

# The Top 100 Most Cited Papers in Bibliometrics: A Bibliometric Analysis

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## ABSTRACT

The main objective of this study is to conduct a bibliometric analysis of the top 100 most cited papers in the field of bibliometrics. The data collection for this study involved gathering bibliographic information, such as publication year, citation count, authorship pattern, and publication source, for the top 100 most cited papers according to the Scopus citation count in the field of bibliometrics. The analysis revealed that these hundred papers were published between 1983 and 2022 in a total of 68 different journals. Collectively, these papers have received a total of 75,872 citations. Furthermore, it was observed that the period between 2006 and 2010 was the most productive time span in terms of publication output. The study also identified a dominant trend of collaborative authorship among the top-cited papers. Lastly, it was found that the Journal of Informetrics was the most productive journal in terms of publications related to bibliometrics.

**Keywords:** Bibliometric analysis, Highly cited paper, Top 100 most cited papers, Authorship Pattern, Scopus.

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## INTRODUCTION

The top 100 highly cited papers bibliometrics study is a research approach used to identify the most influential scientific papers of all time (Garousi & Fernandes, 2016). This study involves the use of bibliometric analysis to identify the papers that have received the most citations in academic literature (Saha, Mani & Goyal, 2020). The top 100 highly cited papers bibliometrics study typically focuses on a specific field or discipline, such as medicine, physics, or computer science (Baldiotti et al., 2021). It is often used to identify the key papers that have shaped the development of the field and to provide insights into the most important research topics and trends in the field (Corsini et al., 2019). A number of important research studies (Ivanović & Ho, 2016; Elia & Sife, 2018; Kharabati-Neshin, Yousefi, Mirezati & Saberi, 2021; Nisha, Kumar, Awasthi & Tripathi, 2022) have been done in the past on library and information science on highly cited papers or top 100 most cited papers. These works provides detailed information on the year wise distribution of highly cited papers, authorship patterns, citation behavior, most productive countries, institutions and publication sources. In this research paper, a bibliometric study has been conducted of the top 100

most cited papers in bibliometrics using the Scopus database. The study aims to identify the most important papers in the field of bibliometrics and to analyze the trends and patterns in the citation behavior of these papers. By analyzing the authorship, publication year, journal of publication, and citation count of each paper, this study seek to gain a better understanding of the development of the field over time and to identify the most influential papers and researchers in the field.

## OBJECTIVES

The main objective of this study is to analysis the top 100 most cited papers in bibliometrics from the perspective of bibliometric analysis to find the research trend.

## METHODOLOGY

The methodology employed for this study involved accessing the Scopus database (<https://www.scopus.com/>) to conduct a search for research papers related to bibliometrics. The search results were then filtered to include only the top 100 most cited papers based on the Scopus citation count. The bibliographic details of these selected research papers were retrieved and stored in MS Excel, categorizing them by year of publication, citation count, authorship pattern, journal name, mode of publication, country of publication, and other relevant information. Subsequently, various bibliometric analysis techniques were applied to the collected bibliographic dataset in order to interpret the data and derive meaningful findings. Based on the results obtained from



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the bibliometric analysis, conclusions were drawn to provide insights into the field of bibliometrics.

## Data Analysis and Findings

**Year wise distribution of papers:** Table 1 describes the distribution of year wise range of publications. From this table it can be seen that these 100 articles were published between 1983 and 2022 on the topic of bibliometrics (Figure 1). Analyzing the number of citations of the articles, it appears that these 100 research papers received 75872 citations, which is a statistically significant finding. The year-wise range shows that 33 articles were published during the five years from 2006 to 2010 and 27 articles were published in the five years from 2011 to 2015. Subsequently, 22 articles have been published from 2016 to 2022, that is, in the most recent period. Similarly, from the citation trend, it is seen that citations have also grown in this same pattern. That is, it can be easily said from this table that simultaneously the growth trend of literature and its citations has increased at a proportional rate.

**Table 1: Year wise distribution of papers and the citations.**

Year	No. of Papers	Total Citation	Percentage	Average Citation
1983 to 2000	06	4528	5.97	754.67
2001 to 2005	12	7324	9.65	610.33
2006 to 2010	33	27589	36.36	836.03
2011 to 2015	27	20830	27.45	771.48
2016 to 2020	20	13788	18.17	689.4
2021 to till	02	1813	2.39	906.5
Total	100	75872	100	758.72

**Table 2: Authorship Pattern.**

Authorship Pattern	No. of Papers	Total Citation	Average Citation	Percentage
1	15	10210	680.67	13.46
2	22	25008	1136.73	32.96
3	23	15211	661.35	20.05
4	19	12309	647.84	16.22
5	8	5606	700.75	7.39
More 5	13	7528	579.08	9.92
Total	100	75872	758.72	100.00

**Table 3: Most Productive Publication Sources.**

Name of the Journal	No. of Papers	Total Citation	Percentage	Average Citation
Journal of Informetrics	09	7352	9.69	816.89
Journal of the American Society for Information Science and Technology	05	2942	3.88	588.40
Proceedings of the National Academy of Sciences of the United States of America	04	4798	6.32	1199.50
Nature	04	3670	4.84	917.50
JAMA	04	2482	4.84	620.50

## Authorship Pattern

Table 2 describes authorship patterns and citation counts by category wise authorship pattern. From this table it can be seen that most of the articles i.e. 85 articles are written by joint or collaborative authorship pattern, whereas only 15 articles are written by single author. Similarly, from the aspect of citation, it is seen that the articles published by single author have received only thirteen percent citations but in case of joint authors, the percentage of citation is more than eighty seven percent which is very significant findings.

**Most Productive Journals:** First of all, it is worth mentioning that these 100 articles were published in 68 journals, whereas an earlier study showed that number was published in 37 journals (Ivanović & Ho, 2016). Here it is seen that Journal of Informetrics is ranked first with nine papers and covering about 10% citations followed by Journal of the American Society for Information Science and Technology and Proceedings of the National Academy of Sciences of the United States of America. In the previous two studies (Ivanović & Ho, 2016; Nisha, Kumar,

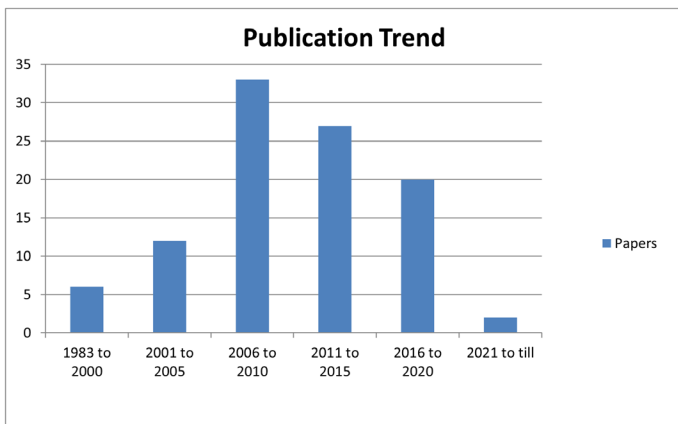


Figure 1: Year wise Publication trend.

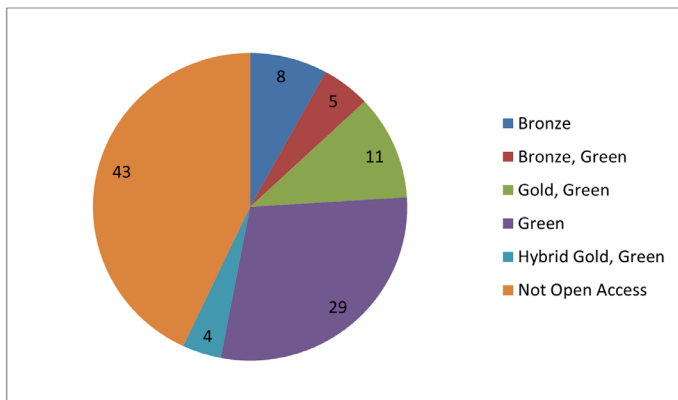


Figure 2: Status of Open Access (OA) publishing.

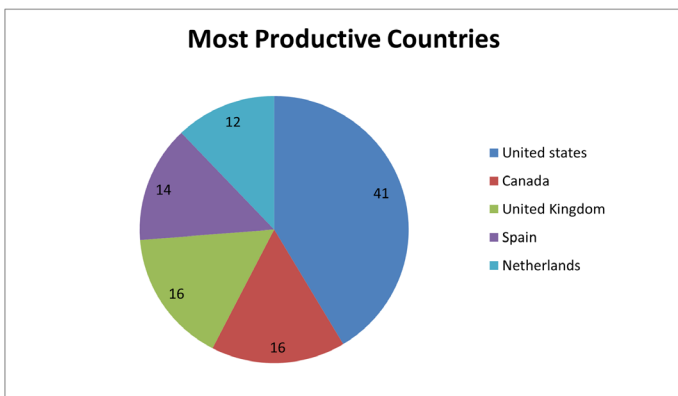


Figure 3: Most Productive Countries.

Awasthi & Tripathi, 2022), MIS Quarterly held the highest rank and held about 26 percent of the publications there. However, from this Table 3, it is understood that these articles have placed themselves in the top hundred with the highest citations on the specific journal of research on bibliometrics or scientometrics, which is an important point of this study.

**Open Access Publishing:** Here it is seen that 57 of these 100 articles have been published on the open access platform, where

green open access has taken the highest place, followed by gold, green access (Figure 2). That is, from here it can be easily said that out of these 100 research papers, numerically, most of them have been published on open access platforms.

**Most Productive Countries:** In terms of countries, United States takes first place with 41 publications, followed by Canada and United Kingdom in joint second place. Apart from that, among the important countries, Spain has published fourteen articles in the third place and the Netherlands has published twelve articles in the fourth place.

## CONCLUSION

This bibliometric study of the top 100 most cited papers in bibliometrics using the Scopus database has provided valuable insights into the key trends and developments in the field. Analyzing the top hundred most cited publications on any topic is important because it allows researchers to understand the behavior or different elements of these highly cited papers. In the present paper this work is done on 100 highly cited papers in bibliometrics itself. In the past, analysis was done on the 100 most cited papers or highly cited papers in library science, but the present work only focuses on the 100 most cited papers on bibliometrics. After completing this study it is found that, these research papers have a very high number of citations, which indicate the quality of research. Among the authorship pattern, maximum number of papers has been published through joint or collaborative authors. Most of these papers have been published in world-renowned and related area specific journals, which may be one of the reasons for their high citation count. Further work on this topic can be done in future to understand the behavior patterns of these publications.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

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