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# Research Performance of Digboi College: A Scopus-Based Quantitative Analysis

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## Abstract

The purpose of this study is to evaluate the research performance of Digboi College, affiliated with Dibrugarh University, Assam. It aims to analyze the annual scientific production and citation impact, prolific sources and authors, globally cited publications, and most frequently occurring keywords. The study adopts a bibliometric approach, based on data retrieved from the Scopus database from 2010 to 2024. The raw data was retrieved on July 23, 2025, using a validated search query. The study has utilized different software, including the Biblioshiny web interface, VOSviewer, and MS Office 2013. A total of 51 documents, including articles, book chapters, and conference papers, have been retrieved. The findings showed that the journal 'Library Philosophy and Practice' emerges as the most productive source. According to the authors' analysis, Khound NJ and Mahanta A have emerged as the most prolific authors, while Bharadwaj S (2021), 'Forum Scientiae Oeconomia', is the highest globally cited paper. The study represents the first systematic bibliometric assessment of Digboi College's research output and performance. It provides valuable insights into the college's research strengths, evolving scholarly trends, and potential areas for improvement. The findings provide a significant impact on students, teachers, researchers, and decision-makers, enriching academia and benefiting society at large through its advancements in various fields.

**Keywords:** Bibliometric Analysis, Digboi College, Research Performance, Research Productivity, Scopus Database

## 1. Introduction

Research productivity and the impact of an institution play an important role in shaping its reputation and prestige. The research often extends beyond academic circles and contributes to the advancement of society. A bibliometric study is a type of research that uses statistical and

mathematical methods to analyze books, articles, and other publications. It typically focuses on understanding patterns in publication, citation, and authorship to gain insights into the impact, development, and trends within a particular field of study. Bibliometric studies often utilize tools

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and techniques to measure the productivity of authors, journals, and the relationship between different publications and research topics (Moed, 2005). The output, recognition, and overall standing of an institution depend on both the quantity and quality of research it produces. Research productivity and impact serve as key indicators of an institution's success and reputation in its field. Digboi College is one of the top institutions of higher education in Assam, offering courses in various disciplines, including undergraduate and postgraduate. However, despite its growing scholarly output, there has been no comprehensive bibliometric assessment to evaluate the research performance. The absence of such an evaluation makes it difficult to understand the research strengths and visibility. Hence, policymakers, administrators, and researchers lack evidence-based insights into planning strategies for research productivity and visibility. Therefore, a comprehensive bibliometric study is conducted to analyze research productivity using the Scopus database. The study aimed to evaluate the quantity and quality of publications produced by Digboi College, affiliated to Dibrugarh University, Assam.

### ***1.1. Digboi College: An Overview***

Digboi College is a leading institution of higher education in the state of Assam, affiliated with Dibrugarh University. Nestled in the historic oil town of Digboi, the college holds a place of pride in the academic landscape. Its inception was the result of the collective vision and tireless efforts of a group of committed educationists and socially conscious individuals who recognized the need for quality higher education in this remote corner of Assam. Their unwavering dedication and commitment to educational upliftment led to the formal establishment of the college on July 15, 1965. Since then, Digboi College has evolved into a well-respected institution that contributes to the academic, cultural, and socio-economic development of the region. Indian Oil Corporation Limited (AOD) has played a pivotal and

commendable role in the development of the college. The institution offers undergraduate education across Arts, Science, and Commerce streams, including both major and non-major courses. In recent years, it has also launched full-time postgraduate programs in Physics and Life Science. The college comprises 20 departments with an enrolment of 2000 students. It is a provincialized college under the Government of Assam. The college has carved out a reputation as one of the best colleges of Dibrugarh University (Digboi College, n.d.).

### **2. Review of the Literature**

In recent decades, numerous studies have been conducted on research productivity, providing valuable insights across different institutions and fields. This discussion highlights such studies, showcasing the research productivity in various academic institutions and fields. Rao et al. (2024) conducted a bibliometric study on mapping the research trends in Andhra University, Vishakhapatnam, from 2009 to 2023, using the Scopus database. Findings showed that the Asian Journal of Chemistry is the most prolific source, while Chowdary is the most prolific author. Controlled study and nonhuman emerged as the most frequently occurring keywords. Kumar et al. (2022) carried out a bibliometric study on the academic research output of Central University of Haryana from 2011 to 2021. The study analyzed the data collected from the Scopus database. The findings showed that 3 Biotech is the most prolific source, while D. Kumar is the most prolific author. Saccharification, conservation laws, and fermentation are the most frequently occurring author keywords. Mamdapur et al. (2021) conducted a Scientometric study to evaluate the research publication productivity of Karnataka University, Dharwad. T.M. Aminabhavi emerged as the most prolific author. The 'Indian Institution of Science', Bengaluru, emerged as the leading contributive institution with Karnataka University. The USA stood out as the most collaborative

country. Lihitkar and Banker (2019) conducted a study on the scientific publications of Shivaji University, Kolhapur, analyzing annual research productivity. The findings revealed that material science is the most prominent research area, while C. D. Lokhande emerged as the top author.

Lastly, Kumar et al. (2015) conducted a bibliometric study on the research publications of Gujarat University, Ahmedabad, covering the years 2004 to 2013. They retrieved 760 publications from the Scopus Database. ACTA Poloniae Pharmaceutica-Drug Research, by the faculty of Gujarat University, is found as a highly productive journal. P.S. Srivastav was recognized as the most cited author from the university. V.K. Jain recorded the highest average number of citations per publication, underscoring the significant impact in the field.

### 3. Research Objectives

The objectives of the study are as follows:

- To analyse the key data features of Digboi College from 2014 to 2024;
- To analyse the annual scientific production and citation impact of Digboi College;

- To identify the most prolific sources and authors based on total publications;
- To highlight the most globally cited publications; and
- To analyze the most frequently occurring keywords.

### 4. Research Methodology

This bibliometric study examines the research output of Digboi College from 2010 to 2024, using data from the Scopus database. The raw data were collected on July 23, 2025, from the Scopus database, a prominent product of Elsevier, using a validated search query. The search query was: (AFFIL (digboi AND college) AND PUBYEAR > 2009 AND PUBYEAR < 2025). A total of 51 documents were retrieved and exported in CSV format. These documents are articles, book chapters, and conference papers. The study utilized the Biblioshiny Web Interface, VOSviewer, and MS Office 2013 to analyze and visualize data. A limitation of the study is that it does not cover other online sources, such as Web of Science, Google Scholar, or any additional platforms. The workflow diagram for the study is shown in Figure 1.

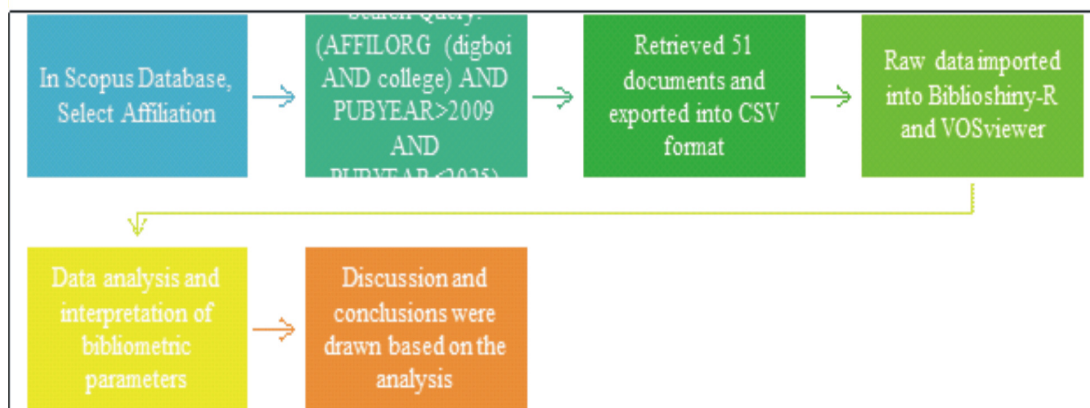


Figure 1. Workflow diagram



## 5. Data Analysis and Interpretations

The data collected from the Scopus database were systematically analyzed to evaluate the scholarly output and performance of Digboi College.

### 5.1 Key Data Features of the Scopus Database

Figure 2 illustrates the primary data retrieved from the Scopus Database from 2010 to 2024. The study retrieved 51 documents from 40 sources, with an annual growth of 12.18%. The average age of documents is 5.1 years, with an average citations per document is 6.294, and a total of 1837 references cited across all publications.



**Figure 2: Key Data features**

The study involved 98 authors, among them 6 were single-authored. On average, each document has 2.94 co-authors. Additionally, 5.882% of these publications have international co-authorship. The study also identified 201 authors' keywords (DE), illustrating the extent of the topic covered.

### 5.2 Annual Scientific Production and Citation Impact

Table 1 provides the annual scientific production and citation impact of research trends of Digboi College from 2010 to 2024. The data in the table highlights the impressive track record of Digboi College in producing research work, which maintained a consistently gradual increase from 2010 to 2024.

**Table 1: Annual Scientific Production with Citation**

Year	MeanTCperArt	NP	MeanTCperYear	CitableYears
2010	4.00	2	0.25	16
2012	1.50	2	0.11	14
2013	2.50	2	0.19	13
2017	14.00	3	1.56	9
2018	11.60	5	1.45	8
2019	3.83	6	0.55	7
2020	3.00	6	0.50	6
2021	13.50	6	2.70	5
2022	4.67	3	1.17	4
2023	10.17	6	3.39	3
2024	0.80	10	0.40	2

Note: NP-number of publications, TC- total citations

The year-wise scientific production from 2010 to 2024 are 2010 (2), 2012(2), 2013(2), 2017(3), 2018(5), 2019(6), 2020(6), 2021(6), 2022(3), 2023(6), and 2024(10). The year 2024 has the highest number of publications, with 10 records. The publications of Digboi College have been gradually increasing, indicating a sustained upward trend in scientific productivity, which is shown in Figure 3. It also illustrates the citation impact on research trends, which shows a gradual increase from 2010 to 2018, followed by fluctuations with a peak in 2023, then a decline in 2024.

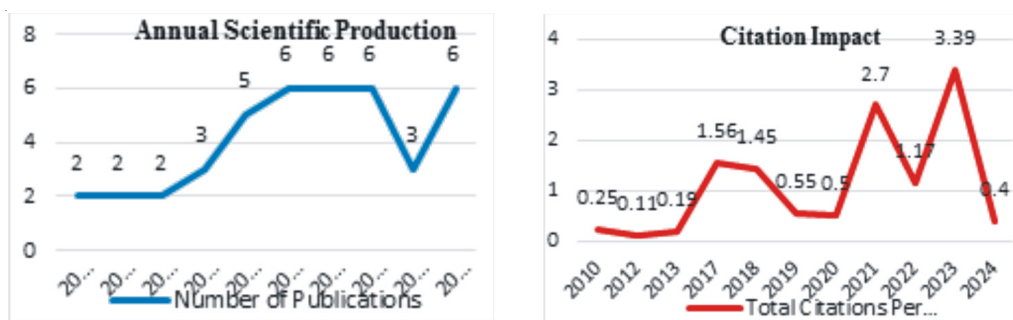


Figure 3: Annual Scientific Production and Citation Impact

### 5.3 Most Prolific Sources

Table 2 presents the top 10 productive sources based on total publications, generated by the Biblioshiny web interface. The most prolific source is Library Philosophy and Practice, with 5 publications, total citations of 11, and an h-index of 2, since 2019. Applied Water Science and Sustainable Chemistry and Pharmacy ranked second, each with 3 publications.

Table 2: Top 10 Productive Sources

S. No	Source	NP	TC	h-index	PY-start
1	Library Philosophy and Practice	5	11	2	2019
2	Applied Water Science	3	58	2	2017
3	Sustainable Chemistry and Pharmacy	3	15	2	2020
4	Catalysis Letters	2	3	1	2022
5	Letters in Organic Chemistry	2	12	1	2018
6	Water Resources	2	7	1	2018
7	ICCECE 2017 - Proceedings of the International Conference on Computer, Electrical and Communication Engineering, 2017	1	1	1	2017
8	SPIN 2019 - Proceedings of the 6th International Conference on Signal Processing and Integrated Networks, 2019	1	2	1	2019
9	Advanced Studies in Theoretical Physics	1	3	1	2012
10	Advances In Space Research	1	5	1	2013

Note: NP-number of publications, TC- total citations



Since 2017, Applied Water Science has received 58 citations and holds an h-index of 2, while Sustainable Chemistry and Pharmacy, since 2020, has accumulated 15 citations with the same h-index. Catalysis Letters, Letters in Organic Chemistry, and Water Resources have each published 2 articles. Since 2022, Catalysis Letters has received 3 citations with an h-index of 1. Letters in Organic Chemistry, starting in 2018, has garnered 12 citations and holds an h-index of 1, while Water Resources, also since 2018, has achieved 7 citations with the same h-index. ICCECE 2017, SPIN 2019, and Advanced Studies in Theoretical Physics each have only 1 publication. ICCECE 2017 has 1 citation and 1 h-index since 2017, SPIN has 1 citation and 1 h-index since 2019, Advanced Studies in Theoretical Physics has 3 citations and 1 h-index since 2012, and Advances in Space Research has 5 citations and 1 h-index, starting from 2013.

#### 5.4 Most Prolific Authors

Table 3 presents the top 10 productive authors, based on total publications, who have made significant contributions to their respective fields, generated by the Biblioshiny web interface.

**Table 3: Top 10 Productive Authors**

S. No	Author	Number of Publications	Total Citations	h-index	PY-start
1	Khound NJ	7	93	4	2017
2	Mahanta A	7	36	4	2020
3	Mahanta PK	6	16	3	2019
4	Saikia B	6	19	2	2018
5	Bharadwaj S	3	65	3	2021
6	Saikia D	3	46	3	2023
7	Chamuah N	2	17	2	2022
8	Gogoi SK	2	1	1	2024
9	Gupta SK	2	2	1	2019
10	Handique J	2	2	1	2013

The most productive authors are Khound NJ and Mahanta A, each with a record of 7 publications. Mahanta PK and Saikia B follow closely in second place, each having 6 publications. Bharadwaj S and Saikia D have 3 publications each. The remaining authors in the top ten are Chamuah N, Gogoi SK, Gupta SK, and Handique J, each of whom has published 2 papers. This collective achievement shows the influential roles they have played in advancing knowledge within their respective fields.

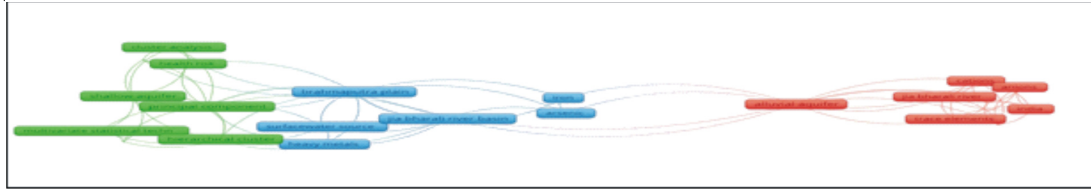
#### 5.5 Most Globally Cited Publications

Table 4 displays the top 10 most highly cited papers, as identified using the Biblioshiny web interface. The paper by Bharadwaj S. (2021) in 'Forum Scientiae Oeconomia' received the highest citations, with 53 citations, a TCPY of 10.60, and NTC of 3.93.

**Table 4: Top 10 highly cited papers**

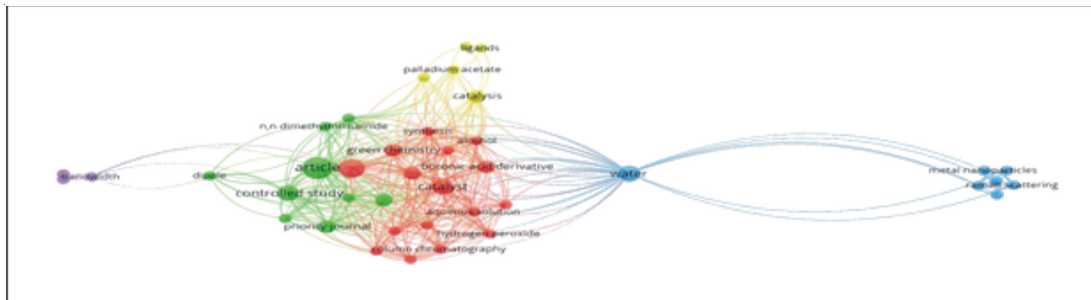
S. No	Author	Source	Year	TC	TCYP	NTC
1	Bharadwaj S	Forum Scientiae Oeconomia	2021	53	10.60	3.93
2	Khound NJ	Applied Water Science	2017	40	4.44	2.86
3	Khound NJ	Journal of Environmental Chemical Engineering	2018	28	3.50	2.41





**Figure 5: Frequently occurring keywords based on 'Author Keywords'**

Figure 5 defines the most frequently occurring keywords based on author keywords. The keywords are Assam, College Libraries, ICT-based Library Services, ICT Infrastructure, Institutional Repositories, Library Automation, Brahmaputra Plain, ICT, Principal Component, and Alluvial Aquifer. Moreover, Figure 6 illustrates the most frequently occurring keywords based on the index keywords. Based on it, the keywords are Article, India, Room Temperature, Catalyst, Controlled Study, River Pollution, Water, Aquifer, Aquifers, and Benzenboronic Acid.



**Figure 6: Frequently occurring keywords based on 'Index Keywords'**

## 6. Findings and Discussion

The study analyses the Research performance of Digboi College, affiliated to Dibrugarh University, from 2010 to 2024, using data from the Scopus database. A total of 51 documents were collected during the period. The annual growth rate of the study is 12.81%. The citation impact of the study also shows a gradual increase from 2010 to 2018, followed by fluctuations with a peak in 2023, then a decline in 2024. The study found the most prolific source to be Library Philosophy and Practice. According to Rao et al. (2024), the Asian Journal of Chemistry is the most prolific source, while 3 Biotech, according to Kumar et al. (2022). Additionally, Kumar et al. (2016) define ACTA Poloniae Pharmaceutica-Drug Research as a highly favoured journal. Moreover, Khound NJ and Mahanta A have emerged as the most prolific authors; a similar methodology by Rao et al. (2024) and Kumar et al. (2022), where Chowdary and D. Kumar, respectively, are the most prolific authors. According to Mamdapur et al. (2021), T.M. Aminabhavi emerged as the most prolific author. The paper by Bharadwaj S (2021) in Forum Scientiae Oeconomia is the most globally cited. The most frequently occurring keywords based on author keywords are Assam, College Libraries, ICT-based Library Services, ICT Infrastructure, Institutional Repositories, Library Automation, Brahmaputra Plain, ICT, Principal Component, and Alluvial Aquifer. According to Rao et al. (2024), controlled study and nonhuman emerged as the most frequently occurring keywords, while Kumar et al. (2022) identified that the most frequently occurring author keywords are Saccharification, conservation laws, and fermentation.



## 7. Conclusion

The research performance of Digboi College reflects its growing impact on national and international scientific communities. Although the publication record is limited, but gradually increasing the number of publication records from 2010 to 2024. The Scientific productivity of Digboi College indicates a sustained upward trend. The citation impact also showed a gradual increase with fluctuations. The study found 'Library Philosophy and Practice' as the most prolific source. According to the authors' analysis, Khound NJ and Mahanta A are found to be the most prolific authors, while the paper by Bharadwaj S (2021) in 'Forum Scientiae Oeconomia' is the most globally cited. The most frequently occurring keywords based on author keywords are Assam, College Libraries, ICT-based Library Services, ICT Infrastructure, Institutional Repositories, Library Automation, Brahmaputra Plain, ICT, Principal Component, and Alluvial Aquifer. The research output of Digboi College has had a significant positive impact on students, teachers, and researchers alike. Its contributions have not only enriched academia but also benefited society at large through its advancements in various fields. With its continued dedication to excellence in research, Digboi College will undoubtedly be a driving force for academic progress and innovation. The main limitation of this study is that it relies solely on raw data from the Scopus database. To achieve a more comprehensive analysis, future studies could be conducted using Web of Science, Google Scholar, and additional academic databases.

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