research assessment methods, components, and management techniques. This paper looks at different research metrics across different fields and how they can help increase the quality and effectiveness of research. With the help of the Web of Science Core Collection database, the literature of the last five years was explored. This paper examines the different types of research management systems available within institutions and how the increasing use of quantitative indicators impacts various aspects of research.

The assessment of research quality and accountability for research funding are significant issues in higher education. Research management encompasses a wide range of topics, including the ability and motivation of personnel to carry out research activities, the adequacy of the research to the requirements of stakeholders, including the host university, and the utilization of the results.

The paper has analyzed the literature in the context of responsibly using quantitative and qualitative indicators when assessing and managing research. To propose a framework, the study has explored various Research Portal of National and International Universities and will study the Research Data Software and applications used for framing the best indicators in research and management.

**Keywords:** Research assessment, academic libraries, research data management, research metrics, quantitative and qualitative indicators, university research portals, research funding.

## **Think tanks and the Bangladesh Institute of Development Studies (BIDS)**

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### **ABSTRACT**

▪ What is think tank?

Think tanks, sometimes also referred to as policy institutes, are organizations that perform research and advocacy (i.e., strongly supporting a specific cause) concerning domestic and international topics such as political strategy, economics, military, technology, social policy, and even culture. They enable policymakers and the public to make informed decisions about public policy (McGann, 2021). These institutions often act as a bridge between the academic and policymaking communities and between states and civil society, serving in the public interest as an independent voice that translates applied and basic research into a language that is understandable, reliable, and accessible (McGann, 2021, p. 13). Most think tanks are non-governmental organizations, but some are semi-autonomous agencies within a government or are associated with political parties, businesses, or the military. Think-tank funding often includes a combination of donations from very wealthy people or organizations (for this reason some consider think tanks as elitist institutes) and the general public, with many think tanks also accepting government grants ([https://en.wikipedia.org/wiki/Think\\_tank](https://en.wikipedia.org/wiki/Think_tank)).

Think tanks publish articles and studies and even draft legislation on matters of policy or society. These reports are then used, sometimes directly but more often as a source of inspiration, by governments, businesses, media, social movements, or other interest groups. Like for universities, the research performed by different think tanks differs widely in quality. Consequently, also similar to the case of universities, some groups such as the Think Tanks and Civil Societies Program (TTCSP) at the University of Pennsylvania, led by James McGann, have tried to rank think tanks. This is discussed further on.

A relatively recent trend resulting from globalization is collaborations between policy institutes in different countries. For instance, the Carnegie Endowment for International Peace used to operate from offices in Washington, D.C., Beijing, Beirut, Brussels, and Moscow.

The importance of non-governmental think tanks is illustrated by the case of India, where the government tries to suspend the work of the Centre for Policy Research (CPR), which is known for its independent policy studies (Lewis, 2023).

#### ▪ Rankings

The Think Tanks and Civil Societies Program (TTCSP) at the University of Pennsylvania, led by James McGann, annually rated policy institutes worldwide in several categories and presents its findings in the Global Go-To Think Tanks rating index (McGann, 2021). This institute maintains information on over 8,000 think tanks in a large, comprehensive database. However, as TTCSP studies and assesses policy institutes mainly by consulting a panel of experts (with no emphasis on quantitative data), this method has been criticized. We see here a parallel with university rankings as published by the Academic Ranking of World Universities (ARWU) and the Times Higher Education (THES), which have also been heavily criticized for methodological reasons.

In the latest TTCSP report the Brookings Institution, Washington D.C. (USA) was ranked first. Among the non-American think tanks Brueghel (Brussels, Belgium) was the leader.

#### ▪ Some country information

The oldest American think tank (in today's sense) is the Carnegie Endowment for International Peace, founded in 1910. The Institute for Government Research, which later merged with two organizations to form the Brookings Institution, was formed in 1916. This think tank is ranked first in the latest TTCSP report. Other important American think tanks are the RAND Corporation, the MITRE Corporation, the Institute for Defense Analyses, the Aerospace Corporation, and the MIT Lincoln Laboratory, among others. Brussels (Belgium) hosts most of the European Institutions, and a large number of international think tanks are based there. Well-known think tanks are Bruegel, the Centre for European Policy Studies (CEPS), and the Centre for the New Europe (CNE). The leading think tank in Bangladesh is the Bangladesh Institute of Development Studies (BIDS), situated in the capital Dhaka.

#### ▪ Bibliometrics

A preliminary simple query TS= "Think tank\*" in the Web of Science (WoS) on April 21, 2023, yielded 2,585 results. Most of these fall in the WoS category Political Science (437 ones), followed by International Relations (196) and Public Administration (188). There were 38 documents in the category Information Science and Library Science. We found eight bibliometric studies about Think Tanks, mostly in relation to climate change (Janko et al., 2014).

▪ Leading think tanks and their bibliometric data

A preliminary investigation in the WoS for the Brookings Institution found 4,834 documents, from which (Kaufmann et al., 2011), a collaboration between investigators from Brookings and the World Bank received 1617 citations (on April 24, 2023). Publications by Brookings are mainly classified in the WoS categories Economics (1369), Political Science (1168), and International Relations (917). The oldest ones (in the WoS) date from 1966. S. Talbott is the most active Brookings researcher with 158 publications (again: in the WoS). Note, though, that the focus of think tanks is on reports, not academic articles. Such reports are usually considered grey literature.

▪ Bangladesh and BIDS

The Bangladesh Institute of Development Studies (BIDS) was established in June 1957 when it was named the Pakistan Institute of Development Economics (PIDE), situated in Karachi (Pakistan). In January 1971 it was renamed Bangladesh Institute of Development Studies and shifted to Dhaka, the capital of the newly independent country Bangladesh. Two other national-level research institutions: 'Population Study Centre' and 'National Foundation for Research on Human Resource Development (NFRHRD)' have merged with BIDS in 1982 and 1983 respectively. Contributions by scholars from the institute have appeared in Bangladesh Development Studies (BDS), the peer-reviewed journal published by BIDS. The journal started as "The Bangladesh Economic Review" (BER) in January 1973. This name was kept for 6 issues when the journal was renamed the „Bangladesh Development Studies“ in 1974. The current issue is no. 1&2 of volume 44. A total of 874 publications of BIDS-affiliated authors (International: 357; National 517) can be found in the union of the Web of Science, Scopus, and Econlit (Murshid et al., 2021). Other formats of publications of BIDS researchers found in these databases include books (36), research monographs (23), research reports (189), occasional papers, public lectures (4), project report series (3), working paper series (23), and some book chapters. Since its establishment BIDS has been playing a leading role in social science research on critical national and regional development issues. The Global Go To Think Tank Index (GGTTI) choose 174 organizations as top think tanks worldwide in 2020. The Bangladesh Institute of Development Studies (BIDS) advanced 10 ranks to 94th in the 2020 GGTTI from 104th position in the previous year. It achieved 17th place in the region and ranked 1st over the period in Bangladesh.

Think tanks play an important role in supporting national and international governments and other military and civil institutions. They often form a bridge between the government and academia. Originating mainly from the West, nowadays most countries from the Global South have understood the role of think tanks and harbor think tanks within their borders. Bangladesh“ BIDS is a prime example.

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## **The contribution of Bangladesh in social science research: A scientometric study**

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### **ABSTRACT**

In this study, we apply some simple mathematical and statistical analyses on author records in the Social Science Citation Index (SSCI), one of the databases of the WoS. We take into account only authors affiliated with Bangladesh (using the query CU=Bangladesh) in the SSCI. Besides elementary observations such as finding the most productive Bangladeshi scientists in different fields and the most productive universities, we also found the most-cited articles, authors, and universities. A regression analysis of citation and publication data has been performed to establish relationships between these variables. Some association measures have also been computed to quantify the yearly strength of the relationship between the number of publications and the number of citations. While the growth of the number of publications each year has been exponential, we noticed some deviations in the case of the number of citations. The results of our analysis indicate an improvement in the quantity and quality of social science research (SSR) in Bangladesh.

**Keywords:** Bibliometrics, social science research, Web of science, Bangladesh, information science.

## **Network visualization of research landscape of Assam University, India: A bibliometric study**

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### **ABSTRACT**

The study aims to investigate the scientific performance of Assam University, India. The data extracted from the Scopus database covered 10 years (2013 to 2022). The key focus of the study is to visualize the research publication trends with various bibliometric indicators and apply a visualization approach in the form of co-authorship, co-occurrence of the keywords, and co-citation.

The data collected from the Scopus database contains bibliographical information and citations. Bibliographic records of Assam University were retrieved using an affiliate search from 2013 to 2022, which yielded 2,934 publications. The data was imported into CSV format with all the necessary bibliographical details. The Bibliometrix software package was used to analyze bibliometric indicators, and VOSviewer was used to visualize the results.

The maximum number of published papers by Assam University researchers were profoundly distributed within the area of Biochemistry, Genetics, and Molecular Biology. The highest number of publications was recorded in 2022. S. Roychoudhury, from the Department of Life Science and Bioinformatics, emerged as the most productive author, with 127 (1.07%) publications and 1,678 citations. The most prolific journal was the Journal of Advances in Intelligent Systems and Computing, published by Springer Science and Business Media Deutschland GmbH. The paper titled "The effective number of Codons Used in a Gene" by Wright, F. (1990) is the most co-cited reference with 30 citations and has the strongest link values. The keyword "Human" appeared most frequently (457 times). Regarding research collaborations, India and the United States had the highest number of citations. The most cited research article was Choudhury, S. (et al.) (2013), published in Plant Signaling&Behavior has an average citation rate of 41.18 per year.



The study highlights the research productivity and visualization trend of Assam University, based on the Scopus database. Network analysis was conducted using VOS viewer to analyze the co-authorship mapping of countries, the co-occurrence *of* keywords, and the co-citation of cited references. This study provides valuable insights for university authorities and policy planners, enabling them to understand research trends and scholarly output regarding production, impact, and collaboration.

**Keywords:** Bibliometric analysis, Assam University, Scopus, visualization, co-authorship, co-occurrence.

## **Assessing open access friendliness of Bangladesh top 10 public universities: A data carpentry approach**

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### **ABSTRACT**

In the current study, the open access friendliness of the top 10 public academic institutions in Bangladesh that have been ranked by the University Grants Commission of Bangladesh for 2023 is examined. Open access friendliness has been measured based on two areas: i) the OA publication area and ii) the use of a license in OA publications. The research uses data carpentry tools and techniques to collect and extract OA data from a variety of sources that are all available under the terms of the Open Database License (ODbL). To complete this extensive study for ranking the top 10 Bangladeshi public academic institutions by their Open Access, a data carpentry tool called OpenRefine and open access bibliographic/citation data sources like Unpaywall, Dimensions, are used.

**Keywords:** Data carpentry, open access, open access friendliness, creative commons, open database license, open refine.

## **The Impact of academic-corporate collaborations on enhancing the library and information science field in India: An empirical evaluation**

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### **ABSTRACT**

The academic-corporate collaborations offer numerous benefits, careful attention should be paid to ethical considerations, ensuring transparency, intellectual property rights, and avoiding undue influence on academic freedom and research integrity. It is to create synergies between academia and industry, driving innovation, enhancing education, advancing research, and ultimately improving library services and information access for the benefit of users and society. It is to leverage the strengths and expertise of both academia and industry to drive innovation, enhance education and training, promote research and development, and improve the overall quality of library services and information access in the country.

Here are some approaches that can be adopted for academic-corporate collaboration in the context of library and information science in India:

Research Partnerships, Technology Transfer and Knowledge Exchange, Internship and Job Placement Programs, Joint Funding and Grant Applications, Collaborative Development of Open-Source Software, Advisory Boards and Industry Mentors, Joint Workshops and Training Programs, Collaborative Initiatives for Community Outreach, etc.

some common findings and observations from previous studies and initiatives include: Improved access to resources, Enhanced research outcomes, Industry relevance of academic programs, Skilled workforce and employability, Commercialization opportunities, Knowledge sharing and dissemination, etc.

There are several limitations associated with academic-corporate collaboration in the context of library and information science in India. Some common limitations include: Conflicting Priorities, Resource Constraints, Intellectual Property Concerns, Administrative Hurdles, Limited Generalizability, Ethical Considerations, etc. It is important to recognize these limitations and proactively address them in academic-corporate collaborations in order to maximize the potential benefits and overcome any barriers or challenges that may arise during the collaborative process.

It encompasses improved library services, industry-relevant education, practical training opportunities, technology transfer, industry-ready graduates, research advancements, networking opportunities, and the fostering of an entrepreneurial ecosystem for the overall growth, innovation, and sustainability of the library and information science sector in India.

It encompasses increased access to information, user empowerment, bridging knowledge gaps, community engagement, preservation of cultural heritage, democratization of knowledge, social innovation, and public policy development. These implications contribute to building an informed and inclusive society that values the role of information in social, educational, and economic development.

It generates new knowledge, innovative technologies, unique service models, and entrepreneurial ventures that contribute to the field's advancement. It involves pushing the boundaries of existing practices, embracing novel approaches, and creating solutions. It contributes to the advancement of the field, drives innovation, and enables the development of unique solutions that address the evolving needs of libraries and information centers. By fostering an environment that encourages exploration, creativity, and the pursuit of innovative ideas, collaborations can generate original contributions that advance library and information science in India.

**Keywords:** Artificial intelligence, generalizability, employability, commercialization.

## **Dissecting university press releases: Direct announcements and news coverage**

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### **ABSTRACT**

Traditionally, our analysis has relied on press releases retrieved from a newspaper company-produced database, NikkeiTelecom21. However, recent years have seen a surge in the number of press releases issued directly by universities, with only a fraction being included in the database. Our comparative study between NikkeiTelecom21 and the Nikkei Shimbun website revealed that, while the number of press releases on the former has seen a decline since 2019, the latter has maintained a stable output. Moreover, an investigation of press releases sourced directly from the websites of four universities registered with the Science Portal exhibited substantial variation in their Nikkei press release publication rates. This discrepancy highlights potential biases in press release dissemination and underscores the need for a broader representation and comprehensive analysis of university press releases.

**Keywords:** Newspaper, news coverage, NikkeiTelecom2, Nikkei Shimbun.

**Scientometric indicators of open access journal of library users in department of legal studies and governance of Shridhar University Pilani Rajasthan: A trend analysis for 2021-22**

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**ABSTRACT**

The paper investigates in three scientometric indicators, namely SCImago Journal Rank (SJR), h-index and total citation count for two year period, of open access (OA) journal in Law, based on the data appeared in the SCImago Journal and Country Rank database for the period 2021- 2022. Statistical analysis to test whether the SJR, h index and citations of OA Journals in Law significantly differ throughout the years is conducted using Kruskal-Wallis test. It is observed that scientometric indicators of OA Journal under study remain almost steady during the period.

**Keywords:** Bibliometric study, h-index, open access journals, law and legal studies, scientometric indicators, scimago journal rank.

## **Role of snowball metrics in academic research**

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### **ABSTRACT**

It is extremely difficult to do so due to the lack of universal measurement benchmarks in academic research. It's past time to standardize academic research. Metrics are a vital component of the evaluation environment, but no single metric can capture the entire picture. The snowball metrics are a technique for measuring the outcomes of academic research. Snowball metrics have developed recipes that anyone can use to create comparisons and slice and dice data on a variety of study topics. Snowball Metrics provides a solid foundation for assessing research performance as well as data interchange and analysis.

The Snowball Metrics are designed to give an agreed-upon methodology that may be systematically applied to research management data, facilitating benchmarking between institutions. Snowball Metrics effort seeks to bring together research-intensive institutions to share knowledge and experiences to agree on best practices in evidence-based institutional strategic planning. The Snowball Metrics Recipe Book contains agreed-upon and tested metrics "recipes" or approaches that can be used by any organization, whether for public or commercial reasons. This is a free service that allows anyone to exchange information with a peer institution. This research will look at all areas of snowball metrics and academic research. The researcher can learn about snowball metrics and how they work as a result of academic study from this paper. Aside from that, the author attempts to provide some observations on how the research products can be measured using these measures. Data for the study were acquired from various print and digital sources using the keywords snowball metrics, academic research, Indian research, and metrics. Everyone can exchange information with the peer institution.

**Keywords:** Research metrics, snowball metrics, academic research and research products.

## **Visualization of scientific research collaboration network between India and Sri Lanka during the last 25 years (1998- 2022)**

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### **ABSTRACT**

Analyzing and evaluating scientific research collaboration enhances the cooperation, co-ordination, sharing of knowledge and solving the complexity of research and thereby improves the scientific achievements among the participating countries in the research process. The study analyzed 2616 publications from Scopus using bibliometrixR package. The research has undertaken to know the depth of research collaboration between two neighboring countries India and Sri Lanka through publication analysis during the last 25 years. The result showed that scientists had chosen „Journal of High Energy Physics“ to communicate 280 articles (i.e., 10.7%) of co-authored articles, followed by „Physics Letter Section B“ (5.47%) and Acta Crystallographica (4.2%). The result revealed a strong collaboration between researchers of India and Sri Lanka in the field of physics and medical science.

**Keywords:** research collaboration; network visualization; India; Sri Lanka; bibliometrixR.



## **Collaboration in the food sector: Strengthening the research partnerships for innovation**

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### **ABSTRACT**

Collaboration is well suited to investigating research questions that cross over the parameter of multiple disciplines, succors to increase capacity to approach more intricate research issues. Collaborative knowledge partnerships constitute an intrinsic feature of scientific research, perhaps more a need than a choice. Combating hunger, malnutrition, and improving the functioning of food is now an even greater priority of policymakers across the world, requiring research strategies to address issues and find solutions. Thus, addressing global problems with global solutions is a need of the hour. Hence collaborative partnerships for sharing resources, expertise and innovative ideas and their possible execution through research collaborative endeavors become imperative. This paper explores the diffusion and characteristics of collaborative relationships. It examines collaborative scientific research communication networks in food science based on analysis of 14709 publications retrieved from SCOPUS, providing insights into current trends/opportunities for further research endeavors to facilitate business proposition, academic pursuits, and social well-being. Analysis divulges that effective collaboration in research begets manifold benefits for researchers by combining expertise and resources. Academic-corporate sector partnership performed better w.r.t world average, impact and ensuing furtherance of research commercialization initiatives.

**Keywords:** Scientific communication, knowledge networks, collaborative research, academic-corporate partnerships, food science.

## **India's social science literature (SSL): Towards an analysis of bibliographical citations**

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### **ABSTRACT**

The purpose of this article is to present a segregated view of bibliographical references that are listed at the end of scholarly papers in social science journals. Various types of source material used by the social scientists, their relative importance (in a quantifiable manner), style of rendering, completeness etc. have been examined. Twenty-three sample articles from two Indian journals, *Indian Economic and Social History Review (IESHR)*, a quarterly publication and *Economic and Political Weekly (EPW)*, have been taken for this study. Bibliographical references (990+141) listed at the end of these sample articles have been manually processed to find out certain details like type and form of literature used by the social scientists, the age of references, their place of origin, factors that influence the use of particular type of source material.

The findings affirm some of the suppositions. They are: a) books as source material have a dominant role in social science research, b) both old and new material is used by the researchers, c) non-conventional unpublished material are also used, d) regional language publications are important sources, e) researchers in S&T disciplines, economists prefer recently published journal articles. There are many cases in which date of release (or creation) of a micro document could not be ascertained. The study has been conducted with a small sample of references. For an in-depth analysis, one could a) relate them with the topic of research (whether the subject dealt is current or history oriented); b) to see how the researchers choose or get access to the source material; c) whether there is adequate well-documented research material in the country itself; d) whether there is a standard method of preparing metadata of unpublished micro literature b) whether special collection based research can be promoted in Indian libraries etc. The article attempts to analyze the bibliographical references from the viewpoint of a library professional. An expanded version of this type of study confined to a specific discipline or topic would enable us to provide an insight into the content, structure, use (or non-use) of various kinds of source material. Though a large number of papers have been written on bibliometric analysis of social science periodical literature, there is hardly any study conducted on this related or adjunct subject in India or in the sub-continent.

**Keywords:** Social science literature, India, bibliographical references, classification of source material, unpublished sources, Indian economic and social history review, economic and political weekly.

## **Research contributions of Prof. Ajay Kumar Sood to Physics: A scientometric study**

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### **ABSTRACT**

The authors attempt to present the research contributions of Professor Ajay Kumar Sood, Department of Physics, Indian Institute of Science (IISc), Bengaluru, India. Presently he is the Principal Scientific Adviser to the Government of India. The study analyses the research publications indexed in the Scopus bibliographic database during 1979-2022. He published 494 research papers and received 23214 citations. His h-index is 47. He has 7 patents (up to 2013). His 98.6% of research publications were multi-authored and have received 99.2% citations indicating a high degree of research collaboration. The study revealed that 2012 was the most productive year with 26 research articles. Muthu, D V S with 80 publications was the most collaborative author, and the USA with 27.9% was the most collaborating foreign country.

**Keywords:** Scientometric study, Ajay Kumar Sood, Indian Institute of Science, Physics, bibliometric study, research contributions.

## **Exploring the frontiers of social science research in India: A scientometric perspective**

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### **ABSTRACT**

Research in the field of social sciences has an integral role in finding solutions to the current social, economic, and political issues faced by society, such as poverty, inequality, governance, and sustainability. India has a large number of academic institutions and scholars who conduct a diverse range of social research to advance human civilization. Thus, India is rapidly emerging as a significant contributor with its scholars and institutions making substantial contributions to knowledge production and dissemination on a global scale. Therefore, there is a need for a quantitative assessment of the expansion of body of literature of social science domains in last two decades in different dimensions, such as publication growth, research impact, collaboration patterns in both domestic and international, key players (authors, institutions, and funding agencies) and emerging research themes etc. To address the above-mentioned issues, a quantitative investigation has been conducted based on bibliographic data collected from the Social Science Citation Index (SSCI) using scientometric tools and techniques. The study reports that, during the last two decades (2001-2020), India has produced 9,448 research papers in social science, followed by Portugal (8,940), Poland (8,627), and Singapore (8,186), whereas the USA has published the highest number of research papers (618,752). In the year 2001, only 188 research papers were published by Indian social scientists, whereas in 2010, it increased to 479 and in 2020, it showed 1,240. So, a constantly increasing trend in the growth of literature has been found throughout the years. The National Institute of Mental Health and Neurosciences India has contributed the highest number of research papers (736), followed by IIT System (634), the University of Delhi (393), and IIM System (353). A total of 2,263 papers have been published in Psychiatry (23.952%), followed by Information Science and Library Science (1,127) and Anthropology (1,094). Only 23.740% of total research has been published in Open Access (2,243), but the trend is increasing slowly. Indian researchers have received financial support from both international and national level funding agencies. Interestingly, the top four funding agencies are from outside the country, namely the United States Department of Health and Human Services (342), the National Institutes of Health, USA (337), UK Research and Innovation (140), and the Wellcome Trust, UK (129). Among the national funding agencies, notable examples are the

National Institute of Mental Health (119), followed by the DST India (112), UGC (112), and ICMR (102). However, only six papers have been published that received financial assistance from the ICSSR to conduct research. Shalini Grover has contributed the highest number of papers (161), followed by Andrade Chittaranjan (130) and Saurabh Kumar (118).

The findings of the study have the potential to contribute to the advancement of social science research in India and its relevance in addressing contemporary societal challenges in the 21st century.

**Keywords:** Social science research, scientometric analysis, India, research evaluation, open access, research impact, research visualization, citation analysis.

## **Data Papers in Social Science: An Evidence-Based Longitudinal Analysis Using Scientometric Methods**

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### **ABSTRACT**

Data papers are a subgenre of scholarly articles that describe and distribute datasets along with instructions (full documentation) for their use, re-use and sharing. Data papers have grown increasingly prevalent in the academic community as data-driven research methods have gained prominence. Researchers in the field of social science have begun publishing data from their studies as "data papers" in an effort to boost openness in the field, as well as the transparency, accountability, reproducibility, and sustainability of their research.

The primary objective of the research is to report on the global landscape of data papers in social science and allied subjects based on quantifiable characteristics of publications. The primary data for the study has been collected from the Scopus database, published by Elsevier. The bibliographic and citation data on 'data papers' were retrieved on April 20, 2023, using the following search string: "SUBJAREA (busi OR deci OR econ OR psyc OR soci) AND DOCTYPE (dp) AND (EXCLUDE (PUBYEAR, 2023))" in the advanced search section to visualize the global panorama. A total of 1734 records were retrieved and analyzed using scientometric tools and techniques, and the VOSviewer software was used to visualize the research themes.

The study reveals that a total of 169 unique authors (who have published a minimum of 3 papers) from 160 institutions in 137 countries have contributed 1734 data papers during 2019-2022, with an average of 578 papers published every year. The US has contributed the maximum number of data papers with high impact (655 papers and an h-index of 46), followed by China (351 papers, h-index 32), the UK (295 papers, h-index 37), Germany (281 papers, h-index 30), and France (177 papers, h-index 28). The Chinese Academy of Sciences (93) has contributed the highest number of data papers, followed by CNRS Centre National de la Recherche Scientifique (91), the University of Chinese Academy of Sciences (50), the Ministry of Education China (40), the University of Oxford (39), and the University of Cambridge (39). Professor Jacqueline M. Cole of the University of Cambridge has published the highest number of data papers (7). Most of the researchers have preferred the Scientific Data journal (91%) to

publish their data, followed by the Journal of Open Archaeology Data (27), Data (25), and Frontiers in Psychology (23). It has been found that 96.79% of the data papers support open science as they are published in different paths of open access models (Gold, Green, Bronze, etc.). The National Natural Science Foundation of China (198), the National Science Foundation (142), the National Institutes of Health (120), the Horizon 2020 Framework Programme (96), and the National Key Research and Development Program of China (75) are the top five funding bodies that have provided financial support globally for research and development in the field of social science.

However, from this current study, researchers can gain a better understanding of the impact and value of data papers in social science research. These findings can help them identify research gaps and opportunities, facilitate interdisciplinary collaboration, and promote best practices in data sharing and management. Ultimately, the study can lead to more transparent, reproducible, and impactful research in the social sciences.

**Keywords:** Data paper, data journal, data publication, social science, scholarly communication, scientific communication, open science, citizen social science.

## **A smart library using internet of things (IoT)**

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### **ABSTRACT**

Nowadays, Information and Communication Technology (ICT) and related points such as Internet of Things (IoT) have a fundamental impact on all components of human life. IoT as a predominant wonder is changing standard of living by the utilization of the keen highlights of Radio Frequency Identification (RFID) and Wireless Sensor Network (WSN) innovations. As IoT advances, it has amplified in estimate and measurement, making strides numerous settings of the society such as, the conventional library framework, The IoT empowers network of a physical question (such as a book or other content typologies) with the real-time communication innovation by utilizing the RFID labels and modest sensors. The persistent observation of books in genuine time and the following of labeled objects topographically are a few desirable characteristics that result from the utilization of the IoT labels. These characteristics of IoT permit actualizing an internet library supply chain, joining it with different types of advances such as information bases, information gathering, and cloud frameworks. The Internet of Things can moreover give a worldwide connection to a huge number of libraries and colleges in genuine time, all the time. It is concluded that the IoT-based library administration frameworks will be a promising structure that can play an imperative part within the human information organization and information get to by making a difference analysts, architects, and directors in a more effective and more intelligent way. In this article, the authors represent a review study based on Internet of Things (IoT) based Library Management system for smart automation technology purpose.

**Keywords:** IoT, library management system, RFID.



## **Analysis of scientific productions regarding knowledge management with the open innovation approach**

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### **ABSTRACT**

Knowledge, information and communication technologies, innovation, globalization, and their interplay have been significant drivers of societal and governmental development in contemporary times. The research aims to reveal the dimensions and components of knowledge management with an open innovation approach through scientometric analysis and systematic review of related scientific publications in the Web of Science citation database.

This research is a descriptive applied study that was conducted with scientometric and systematic review approaches. In the scientometric stage, the techniques of co-occurrence analysis, social network analysis, hierarchical clustering, and strategic diagram were used, and in the systematic review stage, the Prisma model, content analysis method, and coding techniques were used. Additionally, Excel, VOSViewer, UCINT, BIB Excel, and SPSS were employed to address scientometric research questions. The initial statistical population for this study consisted of all relevant studies on KMOI in the WoS database from 2006 to 2022. A total of 1,218 records were retrieved by the search strategy. A total of 32 English articles and 29 Persian articles and dissertation theses were included in the systematic review.

**Findings:** The mean growth rate of scientific productions during 2006 to 2022 was 24.829%, indicating a positive trend in scientific productions associated with KMOI. The keywords "performance, research and development, and absorptive capacity" had the most frequency and links and the keywords "manufacturing companies, open innovation methods and open-source software" had the most citations; Following the co-occurrence analysis of 4187 keywords extracted from scientific publications by applying a co-occurrence threshold of 5, 8 clusters containing 367 topics and keywords were formed and identified. Hierarchical clustering resulted in the formation of 5 clusters. Clusters of Knowledge management based on innovation and open innovation, and the requirements and consequences of open innovation are among mature clusters, clusters of innovation based on ecology and organizational performance based on knowledge and innovation are among developed clusters, and the cluster of knowledge management practices and processes with an open innovation approach has not yet reached maturity. A systematic review results led to the identification of 4 themes, 17 main categories and 316 subcategories. Among the identified codes, the codes "internal knowledge management capacity", "innovation capacity", "knowledge management capabilities", "information technology infrastructures", "innovative performance", "diversity in openness", "willingness to collaborate", and "Cooperation with suppliers and competitors" had the highest frequency, respectively.

This research has provided an overview of the important and growing issues in this field by drawing the existing knowledge related to knowledge management and open innovation. While creating a comprehensive perspective through the identification of the main topics and clusters discussed in this field, the research will be useful for those involved in the fields of research, education, and organizational managers. In other words, knowledge-based societies and organizations will be able to improve the level of learning and productivity and create value by considering the concepts, themes, and categories identified in today's competitive environment.

**Keywords:** Knowledge management, open innovation, open science, knowledge-based, scientometrics, systematic review.

## **Sustainability-oriented service innovation in library science: A review and future directions**

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### **ABSTRACT**

As the world faces an increasing number of environmental challenges, the importance of sustainability has become more apparent in all areas of society. Libraries, as centres of learning and community engagement, have a unique role to play in promoting sustainability and addressing these challenges. One keyway that libraries can contribute to sustainability is through service innovation – developing and implementing new and creative service models that support sustainable practices and encourage community engagement.

This research article focuses on the intersection of sustainability and service innovation in library science, exploring how libraries can best develop and implement sustainable service models. The article draws on a literature review of relevant research and case studies of innovative library programs from around the world. The article identifies key strategies and best practices for designing and delivering sustainable library services by synthesizing and analyzing these sources. The findings of this research suggest that sustainability-oriented service innovation is important for addressing environmental challenges and advancing libraries' role as community hubs and catalysts for positive change. Libraries can play a vital role in promoting sustainability by providing access to resources and information, fostering community engagement, and demonstrating best practices in their own operations. By developing innovative service models that prioritize sustainability, libraries can help inspire and support their communities in positively contributing to the environment.

In conclusion, this research article provides valuable insights into the importance of sustainability-oriented service innovation in library science. The strategies and best practices identified in this research can serve as a valuable resource for libraries seeking to develop and implement sustainable service models. By embracing sustainability and service innovation, libraries can play an essential role in promoting positive change in their communities and beyond.

**Keywords:** Green library, green and sustainable libraries, sustainable development and libraries, environmental smart goals.

## **Indigenous medicinal formulae used in Gynecological and Obstetric disorders: A review**

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### **ABSTRACT**

Obstetrics and gynecology are medical specialties that focus on women's health. Many physiological processes occur in women's lives, including menarche, menstruation, pregnancy, maternity, and menopause. They may also undergo various health-related issues throughout these episodes. Many people desired to find better treatments for their ailments in Ayurveda and indigenous medicinal systems due to the varied adverse effects of Western therapy. As a result, the Use of Ayurveda and traditional formulas in gynecological and obstetric problems are becoming more popular worldwide. However, no proper analysis of therapeutic formulas for gynecology and obstetrics in the indigenous system was found in Sri Lanka. The main objective of this literature review was to collect and analyze traditionally used medicinal formulas for different gynecological and obstetric disorders. This literature review was carried out by using the well-known traditional text series in Sri Lanka named "*Thalpathe Piliyam*." Ten books were referred to in this review. Firstly, data were collected as direct quotations, and secondly, it was analyzed and given interpretations. As a result, found 150 formulas used for various gynecological and obstetric conditions and found different traditionally used names for various gynecological and obstetric conditions such as menorrhagia, retained placenta, and late menarche. It can be concluded that there is a considerable amount of traditionally used formulas for various gynecological and obstetrics conditions. Further studies should be conducted on clinical trials of traditional medicinal regimens for more evolution. It will be beneficial for the future development and betterment of the gynecology and obstetrics medical field.

**Keywords:** Indigenous, traditional, Ayurveda, Gynecology, Obstetrics.

## **Comparison of Research Publications of ICMR Institutes in Pune, Maharashtra, India: A Scientometric Study from 2012-2021**

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### **ABSTRACT**

Scientometric study is used to identify the pattern of publications, year wise growth of research; authorship pattern etc. on a particular subject published by an Institute, journals or by a Country. Indian Council of Medical Research, New Delhi is working as autonomous apex organization funded by Government of India through Department of Health Research, Ministry of Health & Family Welfare. ICMR is engaged in biomedical research. ICMR has established approximately 23 research institutes, 4 Regional Medical Research Centres and 4 Centres under Institutes for the promotion of research in communicable diseases, productive and child health, basic medical science, tribal health etc. There are two institutes working under the ICMR, New Delhi established in Pune, Maharashtra, India which are ICMR-National Institute of Virology (NIV) and ICMR- National AIDS Research Institute (NARI). This study analyzes the papers published by both institutes ICMR-National Institute of Virology (NIV) and ICMR-National AIDS Research Institute (NARI) from the period 2012-2021.

The objectives of this study are:

- To find out year wise growth of research published by the NIV and NARI Institute.
- To find out the highest Impact Factor journals in which papers published.
- Ranking of top ten journals in which mostly published the articles.
- To find out the collaborative pattern of authors for publishing research.
- To find out the year wise total impact factor, average impact factor and highest impact factor in the particular year.
- Papers published in Indian and Foreign Journals.
- Papers Published in Indexed and Non-indexed Journals.

This study is conducted to know about the publishing trend of research of ICMR-NIV & ICMR-NARI Institutes. Most of the work of the institute is published and maintained yearly by the library of the institutes so library is main source to get the publications

details of both institutes. PubMed, Google Scholar, Scopus are used to collect, match and compare the data. Various Scientometric parameters are used for assessing the growth and measuring its research productivity. The collected data are organized and tabulated using MS Excel and calculated by using simple statistical methods.

During the period 2012-2021, NIV has published a total of 706 papers and 369 papers were published by NARI. The highest number of research articles published in 2021 with 122 articles and 60 papers by both institutes NIV and NARI, and many more findings is found in this study.

NIV is engaged for the research on highly pathogenesis viruses and communicable diseases on human whereas NARI is devoted exclusively to HIV/AIDS research. NIV has published more papers in comparison to NARI particularly on Influenza, Covid-19, Dengue, hepatitis, chikungunya etc. Both the Institutes published papers in reputed Indexed journals which has high impact factor. The study of authorship pattern shows dominance of more than three authors in published papers by the scientists of both institutes.

## **The future of libraries: Harnessing AI for enhanced services and ethical implementation**

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### **ABSTRACT**

OpenAI and artificial intelligence (AI) technologies can play a significant role in the library profession in the future. AI can enhance information discovery and retrieval processes by employing NLP techniques, data analysis and visualization, personalized services, content curation and recommendation, and digital preservation and archiving. AI algorithms can analyze user behavior and preferences to deliver personalized services, recommend relevant books, articles, or resources based on a user's interests, reading history, and preferences, and curate and recommend resources to users. AI-powered recommendation systems can assist librarians in curating and recommending resources to users, and AI can aid in preserving and archiving digital materials. Machine learning algorithms can help automate the processes of digitization, metadata extraction, and content classification.

They can also assist in identifying and preserving at-risk digital content, language translation and accessibility, text analysis and metadata creation, and AI-assisted decision support.

However, it is important to consider privacy, data security, bias, and transparency issues when utilizing AI technologies in library contexts. Collaborations between library professionals and AI experts can help ensure that AI is implemented in a manner that aligns with professional values and user needs.

**Keywords:** Natural language processing (NLP), AI-assisted decision support, artificial intelligence, ChatGPT, AI tools, library service, OpenAI.

## **Bibliometric analysis of digital transformation in library services: A comprehensive Review**

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### **ABSTRACT**

This study aims to investigate the impact of digital transformation on library services through a comprehensive bibliometric analysis. The research seeks to map the research landscape, identify influential authors and institutions within the field. By analyzing scholarly publications and utilizing data visualization tools, the study aims to reveal significant research trends and interdisciplinary aspects, providing practical insights for researchers, policymakers, and practitioners to inform evidence-based decision-making, strategic planning, and policy development in library services.

The research adopts a bibliometric approach, encompassing data retrieval from Web of Science database comprising scholarly publications on library services' digital transformation. The methodology allows for a systematic and quantitative exploration of the fields.



The analysis of annual scientific production in library services' digital transformation reveals a significant increase in research output in recent years. Articles dominate as the primary document type, emphasizing empirical research and scholarly discourse. The Web of Science Core Collection is the most prominent database, while notable journals and conferences, such as the "Journal of the American Medical Informatics Association" and "Centeris2019," have made significant contributions. Prolific authors like Lu Zhiyong and influential affiliations like the Russian National Public Library for Science and Technology showcase impactful research. The USA leads in country scientific production, reflecting its active involvement in the field. Highly cited papers like Lee Jin-hyuk's have shaped the domain's understanding.

One limitation of this study is its reliance on a specific database for data collection, which may introduce potential selection bias. Additionally, the absence of qualitative analysis and user perspectives limits a comprehensive understanding of the human-centric aspects of digital transformation in library services. Future research should explore interdisciplinary collaborations, address ethical considerations, and investigate the digital divide's implications within library settings to provide a more holistic perspective.

The findings of this study hold practical implications for researchers, policymakers, and practitioners in the library services domain. By understanding the research landscape, identifying influential stakeholders, decision-makers can optimize resource allocation, foster impactful partnerships, and drive innovation. The study's insights will aid evidence-based decision-making, strategic planning, and policy development, contributing to the effective implementation of digital transformation initiatives in library services.

The digital transformation of library services can have broader social implications. This study contributes to the development of modernized and user-centered library services. Empowering libraries with digital technologies and interdisciplinary approaches may enhance access to knowledge, bridge information disparities, and foster community engagement, promoting a more inclusive and empowered society.

This study offers originality and value by providing a comprehensive bibliometric analysis of the impact of digital transformation on library services. The mapping of the research landscape, identification of influential stakeholders contribute to the field's understanding. The practical insights gained from this analysis have the potential to inform evidence-based decision-making and policy development, ultimately enhancing the quality and effectiveness of library services in the digital age.

**Keywords:** Digital transformation, library services, bibliometric analysis, research trends, collaborative networks, scholarly publications, data visualization.

## **Snowball citations: Some reflections on their interpretation and utility**

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### **ABSTRACT**

The concept of „snowball“ metrics arises from the imagery of a snowball rolled down a snowy hillside. The snowball gathers snow as it rolls down and increases in size. Similarly in surveys the number of survey respondents can be increased by contacting people known to the initial set of respondents [....]. In the same vein, snowball citations can be generated using citations of citations. As discussed in this paper, this process not only increases the number of citations but gives further insight into the larger influence of the paper or author being studied. As an example, we use the papers of Dr. Hildrun Kretschmer as a starting point for generating snowball citations using both the Web of Science and Scopus. A descriptive analysis of the citations of citations to Dr. Kretschmer's papers based on WoS were published earlier [Basu and Banshal, 2023].

The papers of Dr. Hildrun Kretschmer, on collaboration in science, are the subject of this study. Dr. Kretschmer was a founding member of ISSI [2] and COLLNET [1], two of the main associations /conferences of bibliometrics/ scientometrics.

The methodology involves searching for the papers by Dr. Kretschmer and manually removing false positives. Then the citations of the papers are generated and the process repeated 3 times using both WoS and Scopus. The resulting data is then analyzed using VoSViewer.

A search in the WoS and Scopus databases gave 22 and 48 papers respectively. This is due to differences in the coverage of journals in the databases. Direct citations to the

papers were 284 and 807 respectively. At the first snowball level there were 4501 citing papers in WoS and 18942 in Scopus.

Table 1. Number of papers by Dr. Hildrun Kretschmer in WoS and Scopus

<b>Hildrun's Papers &amp; Citations</b>	<b>Web of Science</b>	<b>Scopus</b>
Indexed Papers	22	48
Citations	284	807
Snowball Citations of Citations	4501	18942

Fig.1 Co-occurrence of words in snowball citations of Kretschmer's work in WoS

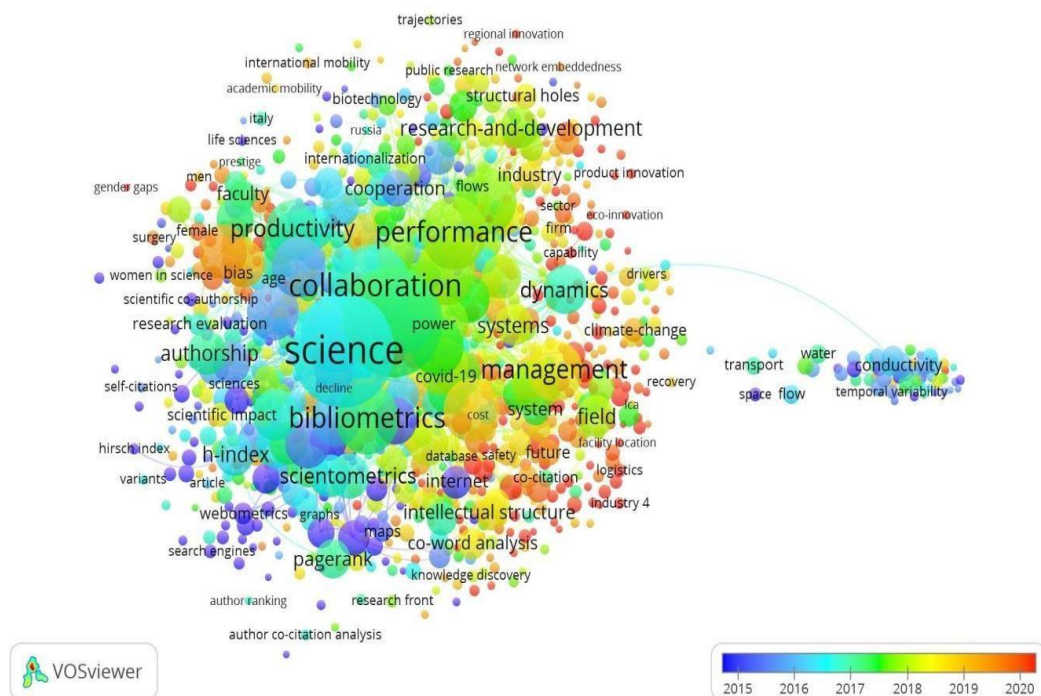
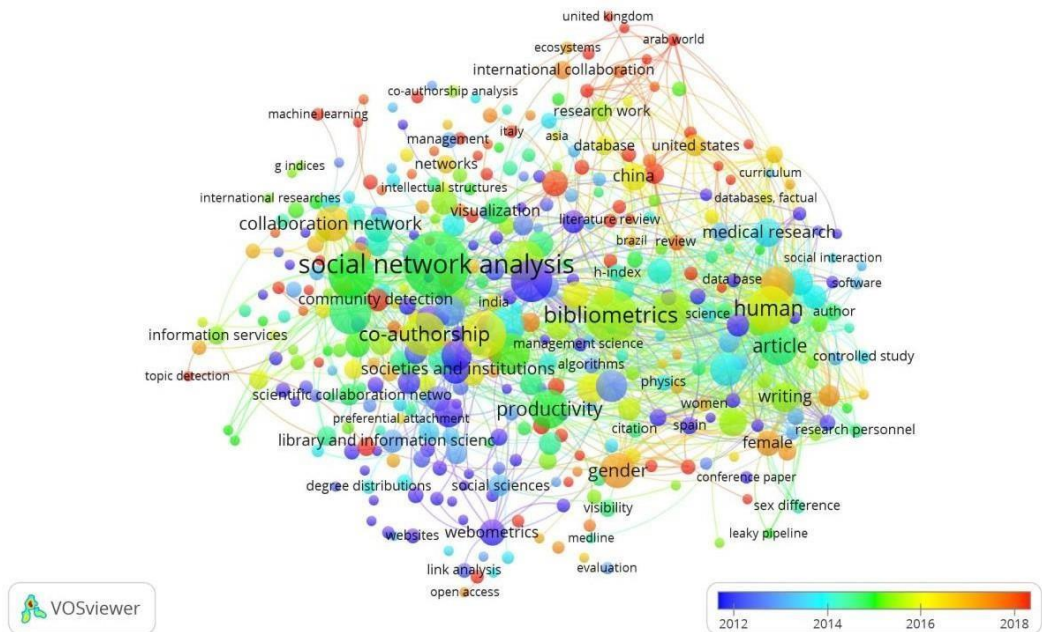


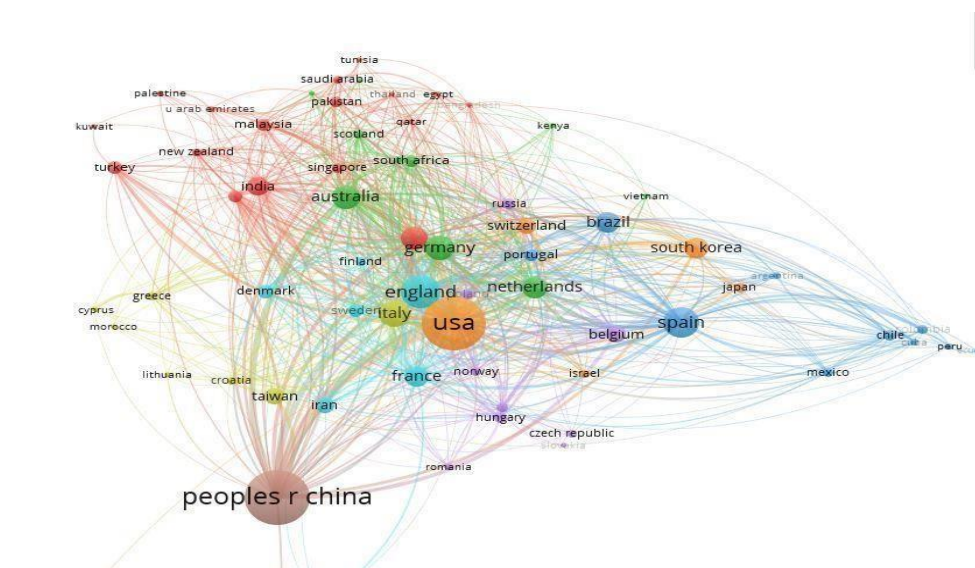
Fig. 2 Word co-occurrence network for snowball citations to Kretschmers work - Scopus



The visualization graphs 1 and 2 show that the snowball citations are spread out over many disciplines, whereas the initial papers would have spanned only a few specific disciplines like psychology, collaboration, scientometrics etc. This shows that Dr. Kretschmer's influence reached out well beyond the basic disciplines that she worked in. It should be kept in mind that the influence is fuzzy in nature, but the citation links ensure that it is not random. We also note that the information in the WoS data differs from the Scopus data, as expected. We find that more generic terms appear in the WoS graph such as Science, Collaboration, Bibliometrics, Performance, etc., while the Scopus analysis was able to identify newer disciplines like Social Network Analysis, Gender, etc..

The geographical spread of the snowball citations is shown in Fig. 3. It is dominated by the People's Republic of China and we see that the countries have intensive linkages. The size of the nodes reflects the number of snowball citations generated from that country and similar colors reflect collaboration between the countries. The USA relatively stands alone with links to only Taiwan, Switzerland, and Japan. England is linked to France, Denmark, Sweden, and Denmark. The Spanish speaking countries form another cluster with Spain and Brazil. The red cluster of small nodes shows, Turkey, India, Pakistan, Saudi Arabia, Singapore, Malaysia, Kuwait, United Arab Emirates. Australia, Germany, Netherlands forms another group in green.

Fig. 3 Geographical Network of countries in the Snowball Citations of Ktretschrmer – WoS



Hilddrun Kretschmer was responsible for the introduction of Bibliometrics into China, and spent a considerable amount of time teaching and mentoring the Chinese. This influence is clearly visible in Fig. 3. The tight linkages observed are a clear indication that the collaboration she envisioned between diverse countries working in the field of collaboration studies actually came to be. Based on this qualitative analysis of the snowball citations to Dr. Kretschmer's papers we can clearly see that her mission was a success. This would not have been possible by studying direct citations alone.

**Keywords:** Snowball citation, co-occurrence networks, collaboration, Kretschmer.

## **Evaluation of websites of IIT libraries a different approach to webometrics analysis**

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### **ABSTRACT**

The study focuses on evaluating the digital presence and impact of Indian Institutes of Technology (IIT) libraries using webometrics analysis. IITs are recognized as significant institutions in scientific and technological education globally. The research employs webometric analysis, a qualitative technique measuring web phenomena, to assess the effectiveness of IIT library websites. Despite the prestige of IITs, the study observes deficiencies in their library websites, prompting an examination of essential website properties using online tools. The study's objectives include determining the world rank of IIT websites, understanding the establishment of IITs, conducting link analysis to explore website relationships, evaluating website performance, assessing responsiveness based on various criteria, and analyzing web page optimization through SEO tools. The research covers all aspects related to users, web technicalities, and specifications. The study "Evaluation of Websites of IIT Libraries: A Different Approach to Webometrics Analysis" offers a unique perspective on assessing academic libraries' digital presence. By integrating traditional bibliometric measures with web-based metrics, the research provides a holistic understanding of the effectiveness and relevance of IIT library websites. The findings suggest that webometrics can offer valuable insights beyond conventional website traffic statistics, highlighting the increasing role of digital platforms in the academic success of institutions like IITs.

**Keywords:** Webometrics analysis, Indian Institutes of Technology, academic libraries, digital presence.

## **Mapping of global research trends on public libraries**

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### **ABSTRACT**

This paper attempted to map the global trends and productivity of scientific research on public libraries in the last ten years, from 2013 to 2022. Additionally, this study investigates the top authors, countries, affiliations, journals, highly cited articles and others. The relevant data is extracted from Scopus bibliographic database using a comprehensive search strategy and downloaded in Comma Separated Value (CSV) file. The collected data is analyzed using MS- Excel, and VOSViewer is also used for data visualization. The study included 1817 publications for analysis, where 1782 documents were in the final stage of publication and 35 in press. The year 2020 is a most productive year with the publication of 232 documents, and the USA has had the highest number of contributions (n=610) in the last ten years. Lenstra, N, with h-index of 8, has contributed the highest number of documents (n=19), which received 104 citations. After processing the extracted data using VOSViewer, the most co-occurred author keyword is „public libraries“. This study helps researchers understand the structure and dynamics of scientific publications through bibliometric analysis. The number of bibliometric indicators, such as citation counts, h-indices, co-authorship networks, co-occurrence of keywords and others, gives insight to professionals of the subject field, policymakers and funding agencies in carrying out and understanding the impact and productivity of scholarly publications.

**Keywords:** Public libraries, mapping, VOSViewer, bibliometric, data visualization.

## **Unlocking a world of wellness: Elevating health literacy proficiency in academia through library-based innovations**

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### **ABSTRACT**

The concept of health holds significant importance and plays a crucial part in various aspects of human existence. The interconnectedness of health and wealth necessitates individuals to prioritize their health as a fundamental aspect of their overall well-being. The COVID-19 epidemic has underscored the importance of health literacy, as a significant number of lives have been lost globally owing to insufficient understanding of health-related information. The primary obligation lies with each individual to acquire health literacy and to provide assistance to their fellow community members in attaining the same. Bharat, specifically, must enhance its health literacy rate among its populace. The current healthcare facilities inside the nation are making efforts to enhance the level of health literacy among the populace. Moreover, academic establishments have the potential to make substantial contributions to this endeavor by using their libraries. This paper examines novel approaches that libraries might employ to foster health literacy awareness among the academic community.

**Keywords:** Health literacy, COVID-19 epidemic, COVID-19 epidemic.



## **Evolution of geographic information systems: A scientometric study**

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### **ABSTRACT**

Geographic Information Systems (GIS) are computer systems that analyze and display geographically referenced information. GIS software can store, manipulate, and analyze spatial data, which can be used to understand patterns, relationships, and geographic context. The importance of GIS lies in its ability to provide valuable insights into complex spatial relationships and to support decision-making processes. GIS can be used in a wide range of applications, including urban planning, environmental management, natural resource management, emergency response, and public health. GIS can also help improve communication and efficiency, as well as provide better visualization of data. The research community of GIS has been growing rapidly over the last two decades, which is a testament to the importance of GIS in various fields. In summary, GIS is an essential tool for understanding and managing spatial data, and its importance lies in its ability to provide valuable insights and support decision-making processes. Scientometric study is a field of study that deals with the quantitative aspects of science and technology. It is concerned with the measurement and analysis of scholarly literature, including the impact of research papers and academic journals, scientific citations, and the use of bibliometrics. Scientometric studies use various methodologies, including co-citation analysis, bibliometric analysis, and citation analysis, to analyze scientific literature and identify patterns and trends. The value of scientometric studies lies in their ability to provide insights into the development of science and technology, including the identification of emerging research areas, the evaluation of research impact, and the mapping of scientific knowledge. Scientometric studies can also help researchers and policymakers make informed decisions about research funding, resource allocation, and policy development. In summary, scientometric studies are valuable tools for understanding the quantitative aspects of science and technology, and their methodologies can provide valuable insights into the development of scientific knowledge.

This scientometric study examines the evolution of Geographic Information Systems (GIS) through the analysis of scientific articles and the use of scientometric tools such as co-word analysis. The research community of GIS has grown rapidly over the last two decades, and this study aims to provide a new perspective on the development of GIS. The study reports a new application of GIS to the field of scientometrics and S&T indicators, which has the potential to provide valuable insights into the evolution of science. The study also analyzes selected GIScience journals and identifies the key themes and trends in GIS research. The use of co-word analysis has enabled the identification of the most significant research topics and the relationships between them. The study concludes that GIS is a rapidly evolving discipline with a diverse range of research topics and applications. The use of scientometric tools such as co-word analysis can provide valuable insights into the evolution of GIS and other scientific disciplines.

The research conducted aimed to identify the core real and legal persons in the GIS field and the works that have received the most citations. Additionally, the study highlights the contribution of different countries to the scientific production of GIS and the order of its evolution. The shifting of the leading countries in this field teaches us about the changing dynamics of the GIS field and the importance of keeping up with the latest trends and innovations. Over the years, different generations of GIS use have been formed in various subject fields. The study aims to identify the emerging and fading trends in this field and the changes that we can expect to see in these interdisciplinary fields in the future. The research conducted is not exhaustive but provides a brief introduction and overview of the history of GIS, which will generate further interest and self-discovery. GIS has evolved from a concept to a science over the last five decades. The history of GIS is a remarkable one, and it has changed the way we think about location and make decisions. The use of GIS in healthcare planning has been reviewed, and the potential of GIS in dealing with healthcare planning issues has been highlighted. GIS has been used in various fields, including administration, social services, medical and biological data analysis, and environmental health. Biostatisticians have used GIS to geocode data and analyze large datasets, while environmental health professionals have used desktop and mobile GIS for inspections and data collection covering large geographies. In conclusion, GIS has come a long way since its inception, and its evolution has been remarkable. The study highlights the importance of keeping up with the latest trends and innovations in the GIS field and the changing dynamics of the leading countries in this field. The potential of GIS in dealing with healthcare planning issues has been reviewed, and its applicability in various fields has been highlighted. The future of GIS is bright, and we can expect to see more innovations and advancements in this field in the years to come.

In summary, this research shows, in addition to identifying the real and legal persons of the core in this field, which are the works that have received the most citations. The present study shows the contribution of different countries in the scientific production of GIS field, and the order of its evolution. What does the shifting of the position of the

leading countries in this field teach us? In the course of time, the different generations of GIS use have been formed in which subject fields, and what are the emerging and fading trends in this field, and what kind of changes do we expect to be formed in these interdisciplinary fields in the future.

**Keywords:** Geographic information systems, scientometrics, co-word analysis, science evolution.

## **Integrating digital resources in scholarly outputs: Views from research scholars**

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### **ABSTRACT**

The prevalence of digital resources in academic settings has significantly increased in today's technological era. Research organizations and universities have participated severely in these resources, revolutionizing how we learn, teach, and engage in scholarly outputs. These resources include online journals, e-books, online databases, institutional repositories, publisher's databases, journal databases and other digital resources, which offer research scholars fast and easy access to extensive information and change the dynamics of education and research. However, the ease of accessing and sharing vast amounts of information online has made digital resources essential for scholarly activities. (Hashim, Tlemsani & Matthews, 2021). Today, information resources are transformed into an electronic form from old printed versions and are made reachable digitally. Academic institutions are promptly changing to digital networks, accepting all the information and communication technology (ICT) related things, to deliver online-based access to information resources. Furthermore, online resources and connectivity delivered by university libraries have significantly impacted academic and research endeavors. These investments have opened up a world of information and opportunities for students and scholars (Wilson et al. 2021; Rosenberg 2006; Alponce and Mwantimwa, 2019). In the context of Bangladesh, the impact of digital resources on scholarly activities among researchers of public universities is a crucial area of research that deserves detailed analysis. This research determines the extent to which researchers at public universities use and have access to digital resources, demographic factors, types of e-resources usage, and challenges. The study also provides recommendations to address the challenges mentioned in this study. This study involved collecting data through survey methods. Relevant literature was thoroughly reviewed using open-access databases, internet resources, and other sources. A questionnaire was used to gather primary data from master's thesis students, MPhil students, and Ph.D. students at some selected public universities in Bangladesh. The respondents mainly used e-books, e-journals, and online databases, while some needed training for using these resources. Search engines and publisher's databases were the

preferred sources for accessing these resources. The study showed that academic work and research article writing were the primary reasons for using digital resources. Moreover, most respondents expressed the need for continuous training and workshops on using these resources effectively. As a developing nation, Bangladesh has been progressively embracing digital technologies in various sectors, including education. The integration of digital resources in public universities is seen as a crucial step toward this smart and digital transition.

**Keywords:** Digital resources, e-resources, scholarly outputs, research scholars, public university, university library.

## **Empowering UN sustainable development goals (SDGs): The vital role of LIS professionals to navigate the information landscape in Bangladesh**

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### **ABSTRACT**

The Sustainable Development Goals (SDGs) aim to reduce human suffering through clear goals and targets that rely heavily on information services. The primary purpose of the study is to establish an information service where Library and Information Science (LIS) professionals can enhance the SDGs.

LIS professionals must now move beyond traditional methods of information collection and dissemination to retrain, retool, and repackage their services to enhance information services to meet the SDGs. The study adopted a qualitative research approach. The result was given in both an interpretative and descriptive format.

This study focused on LIS professionals' point of view in Bangladesh. This article assesses the role of LIS professionals in improving information services towards the success of the (SDGs).

The study focused on the role of LIS professionals in Bangladesh and highlighted their viewpoint and relationship with libraries theoretically.

Studies on LIS professionals and the SDGs in Bangladesh are few. There is not much research in this field, and more studies are required to get a clearer picture and comprehension when enhancing information services to support SDGs. This work may act as the foundation for more extensive research.

This paper highlights the significance of equipping LIS professionals with the necessary skills and resources to contribute effectively to the country's progress towards achieving the SDGs. Suggestions and recommendations can be used in the field of LIS, and library professionals may apply in the academic and research libraries to effectively change.

**Keywords:** LIS Professionals, information services, United Nations, sustainable development goals (SDGs), UNSDGs, Bangladesh.

## **Information needs and seeking behavior at library: A case study on students of private universities in Bangladesh**

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### **ABSTRACT**

The rapid transformation of information in the present era has significant implications for the education and usage of libraries by university students. It exhilarates library effectiveness to the next level which is significantly envisioned as the customization of information to meet individual requirements. The purpose of this study is to navigate the students' information needs and their information-seeking behavior in Private University Libraries in Bangladesh. This study aims to evaluate the students' seeking behavior by measuring patrons' information needs with (a) information sources used, (b) types of information (c) patrons' awareness, and (d) user education provided. A questionnaire for the survey was used to measure the respondents' opinions on their information needs level. A survey research methodology was conducted where 274 students were involved. The findings suggest that Sajeda Chowdhury Library (SCL) needs to provide better awareness and training programs for the use of library resources, e-resources and services that should be conducted from time to time. It is also recommended that the libraries should provide adequate, sufficient size and scope of library resources and develop library performance evaluations for the library users. The significance of the study could be assessed from a theoretical perspective.

**Keywords:** Sajeda Chowdhury Library (SCL), information needs, information seeking behavior, library services.

## **Students' perception regarding the enrollment in the LIS program**

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### **ABSTRACT**

The purpose of the study is to identify the students' perception regarding their enrollment in the Library and Information Science (LS) program at a private university in Bangladesh. Specifically, it's aimed to identify the motivation factor for choosing the LIS program at the undergraduate level, the students' expectations, their perceptions of career opportunities, and their overall satisfaction with the program.

The research takes a qualitative approach, employing interviews as the primary data collection method. A semi-structured questionnaire was developed based on the existing literature for collecting the data from the respondents. A total of twelve (12) students from a reputed private university were interviewed from different level i.e., fresher, last year students, and alumni. The interview was conducted from 25 September to 20 October 2023.

The findings of the study indicated that students enrolled in the LIS program due to including its multidisciplinary and technical nature, its emphasis on technology, the comprehensiveness of the course curriculum, and the potential for further studies in the field. However, some students initially lacked awareness of the range of career opportunities available within the LIS field when enrolling. On the other hand, some of the students knew the scope of future career opportunities from different sources. The study also clearly identified that students express a high level of satisfaction with the LIS program.

The study is one of the first attempts in Bangladesh to identify the students' perception regarding their enrollment in LIS program in detailed manner. This study can be a great tool for educational institutions offering LIS programs, enabling them to gain a deeper understanding of the diverse motivations, expectations, and experiences of their students.

**Keywords:** LIS program, satisfaction, career opportunities, Expectations, Future outlooks, Motivation factors, Bangladesh.



## **Effectiveness of fact checking websites: A webometrics analysis**

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### **ABSTRACT**

The aim of this study is to determine the effectiveness of the top fact checking websites of various countries around the world.

A number of different web links had been extracted for each website using Yahoo search engine. The searches were performed generating globally recognized webometrics searching string. The collected data had been analyzed through Microsoft Excel by dividing the number of webpages by the number of inlinks and the number of outlinks.

A total of 35 websites have been analyzed from 32 different countries. After conducting a webometric analysis, it has been observed that the website named „Observador“ from Portugal holds 1st rank in terms of total number of webpages having 3760 webpages and Austrian website named „Mimikama“ holds 2nd position with 2400 webpages. „Japan Center of Education for Journalists (JCEJ)“ a Japanese website has 13 webpages which is least in this criteria. In case of self link per page, Brazilian website named „Agência Lupa“ holds first position with 264.12 links per page and Bangladeshi website named „FactWatch“ with .4 weblinks per page holds the last position. Portuguese website named „Observador“ has the highest number of external links per webpage which is 6.75 and the Australian „RMIT ABC Fact Check“ has the lowest (0) external link per page. It has been seen from the study that despite having a large number of webpages, many websites obtained very low scores because of less number of external and self link per page. Originality: Different types of webometrics study had been conducted in Bangladesh. But this attempt which attempted to extract the web metrics performance of different fact checking websites from various countries. Implications: The websites mentioned in this study can realize the level of their performance and determine the acts to be taken to enhance overall activities.

**Keywords:** Webometrics, sliflink, inlinks, external links, web impact factor.

## **Webometric study of public university in Bangladesh**

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### **ABSTRACT**

The aim of this study is to determine how effectively the public universities of Bangladesh maintain their activities in online spectrum through a comprehensive analysis of webometric indicators.

The list of universities and their respective websites were collected from University Grants Commission (UGC) Bangladesh. The number of webpages, self-link, in links and external links of each website had been extracted from Yahoo Search engine. The collected links were finally analyzed using Microsoft Excel in order to determine the ranks of those websites.

After analyzing the different weblinks of the collected sites, it had been extracted that Bangladesh University of Engineering and Technology (BUET) and The University of Dhaka holds the first and second position respectively with 2400 and 2290 webpages. But in case of link per webpage, Chittagong University of Engineering & Technology (CUET) has the highest with 1064 link per page and Sylhet Medical University has the lowest number of web link in each page with 1.5 each. The University of Dhaka is in the first position in terms of the ratio of self link per web page which is 24.7 links in each page and Bangabandhu Sheikh Mujibur Rahman University, Kishoreganj is in the last position in this regard with 0.88 per web page. Many universities have more web pages but do not hold the expected position based on the volume of webpages due to the less number of in link and self links which indicates how frequently a website is used by the clients.

Only a few studies on the webometric performance of Universities in Bangladesh have been conducted. This is the only study that solely focuses on the Public Universities. The universities will be able to determine the web-based performance after going through the ranking and take further steps to enhance overall activities.

Limitations: Basically, many indicators count the number of documents included in websites to build webometric ranking which has not been considered due to some specific constraints.

**Keywords:** Webometric, weblink, self link, inlink, external link, webometric indicator.

## **Adapting to change: How Dr. S. R. Lasker Library meets evolving user needs through technological innovations**

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### **ABSTRACT**

It is evident that libraries are increasingly incorporating Internet information technology, innovating service models, and focusing on user needs and information construction (Xu, Guo, & Wu, 2022). The library's approach includes embracing mobile services, focusing on community empowerment, and evolving from traditional librarianship to information science roles (Caperon, 2015; Arévalo & González, 2016). Moreover, the integration of knowledge management and service, and the development of staff skills for electronic environments are crucial (Li-hong, 2016; Nabil & Bilel, 2018). In an era where technological advancements and digital innovations are reshaping the landscape of information access and dissemination, academic libraries in Bangladesh are at the forefront of embracing change to meet the evolving needs of their users. This paper explores the dynamic role of Dr. S. R. Lasker Library of East West University in adapting to these shifts, with a focus on technological innovations and its impact on user engagement and service delivery. Through a detailed case study of this leading academic library in Bangladesh, including the strategies and implementations, this study sheds light on the transformative role of digital technologies in library environments. From the integration of online subscribed and open access databases to the adoption of innovative services and technologies, the paper delves into how this library is revolutionizing its services to enhance user experience and accessibility.

**Keywords:** Technological innovations, information access, service delivery, academic libraries, Dr. S. R. Lasker library.

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## **Creative common license as a toolkit for digital advocacy**

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### **ABSTRACT**

Creative Commons licenses are a game-changer in the realm of digital advocacy, fostering a balance between content creators' rights and the need for widespread dissemination. These licenses play a pivotal role in the digital advocacy landscape, offering a versatile toolkit that significantly impacts content sharing, collaboration, and the overarching mission of advocacy efforts. Commons is a non-profit entity dedicated to facilitating the open exchange and utilization of creativity and knowledge through freely accessible legal instruments. Advocates of the private property perspective anticipated that advancements in digital technology would empower copyright owners to charge fees for every instance of using their copyrighted content (Goldstein, 2003). Their copyright licenses, which are user-friendly and free, establish a standardized method for creators to grant the public permission to share and utilize their creative works under conditions of their choosing. Creative Commons licenses provide creators with the freedom to move away from the conventional to a reserved approach to copyright. This shift allows creators to specify the conditions under which others can use and share their creative works, providing a nuanced and customizable approach to copyright protection. It's important to note that Creative Commons licenses don't replace copyright; instead, they complement it by allowing creators to customize copyright terms according to their preferences.

According to Kim (2007), Creative Commons has the potential to address certain issues arising from conflicts related to copyright. These licenses empower creators to dictate how their work can be used, whether for non-commercial purposes, with or without modifications, or even under more restrictive conditions. By providing a legal framework that is both accessible and understandable, Creative Commons licenses facilitate a culture of collaboration and sharing that is fundamental to the ethos of many advocacy movements. This strikes a crucial balance, especially in advocacy, where information dissemination is key to raising awareness and driving change. Understanding the significance, categories of licenses, methods of advocacy, and future prospects will be able to build awareness by providing a comprehensive view of how Creative Commons can be harnessed for meaningful change.

There are several categories of Creative Commons licenses, each offering a different set of permissions. These licenses are expressed through a combination of four key elements: Attribution (BY), Share Alike (SA), NonCommercial (NC), and

NoDerivatives (ND). Creative Commons licenses are powerful tools in the world of digital advocacy. By understanding their importance, using different license types smartly, and employing effective advocacy methods, advocates can tap into the strength of open collaboration. This approach has the potential to bring about significant positive changes in our globally connected digital world, moving us toward more meaningful and sustainable transformations.

**Keywords:** Creative commons, digital advocacy, copyright, open science.

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## **Bibliometric assessment of artificial intelligence applications in libraries: Insights of author pattern from Scopus data**

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### **ABSTRACT**

Artificial intelligence (AI) has become a transformative technology in libraries, enabling enhanced services, information access, and personalized experiences. To understand the research trends and patterns in AI applications in libraries, a comprehensive bibliometric assessment of authorship patterns was conducted. Using data from the Scopus database, key authorship metrics, affiliations, corresponding authors' countries, country-level scientific production, and Lotka's Law analysis were analyzed. The study identified influential authors, assessed their impact, examined affiliations and international collaborations, and evaluated country-level scientific production. The analysis revealed steady growth in research output, emphasizing the significance of AI in libraries. Collaboration among authors, including international collaboration, showcased the global nature of research efforts. Key authors and their contributions were identified, and patterns of productivity over time were observed. The study also highlighted the countries with the highest scientific production and their research ecosystem. The findings provide insights into authorship patterns, research impact, and global collaboration in AI applications in libraries. The study has implications for research policies, international collaboration, economic and social development, education, and benchmarking. By leveraging these insights, policymakers, researchers, and educators can make informed decisions to advance science and technology, foster innovation, and address global challenges in the library domain.

**Keywords:** artificial intelligence, AI applications, libraries, authorship patterns, bibliometric assessment, research trends, education, benchmarking.





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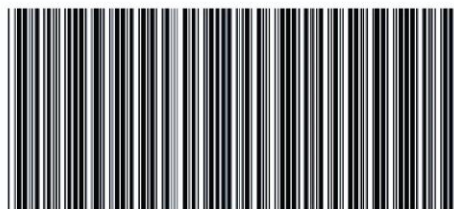
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