

Scopus CiteScore 2024 dips for the first time in a decade: Analysis of the top 1,000 journals

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ABSTRACT

Objective. This study sought to achieve three objectives. Initially, the study identified trends in the average CiteScore of the top 1,000 journals, with a particular emphasis on the recently published CiteScore 2024. It further analyzed the key drivers of the increase in the CiteScore over the last decade. It also identified the leading publishers that dominated the top 1,000 journals.

Design/Methodology/Approach. To identify trends in the average CiteScore of the top 1,000 journals over the period 2014-2024, a quantitative methodology was employed. One method calculated the average CiteScore based on the average of the 1,000 CiteScores for each of the 11 years. The second method involved calculating the average by aggregating the citations and documents for each of the 11 years and then dividing the citations by the documents. To gain insights into the rise of the CiteScore, a qualitative methodology involving expert interviews with 20 editors was also employed. To identify the leading publishers, the data for each of the 11 years were sorted on the field "Publisher." The selection of journals for analysis was based on a minimum of 10% representation of the 1,000 journals.

Results/Discussion. The study revealed that the average CiteScore 2024 for the top 1,000 journals interrupted a decade-long established trend, with a decrease from an all-time high of 22.40 in 2023 to 22.00. The first-ever decline in the average CiteScore was attributed to an elevated incremental denominator (documents) in comparison to a reduced incremental numerator (citations). Over the past 11 years, this phenomenon has been observed for the first time. The documents increased by 4.36%, while the citations increased by only 2.50%. This resulted in a decline in the average CiteScore. A subsequent analysis identified four primary factors contributing to this increase: an increase in doctoral students, the "publish-or-perish" policy, technological support, and an increase in citation-based writing. A general consensus among experts suggested that prioritizing quality over quantity was essential for publishers to ensure sustainable growth.

Conclusions. Following a decade of consistent growth, which culminated in a peak the previous year, the average CiteScore for the top 1,000 journals declined in 2024. This marks the first decrease observed in 11 years. Elsevier and Springer Nature collectively represent 50% of the top 1,000 journals and exert

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a dominant influence within the publishing sector. As indicated by the findings, several factors have contributed to the observed increase in the average CiteScore. Editors have also proposed measures to sustain the growth in the CiteScore.

Originality/Value. This study is the first to examine the movements of the CiteScore for the top 1,000 journals over a substantial period, from 2014 to 2024. A key contribution of this analysis is the finding that, for the first time, the average CiteScore experienced a decline in 2024

KEYWORDS: CiteScore; journal metrics; Scopus; citation analysis; scholarly publishing; bibliometrics.

1. INTRODUCTION

THE INTEREST in CiteScore has been steadily increasing as researchers have been exploring its various dimensions (Fang, 2021; Safdar *et al.*, 2025; Teixeira da Silva, 2020). The surge in interest surrounding CiteScore is evident in the recent trend of researchers undertaking projections of the metric (Croft & Sack, 2022; Kumar *et al.*, 2023). While certain studies have examined CiteScore independently (Fang, 2021; Teixeira da Silva, 2020), others have undertaken a comparative analysis with Impact Factor (Fernandez-Llimos, 2018; Safdar *et al.*, 2025). Nevertheless, the popularity of CiteScore is on the rise, given its extensive coverage of journals, a logical and objective calculation method, and transparency. Scopus CiteScore is a comprehensive database of journals and indexes, currently including 48,833 journals and associated documents as of July 3, 2025 (Scopus, 2025). As Khosravi and Menon (2019) demonstrate, CiteScore is a valuable metric for assessing the quality of academic research. The three-year timeframe employed by CiteScore, which is applicable at the time of analysis, provides a reasonable timeframe for journal citations to be featured in the index. The methodology has since undergone modification, and Scopus has, for the past few years, employed a four-year window.

This study examines trends in the average CiteScore of the top 1,000 ranked journals in the Scopus database over a period of 11 years, from 2014 to 2024. The CiteScore is calculated on an annual basis, employing a four-year window of citations and the number of documents. Preliminary analysis indicated a substantial decline in CiteScores for the years 2024 and 2025. For instance, the journal *Higher Education for the Future* has a CiteScore 2024 of 31.4 but a CiteScore 2025 of only 3.3 (as of July 5,

2025), primarily due to a significant reduction in citations in 2021. While CiteScore has been the subject of extensive discourse, this study addresses a significant research gap by conducting a longitudinal analysis of the CiteScores of the top 1,000 journals from 2014 to 2024. This study makes a significant contribution by identifying unique trends in the growth trajectory of CiteScore. It also elucidates the underlying factors that have contributed to the fluctuations in the CiteScore. The study will motivate researchers to undertake similar work, based on a sizable number of journals and spanning a decade. In light of the intriguing aspects of CiteScore and the identified research gap, this study aims to achieve three objectives:

1. To analyze the average CiteScore for the top 1,000 Scopus-indexed journals for the period 2014-2024, with some focus on the CiteScore 2024
2. To gain insights into the high growth trajectory of the average CiteScore over the last decade
3. To find the leading publishers in the top 1,000 journals

The initial and third objectives were accomplished through the implementation of a quantitative methodology. The second objective was achieved through the implementation of a qualitative methodology. In this study, the term “average CiteScore” is defined in two distinct ways. First, the method of analysis involves calculating the average CiteScore from the top 1,000 journals, as determined by averaging the CiteScore values of each journal. Second, the division of the aggregate citations (numerator) of the 1,000 journals by the aggregate documents (denominator) yielded the following results.

2. LITERATURE REVIEW

The extant literature was reviewed to ascertain the various dimensions of CiteScores, including their advantages, limitations, proposed variants of CiteScore, comparison of CiteScore with Impact Factor, and prediction of CiteScore.

2.1. Merits of CiteScore

The CiteScore metric has been lauded by numerous scholars (Baker, 2020; Colledge *et al.*, 2017; Khosravi & Menon, 2019; Meho, 2019; Teixeira da Silva, 2020). The CiteScore system has been commended for its extensive coverage. For instance, Teixeira da Silva (2020) has observed that CiteScore, Elsevier's journal-based metric (JBM), encompasses a more extensive array of journals in comparison to Clarivate Analytics' Journal Impact Factor (JIF). In a similar vein, Baker (2020) underscores the advantages of CiteScore. The CiteScore is a metric that reflects the average number of citations a publication receives. To evaluate this metric, a comparison is made between the number of times articles are cited in a given year and the total number of articles published in the 3 years prior to that year. A review of the extant literature indicates that certain fields, such as quality improvement and safety research, tend to progress at a slower pace compared to other fields. Therefore, analyzing 3 years of data may offer a more comprehensive and accurate representation than relying on a two-year period. A two-year duration may be insufficient for adequately studying this subject. A key advantage of CiteScore is its ability to reduce the potential for manipulation of numerical data. The system under review categorizes all items published by a journal as "citable" or "non-citable" rather than distinguishing between the two categories. Consequently, it is generally held by authors that CiteScore provides a more equitable estimation of the frequency with which a journal's articles are cited (Baker, 2020).

Furthermore, Colledge *et al.* (2017) posit that CiteScore is a relatively straightforward metric. The determination of the ranking is primarily achieved through the calculation of the number of citations received by a journal in Scopus during a given year. Citations should

be sourced from scholarly publications published within the three-year period prior to the current year. Subsequently, the total citations should be divided by the number of papers published in those same 3 years prior. It is imperative to note that this encompasses citations to and from any document type. However, an exception exists for citations involving "articles-in-press." These citations are excluded due to inconsistencies in the inclusion of references in Scopus articles and variability in indexing across different publishers. Khosravi and Menon (2019) also underscore the merits of CiteScore. First, the three-year timeframe employed by CiteScore offers a sufficient period for journal citations to be incorporated into the index. Second, the advantage of CiteScore is its comprehensive coverage of documents. Third, CiteScore's methodology includes both cited and uncited documents in the denominator, thereby providing a more accurate reflection of the journal's overall quality. Additionally, Meho (2019) has noted the efficacy of CiteScore in evaluating the quality of conferences. As expert opinions become increasingly aligned, CiteScore demonstrates a tendency to align with these assessments more accurately. It is evident that this distinction serves to differentiate the leading 10% of conferences from the broader set of high-ranking venues within the top quartile. CiteScore fulfills a critical function that complements and extends beyond traditional expert evaluations, providing a viable approach for assessing the merit of emerging conferences. Furthermore, in contrast to other ranking approaches, CiteScore provides smaller yet noteworthy conference venues with an opportunity to be recognized among the most exceptional. Consequently, CiteScore scores are determined by comprehensive coverage, a broader time frame, transparency, free data availability, and a balanced approach (Meho, 2019).

2.2. Criticisms of CiteScore

Concurrently, CiteScore has been the subject of considerable criticism (Fang, 2021; Kumar *et al.*, 2025a; Teixeira da Silva, 2021). Teixeira da Silva (2021) has articulated a concern regarding CiteScore. One possible concern, not yet widely addressed, is the risk of CiteScore

being undermined by the development of imitative or misleading metrics. However, individuals involved in predatory academic publishing continue to expand their reach, increasingly targeting a wider pool of authors. Deceptive or imitation metrics are often designed to resemble the credibility of established JBMs such as the JIF or CiteScore, with the intent of attracting unsuspecting scholars. These scholars may mistakenly interpret such metrics as legitimate indicators of journal quality. Given this trend, it is reasonable to expect the development of similar metrics modeled on the CiteScore framework. As a result, ongoing vigilance from scholars, publishers, and journal editors will be essential.

According to Raj (2021), the way CiteScore is calculated may assign undue weight to early citations, thereby favoring journals that accumulate most of their citations within the initial 4 years post-publication. To elucidate, when determining the CiteScore for a specified year, designated as “year Y,” the calculation encompasses additional citations to eligible documents (EDs) from 3 years prior (Y-3). Consequently, the CiteScore for year Y is influenced more by the impact of those EDs published in Y-3. The effect is marginally diminished for Y-2, and to a greater extent for Y-1 and Y. Moreover, Kumar *et al.* (2025a) have demonstrated that a basic CiteScore can lead to considerable variability in results. Authors have demonstrated that a single paper with a high citation rate, in the case of the journal *Higher Education for the Future*, has caused significant fluctuations in the education domain rankings based on CiteScores alone. There have been endeavors to offer variants of the existing CiteScore (Kumar *et al.*, 2025a; Okagbue *et al.*, 2019). Kumar *et al.* (2025a) have proposed the utilization of a weighted CiteScore in lieu of the prevailing plain CiteScore, with the consideration of the percentage of documents cited. In a similar vein, Okagbue *et al.* (2019) have proposed a modified version of the CiteScore to neutralize the effect of self-citations.

2.3. CiteScore and impact factor

Furthermore, the extant literature has been examined in terms of comparisons between CiteScore and Impact Factor (Fernandez-Llimos,

2018; Safdar *et al.*, 2025). Fernandez-Llimos (2018) has observed that while both metrics rely on citation counts to gauge impact, noteworthy variations do arise. These include the timeframes considered in calculations, data accessibility, and the range of journals indexed. For pharmacy-focused publications, CiteScore is noteworthy for its distinction of pharmacy as its subject area. This is in contrast to the Journal Citation Reports, where pharmacy appears to be linked with pharmacology. Consequently, pharmacy journals frequently occupy the third or fourth quartile of the JIF ranking. However, CiteScore offers a reliable quartile-based distribution. In a similar vein, a literature review by Safdar *et al.* (2025) examined the correlation between CiteScore and Impact Factor. The extant studies have largely demonstrated a notable correlation between CiteScore and Impact Factor, as evidenced by their respective correlation coefficient values. The researchers identified variation within the data. In their analysis, the researchers employed the random-effects method to aggregate the findings from multiple studies. Furthermore, the pooled correlation coefficient values indicated a positive correlation between the two, thereby reinforcing the observed association. The scores assessing study quality generally fell between 10 and 13 in most of the studies—nine to be exact—that were reviewed. This review provides insights into the research production in this field across different countries.

2.4. Projection of CiteScore

Conclusive evidence has emerged from studies such as Croft and Sack (2022) and Kumar *et al.* (2023) demonstrating the capacity to forecast CiteScore metrics. Croft and Sack (2022) posit that the utilization of existing journal data can be conceptualized as a machine learning regression challenge. The author's primary focus is on examining two regression problems in particular. First, the study examines the prediction of the citation count a journal is likely to accrue in the coming year. Second, and relatedly, it considers forecasting the CiteScore that Elsevier will assign to a given journal for the upcoming year. The objective is to forecast future outcomes by leveraging historical performance data. Kumar *et al.* (2023)

demonstrated, based on an analysis of the top 400 journals, that the past year's CiteScore is a robust predictor of the current year's CiteScore. A practical method for predicting a journal's CiteScore from historical citation data is also outlined in the article.

2.5. Research gap

Despite the extensive research conducted on the intricacies of CiteScore, there is a paucity of studies that examine the trends in CiteScore for a substantial number of journals over an extended period. This study addresses the aforementioned gap by conducting a comprehensive analysis of the top 1,000 journals' CiteScores over a significant time period, extending from 2014 to 2024.

3. METHODS

The study employed a quantitative methodology to extract insights from the Scopus database, focusing on the top 1,000 journals. The average CiteScore for the period spanning from 2014 to 2024 was determined through the calculation of the average of the CiteScore of the top 1,000 journals, as well as through the aggregation of citations and documents for the aforementioned timeframe. To elucidate these trends, both averages were plotted. The initial method is characterized by its expeditiousness and accessibility; however, it is subject to limitations in terms of precision. Conversely, the second method circumvents the constraints inherent in the first approach, ensuring a more precise calculation of the average of averages. Those interested in expeditious and approximate calculations may employ the first method. However, those who prioritize accuracy are advised to employ the second method. Furthermore, the leading publishers were identified based on a criterion of contributing to more than 100 journals in the top 1,000. To identify the leading publishers, the data for each of the 11 years were sorted on the field "Publisher." As of July 3, 2025, the Scopus database contained 48,833 indexed journals. The standard Krejcie and Morgan sample size formula (Krejcie & Morgan, 1970) was applied, resulting in a sample size of 382 at a confidence level of 95% and a 5% confidence interval. However, given

access to the details of the top 1,000 journals, a sample size of 1,000 was determined to be sufficient.

The study also employed a qualitative methodology of expert interviews to understand the growth trajectory of the CiteScores over the past decade. Dworkin (2012) has proposed that a sample size of 5-50 is considered appropriate for expert interviews. Convenience sampling was employed to approach 20 senior editors (with editorial experience of more than 15 years) of various Scopus-indexed journals. Following the acquisition of consent to participate, the participants were requested to respond to two questions: (1) What are the drivers of the increase in the CiteScore over the past decade? (2) What measures can be taken to sustain the growth? The composition of the expert panel reflected a deliberate balance of disciplines, with five representatives from the social sciences, five from the medical field, three from health professions, and one each from engineering; arts and humanities; business, management and accounting; chemistry; nursing; computer science; and decision sciences. The expert population included 13 male and 7 female specialists. The distribution of editors by geographical region is as follows: five editors hail from Asia, seven from the Americas, five from Europe, and three from other regions (one each from New Zealand, Australia, and Brazil). The selection of the expert editors was governed by a set of criteria, including the authors' professional network, their seniority within the field, and their responsiveness to the questionnaire.

Responses were received via email. The data were then subjected to a thematic analysis approach (De Hoyos & Barnes, 2012). The analytical process entailed the following steps: first, the email responses were copied into a Word file; second, the replies were subjected to repeated reading to identify common themes; third, the data were interrelated and connected; fourth, codes were assigned to the themes; and fifth, the results were interpreted with the support of explanatory accounts. A thorough review of the replies yielded four predominant explanations for the rise in CiteScore, which were subsequently coded as D1: Increase in doctoral students, D2: "Publish-or-perish" policy, D3: Technology support, and D4: Increased

citation-based writing. In a similar vein, a review of the literature on measures to sustain growth reveals two recurring themes: M1: Preference to quality over quantity and M2: Encouraging authors to use more citations. Ethics approval was obtained from a local university.

4. RESULTS

4.1. Results from quantitative analysis

The CiteScore 2024 metric was determined by aggregating the sum of citations amassed by a journal during the four-year period from 2021 to 2024, and the number of documents it published within the same timeframe. For instance, if a journal has received citations amounting to 10,000 for the four-year period from 2021 to 2024 and has published a total of 100 documents during that same timeframe, its CiteScore 2024 would be 1,000 (10,000/100; Scopus, 2025). To illustrate, the journal *Higher Education for the Future* had total citations of

1,697 for 2021-2024 and had published 54 documents during the same period. The journal's CiteScore 2024 was 31.40 (1,697/54), indicating a relatively high Impact Factor. The mounting interest in CiteScore has prompted researchers to undertake a thorough examination of the methodology employed in its calculation. For instance, Kumar *et al.* (2025a) have investigated the substantial increase in the recent CiteScore of *Higher Education for the Future*. The study revealed that the citations of the journal *Higher Education for the Future* are significantly influenced by the substantial citation of a particular paper (Pokhrel & Chhetri, 2021). It was recommended that a weighted CiteScore methodology be employed, incorporating the percentage of documents cited. An examination of the journal's current CiteScore ranking substantiates the assertion proposed by Kumar *et al.* (2025a). As illustrated in Figure 1, the CiteScore 2024 and CiteScoreTracker 2025 for the journal *Higher Education for the Future* are presented.

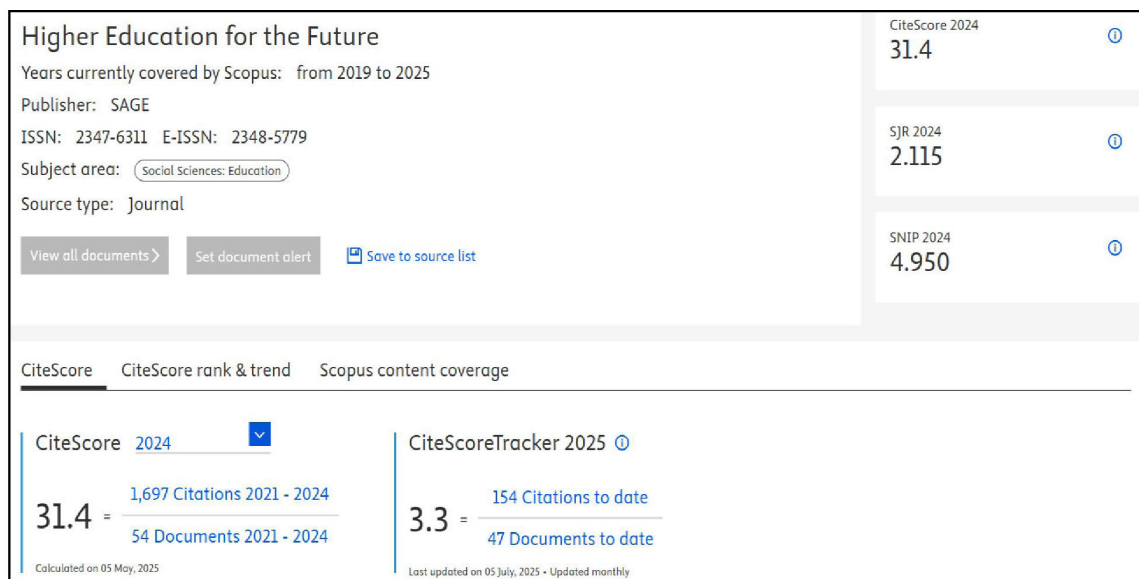


Figure 1. CiteScore 2024 and CiteScoreTracker 2025 for *Higher Education for the Future*. **Source:** Scopus (2025).

A comparison of the CiteScores for 2024 and 2025, as updated on July 5, 2025, reveals that the 2025 CiteScore is approximately one-tenth of the 2024 CiteScore. This phenomenon may be explained by the notable decrease in citations that followed the exclusion of a single, highly cited document (2021) from the 2022-2025

four-year window. The quantitative analysis employed a dual-faceted approach to ascertain the average CiteScore of the top 1,000 journals. The initial approach entailed the calculation of the average CiteScore of the top 1,000 journals for the period 2014-2024. Figure 2 presents the results of this analysis.

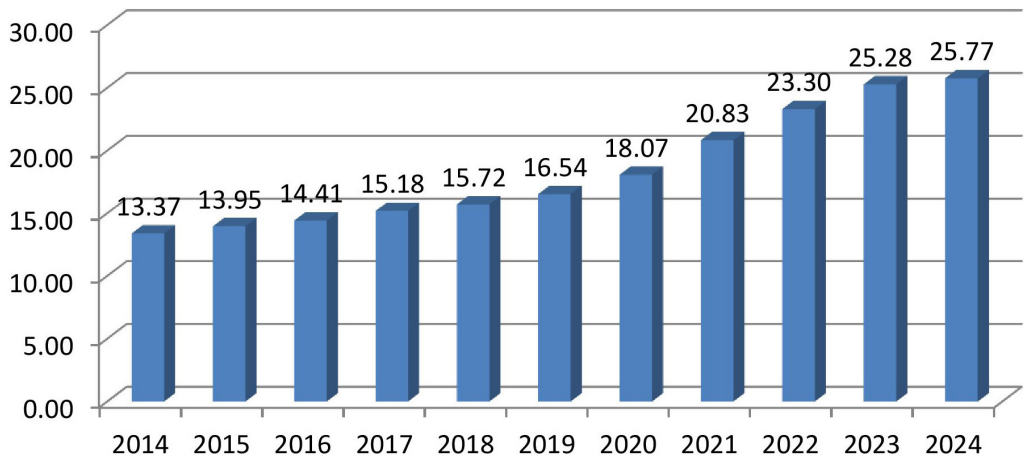


Figure 2. Plain average CiteScore of top 1,000 journals (2014-2024). **Source:** Scopus data.

The data indicate that the average has exhibited a consistent upward trend during the period 2014-2024, with no recorded instances of decline. Beginning in 2014 with an average of 13.37, the CiteScore has increased almost two-fold by 2024, reaching 25.77. The years 2021 and 2022 demonstrate a substantial increase, with a rise from 18.07 in 2020 to 20.83 in 2021, and further to 23.30 in 2022. The CiteScore metric is a quantitative index that calculates the average citations received by a document, weighted by the document’s total number of citations. In light of the challenges inherent to the average of averages, particularly the variability in the dimensions of the units, a secondary methodology was implemented for the aggregation of citations and documents for the top 1,000 journals. This approach entailed the calculation of the average CiteScore for each

year. The results of this methodology are presented in Table 1 and Figure 3.

Year	Citations	Documents	CiteScore
2014	11,976,834	966,615	12.39
2015	12,640,274	981,965	12.87
2016	13,381,325	1,003,082	13.34
2017	13,781,116	985,569	13.98
2018	14,283,951	992,664	14.39
2019	15,478,016	1,033,350	14.98
2020	17,581,534	1,078,340	16.30
2021	20,365,466	1,078,165	18.89
2022	23,289,995	1,110,089	20.98
2023	25,100,279	1,120,718	22.40
2024	25,728,735	1,169,547	22.00

Table 1. Aggregate citations, documents, and average CiteScore for top 1,000 journals (2014-2024). **Source:** Scopus data.

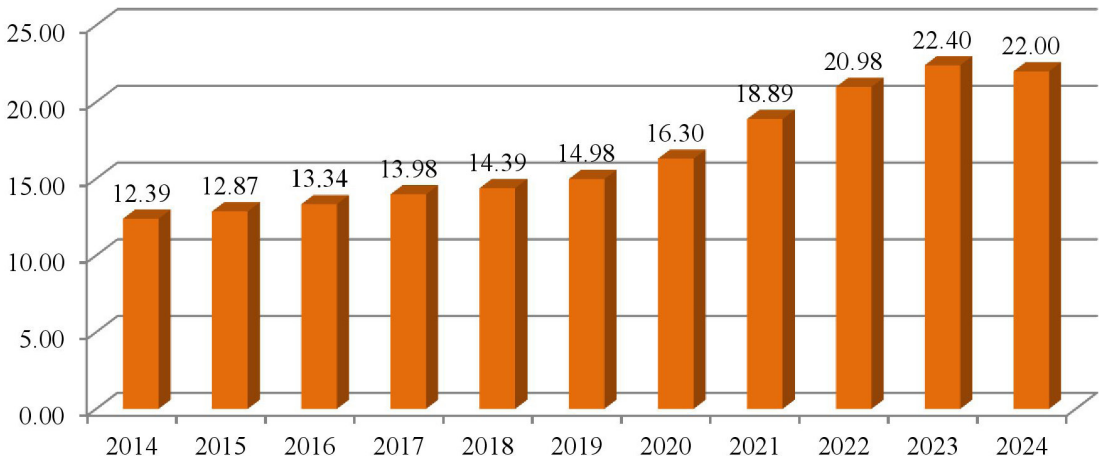


Figure 3. Citation and document average CiteScore of top 1,000 journals (2014-2024). **Source:** Scopus data.

The distinction between the two methods lies in their calculation of the average: the first method computes a simple average of the CiteScores for the top 1,000 journals, while the second method calculates the average based on the aggregate citations and number of documents for the same 1,000 journals. The initial method computes an arithmetic average of the averages (CiteScore itself is an average), while the secondary method identifies the average CiteScore for the top 1,000 journals based on the aggregate citations and document count. This approach is considered more reliable, as it does not involve the calculation of an average of an average. A review of Table 1 and Figure 3 reveals several noteworthy observations. First, the aggregate citations exhibited a consistent increase from 2014 to 2024, with no decline observed. Second, the number of documents has generally shown a consistent increase, with the exception of 2017, when it declined to 985,569 from 1,003,082 in 2016. The average CiteScore demonstrates a consistent upward trend over the period under consideration, with a notable increase observed

until the year 2023. However, for the first time in a decade, a decline in the average was observed, from 22.40 in 2023 to 22.00 in 2024. Subsequently, in Table 2 and Figure 4, the results pertaining to the predominant publishers within the top 1,000 journals are presented. The inclusion criterion was a minimum count of 100 journals.

Year	Elsevier	Springer Nature	Total	Contribution (%)
2014	259	124	383	38
2015	269	122	391	39
2016	284	115	399	40
2017	291	122	413	41
2018	311	122	433	43
2019	314	132	446	45
2020	322	143	465	47
2021	318	155	473	47
2022	334	156	490	49
2023	328	167	495	50
2024	333	171	504	50

Table 2. Leading publishers in the top 1,000 journals (2014-2024). **Source:** Scopus data.

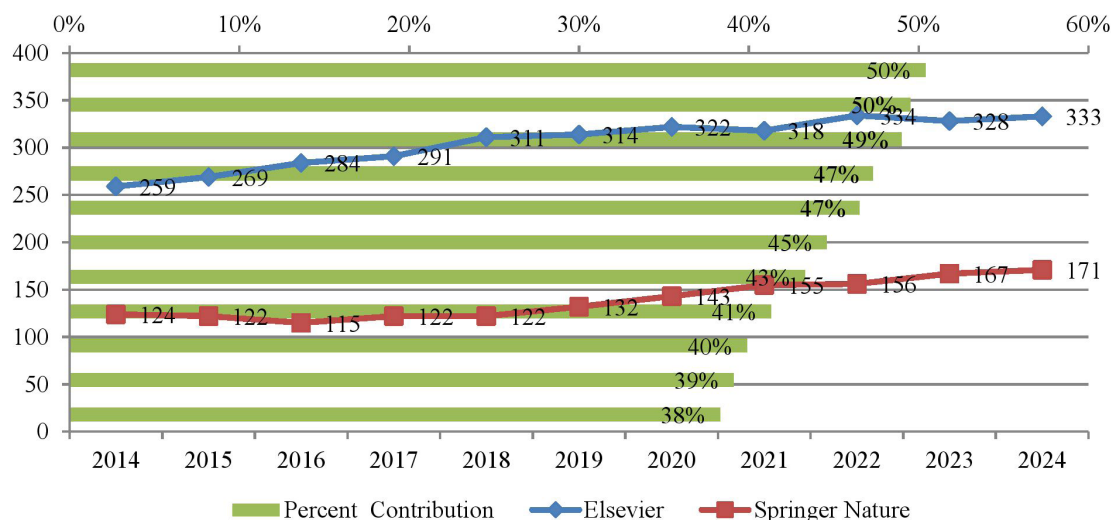


Figure 4. Leading publishers and their contributions to the total 1,000 top journals (2014-2024). **Source:** Scopus data.

Two publishers, Elsevier and Springer Nature, have a preponderant presence in the top 1,000 journals list. Elsevier has augmented its representation within the top 1,000 journals, escalating from 259 in 2014 to 333 in 2024. In a similar vein, Springer Nature has augmented its holdings in the top 1,000 journals,

escalating from 124 in 2014 to 171 in 2024. Collectively, these two publishers represent 504 of the top 1,000 journals in 2024, constituting 50.4% of the total. It is noteworthy that these two publishers have been consistently displacing other publishers from the top 1,000 journals list.

4.2. Results from qualitative analysis

The thematic analysis of the expert interview responses yielded four themes or drivers for the increase in the CiteScore over the period 2014-2024. The factors under consideration are as follows: D1: Increase in doctoral students, D2: “Publish-or-perish” policy, D3: Technology support, and D4: Increased citation-based writing. In a similar vein, a review of the literature on measures to sustain growth reveals two recurring themes: M1: Preference to quality over quantity and M2: Encouraging authors to use more citations.

5. DISCUSSION

The ensuing discourse will focus on the quantitative results. As illustrated in Figure 2, the average CiteScore of the top 1,000 journals has exhibited a consistent increase from 2014 to 2024. The average has increased substantially, from 13.37 in 2014 to 25.77 in 2024. Given the nature of CiteScore as an average, this aspect of the data analysis is not given significant weight. The utilization of the arithmetic average is not a recommended approach (Bast & Weber, 2005; Savage, 2002). The second analysis is more reliable because it aggregates all the citations and the documents for all the top 1,000 journals and then calculates the average. This analysis demonstrates a consistent increase in citations over the period 2014-2024 (Table 1 and Figure 3). A similar trend has been observed in the number of documents. To gain a more profound understanding of these phenomena, a detailed analysis of the increases is presented in Table 3.

Year	Percentage increase		
	Citations (%)	Documents (%)	Difference (%)
2015	5.54	1.59	3.95
2016	5.86	2.15	3.71
2017	2.99	-1.75	4.73
2018	3.65	0.72	2.93
2019	8.36	4.10	4.26
2020	13.59	4.35	9.24
2021	15.83	-0.02	15.85
2022	14.36	2.96	11.40
2023	7.77	0.96	6.82
2024	2.50	4.36	-1.85

Table 3. Percentage increase in citations and documents (2014-2024). **Source:** Scopus data.

As illustrated in Table 3, there has been a marked increase in the average CiteScore for the top 1,000 journals between 2014 and 2024. First, the aggregate citations have exhibited a consistent upward trend, surpassing the figures from the previous year. Second, with the exception of 2017 and 2021, there has been an increase in the total number of documents over the previous year. However, the crux of the matter lies in the distinction between the two increments. While the number of citations has increased at a significantly higher rate, the corresponding growth in the total number of documents has been comparatively modest. This has resulted in a sustained positive difference between the two increments up to the year 2023. The substantial discrepancy in the increments from 2020 to 2022 (9.24%, 15.85%, and 11.40%, respectively) elucidates the considerable surge in the average CiteScore during these years. In essence, while both the numerator (citations) and the denominator (documents) have exhibited an increase, the growth in the numerator has consistently surpassed that of the denominator, resulting in an augmentation of the CiteScore. It is noteworthy that this prevailing trend was first interrupted in 2024, when the rise in documents (4.36%) surpassed the growth in citations (2.50%). Consequently, for the first time in over a decade, the average CiteScore for the top 1,000 journals has decreased from its highest recorded value of 22.40 in 2023 to 22.00 in 2024. This figure is indicative of the substantial increase in publications during the four-year period from 2021 to 2024. While the total number of journals has remained constant, the volume of documents per journal has increased in recent times. This phenomenon can be attributed to various factors, including an increase in the number of issues published annually, an increase in the number of articles published per issue, and the publication of special issues by the top 1,000 journals. This phenomenon can be interpreted as an increase in the publication of high-quality articles by prominent academic journals.

Moreover, the decline observed in 2024 can be interpreted within the broader context of several factors, including but not limited to: editorial practices, the proliferation of special issues, shifts in global citation patterns, delays in the indexing of citations, and post-pandemic

publishing dynamics. For instance, Gleasner and Sood (2025) have highlighted the recent trend in the rise of special issues that focus on current topics. Stockemer and Reidy's (2024) observations indicate a post-pandemic trend of increased contributions from female scholars without children, while those with children have shown a decline. The collective impact of these qualitative factors elucidates the decline observed in 2024, which can be attributed to a substantial increase in the number of documents published. This study examines the pre-eminence of the two leading publishers, Elsevier and Springer Nature, within the ranking of the top 1,000 journals. These two publishers are major players in the publishing industry, with a combined legacy that spans over a century. Given their long-standing presence, substantial size, well-developed publishing infrastructure, and extensive resources, it is perhaps unsurprising that they have gradually replaced several other publisher journals in the top 1,000 list. Both Elsevier and Springer Nature are well-regarded within the research community, and having one's work published in these journals is often considered a notable achievement by authors. The two publishers are renowned for their rigorous standards, which have led to substantial contributions from researchers, enabling them to collectively represent one-half of the 1,000 most prominent journals in their field.

In conclusion, a discussion is warranted regarding the themes that emerged from the expert interviews. The primary driver of the rise in CiteScore, as identified by experts, is the "surge in doctoral students." In recent years, there has been a significant increase in the availability of doctoral programs worldwide (Cardoso *et al.*, 2022; Sarrico, 2022; Shin *et al.*, 2018). The expansion can be attributed to several factors, including advancements in doctoral education infrastructure, the mounting significance of doctoral qualifications, and the escalating participation of women in doctoral education (Warpade *et al.*, 2024). The expansion of doctoral education has been demonstrated to result in increased dissemination of research and citations. "During the preceding decade, there has been a marked increase in the number of candidates enrolling in doctoral programs and completing them. A salient feature

of this phenomenon is the notable increase in the participation of women researchers. This increase has a clear impact on research dissemination and citations, thereby explaining the consistent rise in the CiteScore," stated E9. "Across nations, there has been a marked increase in the perceived importance of the doctoral qualification over the past decade. For instance, in India, the possession of a doctoral qualification has become obligatory for those seeking promotion to the positions of Associate Professor and Professor. It is evident that there has been a substantial increase in the number of research papers. Concurrently, the number of citations has also shown an upward trend," opined E4. E17 echoed similar views, "In recent years, there has been a notable increase in the proliferation of doctoral programs worldwide. Concurrent with the emergence of new opportunities for women, there has been a marked increase in their participation in doctoral education. The expansion of doctoral education has had a considerable impact on research publications and citations."

The experts identified another driver of the rise in CiteScore: the implementation of the "publish-or-perish" policy across nations. The prevailing academic consensus supports this reasoning (Eshchanov *et al.*, 2021; Sane & Sharma, 2025; Van Dalen, 2021). "The publish-or-perish policy has been strictly implemented in higher education institutions. Faculty members have been motivated to increase both the quantity and quality of their research publications. The policy has had a significant impact on research output, as evidenced by the observed increase in both documents and citations," stated E13. "In recent times, the evaluation of academicians has been based on the number of Scopus-indexed publications. Accreditation and ranking agencies place significant value on the research output of faculty members at higher education institutions. The attainment of a doctoral qualification is contingent upon the publication of scholarly works, which is a prerequisite for attaining recognition as a research supervisor," claimed E8. "The publish-or-perish policy has become more stringent in recent times. Academic progress in higher education has been demonstrated to be closely associated with the publication of quality scholarly works. These publications, in turn,

have exerted a positive influence on both the quantity of publications and the number of citations received,” stated E19.

The third driver identified by the experts was “technology support.” In recent years, technological advances have facilitated research in numerous ways. These tools have facilitated access to major research databases, expedited the online dissemination of research papers, and even enabled the overcoming of language barriers. E1 stated, “Over the past decade, there has been a marked increase in contributions from countries with high population densities, such as China and India, as well as from the African continent. The advent of technology has facilitated the ability of authors from these countries to overcome the challenge of English fluency.” In a similar vein, E10 stated, “It is worth noting that there are academic journals that offer complimentary language editing services for their submissions. Furthermore, the advent of applications such as Grammarly and paid language editing services has enabled non-English authors to overcome a significant barrier, thereby facilitating a substantial increase in research contributions and citations.” E15, on similar lines, stated, “In recent years, there has been a marked improvement in the accessibility of prominent publication databases, such as Web of Science and Scopus, among others. A considerable number of academic institutions have acquired subscriptions to these databases, a development that has facilitated faculty members’ access to a broader array of research materials. This, in turn, has contributed to an increase in citations.”

The final driver that emerged from the expert interviews was “increased citation-based writing.” In academic publishing, there is an increasing emphasis among reviewers and editors on the importance of citations to support the claims made by authors. The necessity for additional literature reviews to be conducted prior to identifying the research gap is emphasized. This phenomenon has resulted in a substantial increase in citations, underscoring the impact of these publications on the academic landscape. Furthermore, the significance of citation-based metrics, such as the H-index, has increased. “The increasing emphasis on citation-based writing appears to stem from two main influences: the formal requirements

set by academic journals and the subtle pressures associated with the citation process. It is widely understood, though often unstated, that authors are expected to reference articles published in the target journal. Moreover, a gradual rise in the practice of self-citation has also been observed,” stated E12. E4 further elaborated, “In some cases, reviewers may encourage or request authors to cite their own publications. Additionally, some journals appear to consider the number of citations to their previously published articles as a factor during the manuscript review process. With the growing importance of metrics such as the H-index, authors may also be more inclined to cite their own work in subsequent publications. Collectively, these practices have contributed to a notable increase in citation counts.”

The practice of coerced or pressured citation is increasingly recognized as an ethical concern within the academic community. Engaging in such practices may carry significant risks, including the potential retraction of published articles or, in some cases, the deindexing of journals from databases such as Scopus if reported. To uphold the integrity of scholarly communication, it is advisable for publishers, editors, and authors to avoid actions that may artificially inflate citation counts, including compelled citations. With continued advancements in bibliometric technologies, indexing platforms such as Scopus are becoming more capable of detecting irregular citation patterns, which may lead to serious consequences. The primary measure recommended by experts to ensure the sustained growth of the publishing industry was the prioritization of quality over quantity. In this regard, the following recommendations were made: first, to exercise discretion in the presentation of special issues; second, to enhance the methodological rigor by seeking datasets for empirical studies; and third, to expand the pool of expert reviewers.

E8 opined, “It is important for publishers to exercise careful discretion when determining the issuance of special issues and thematic collections. While these formats are increasingly used as a strategy to attract submissions, their proliferation may contribute to an oversupply of published content. This imbalance has the potential to negatively impact journal-level

metrics such as the CiteScore, as seen in certain trends related to the 2024 CiteScore data.” E15 further elaborated, “Publishing operates within a business framework, where both quality —often reflected in metrics such as the CiteScore— and quantity are important considerations. However, publication models that prioritize volume aggressively may risk compromising quality, and therefore should be employed with careful moderation.” At least 10 out of the 20 experts called for greater methodological rigor in terms of making datasets available for empirical studies. E16 stated, “A substantial number of empirical research papers have been found to either not supply the underlying datasets or to have a data availability statement (DAS) that stipulates the dataset would be provided on request to the corresponding author. However, research has demonstrated that such DAS are not reliable, and when contacted, corresponding authors rarely respond. It is imperative that this area be refined in order to enhance the quality of the research.” E2 shared, “As a reviewer for prominent academic journals, I experienced a precipitous decline in review invitations shortly after I began insisting on the provision of datasets.”

The second measure recommended by the editors to sustain the growth was to encourage authors to use more citations. E14, in this regard, stated, “It is reasonable for editors and reviewers to encourage authors to conduct extensive literature reviews and cite their sources more extensively. Given the sheer volume of publications, it becomes a formidable task for editors and reviewers to ascertain the originality of research under evaluation. A prerequisite for this evaluation is a thorough review of extant literature and the identification of a discernible research gap.” E9 echoed similar views and expressed, “It is imperative that authors engage in a more meticulous literature review to substantiate the research gap. Furthermore, given the substantial body of extant research, it is imperative that they augment the citations to enhance the credibility of their assertions.” Concerns regarding the provision of datasets by editors are consistent with the recent research by Kumar *et al.* (2025b), who have advocated for the accessibility of datasets within the context of Indian doctoral research. It is

imperative to delineate the limitations inherent to the qualitative methodology. Convenience sampling, a non-probability method of sampling that is not immune to bias, was employed to select the experts. The study’s limitations include the potential for researcher or participant bias. The possibility of inadequate replicability of the qualitative results is attributable to the implementation of convenience sampling. It is plausible that certain citations for documents published in 2024 may not have been updated in the Scopus database at the time of paper composition.

The direction of this study generally aligns with previous similar investigations into CiteScore by Kumar *et al.* (2025a), Kumar *et al.* (2023), and Croft and Sack (2022). The quantitative findings of this study are constrained by the fact that they consider solely the top 1,000 journals out of 48,833 journals indexed in Scopus. Consequently, the findings may not be generalizable. Furthermore, the results obtained through qualitative methods are influenced by the non-probability approach to sample selection, also known as convenience sampling. This study invites further research in CiteScore, as it persists in its role as a paramount quality metric within the domain of scholarly publishing. It is possible to conduct analogous studies for particular domains. Furthermore, comparative studies between domains can offer more valuable insights. The findings imply that sustaining the continuous rising trend in the CiteScore may present a challenge. The trajectory of the indicator, which had previously reached its zenith in 2023, exhibited a decline in 2024, marking an occurrence not observed in over a decade. While the increase in 2023 as compared to 2014 is nearly double, sustaining this growth beyond a certain threshold appears to be a formidable challenge. Consequently, the study underscores the necessity for deliberate measures to ensure the continuity of growth in the CiteScore subsequent to attaining its zenith. The editors’ expressed concerns and proposed recommendations to maintain the growth in the CiteScore are of significant concern for publishers. The preponderance of publishers under the Elsevier and Springer Nature banners prompts inquiries into the inclusivity of the publishing industry. The increasing dominance of these technologies carries with

it both positive and negative implications. The advantages of this arrangement for authors include the opportunity to gain recognition as leading publishers. However, the displacement of other publishers from the list can be a matter of concern from the viewpoint of inclusivity and diversity.

6. CONCLUSION

The findings derived from quantitative methodologies suggest that the average CiteScore 2024 of the top 1,000 journals has diminished, attributable to a disproportionate rise in the volume of documents relative to the rise in citations. It is noteworthy that this decline occurs subsequent to a sustained upward trend in the average for the decade 2014-2023. It is imperative for publishers, editors, researchers, academic institutions, and Scopus to acknowledge that an increase in the number of publications can have a detrimental effect on the quality of these publications, as measured by the citation index CiteScore. The augmentation in quantity should not be accompanied by a diminution in quality. Consequently, it is not appropriate for journals with a low number of citations to publish an excessive number of documents. The quantitative analysis further underscores the sustained predominance of two preeminent publishers, Elsevier and Springer Nature, within the top 1,000 journals. A review of the extant qualitative research suggests that the expansion of doctoral education, the publish-or-perish policy, technology support, and citation-focused writing are the key drivers for the increase in the CiteScore. There was a consensus among experts that publishers must prioritize quality over quantity to sustain growth. The employment of a non-probability sampling method imposes limitations on the qualitative analysis of the study. Furthermore, the findings of the top 1,000 journals may not be applicable to the entire population of 48,833 journals. This study invites researchers to undertake similar studies in CiteScore, as it offers invaluable insights into the trends and characteristics of scholarly publishing. Subsequent research endeavors may explore the number of free journals to provide more profound insights into comparisons of open-access and hybrid journals.

Conflict of interest

Authors have no competing or conflicting interests to declare.

Author contributions

Conceptualization, visualization: Atul Kumar.
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Visualization: Vinaydeep Brar.
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Statement of data consent

The data generated during the development of this study are available at <https://www.openicpsr.org/openicpsr/project/237062/version/V1/view>.

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