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Features of the formation of collections and subject areas of scientific journals in the scientometric databases Scopus and Web of Science

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Abstract. The research relevance is determined by the growing role of Scopus and Web of Science as key tools for evaluation of scientific activities and the need to optimise the processes of forming collections and determining the subject areas of scientific journals to increase visibility and influence in the global scientific space. The study aimed to analyse the peculiarities of forming collections and determining the subject areas of scientific journals indexed in the international scientometric databases Scopus and Web of Science. Research methods included analysis and synthesis, systematisation and generalisation of data, as well as content analysis of scientometric databases Scopus and Web of Science, used to identify the specifics of the formation of collections and subject areas of scientific periodicals. The criteria for the selection of periodicals, the structure of subject areas and the specifics of the formation of collections in Web of Science were addressed. Differences in approaches to the classification of scientific journals by subject areas were analysed, and the impact of these differences on the representativeness of scientific research in various fields of knowledge was investigated. The main trends in the development of collections and subject areas of scientific journals in the context of modern requirements for scientometric indicators and international standards of scientific communication were identified. The study demonstrated that the Scopus and Web of Science databases have different approaches to classifying subject areas. The study determined that Scopus is characterised by a wider coverage of journals, especially in the social and medical sciences, while Web of Science emphasises journals with a high impact factor. The classification of subject areas is also different, which should be accounted for during search and analysis of scientific sources. The practical significance of the study is determined by empirically grounded data on the formation of journal collections and subject areas in Scopus and Web of Science, which will contribute to optimisation of publication strategies, increasing research visibility, and improving the evaluation of scientific contribution, therefore beneficial for researchers and postgraduate students

Keywords: classification; research; publications; impact factor; scientific communication

Introduction

The research relevance is determined by the need for a broader determination of the peculiarities of the formation of collections and subject areas of scientific journals in Scopus and Web of Science for the correct use of these databases in scientific research. In scientific discourse, the

Scopus and Web of Science databases are central in evaluation of scientific activity, ranking scientific journals, and shaping the global information space. However, despite the importance, there are discussions about the completeness and objectivity of scientific information in these databases.

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Research on the analysis of scientometric databases is becoming increasingly relevant. For instance, S. Piltiai *et al.* (2023) investigated the peculiarities of publishing scientific articles in Scopus and Web of Science databases, emphasising the role in increasing the visibility and impact of scientific research. The study addressed the key requirements and selection criteria for journals indexed in these databases and provided practical recommendations for compilation of scientific publications.

In the context of the development of digital technologies, in particular artificial intelligence, it is necessary to analyse the publication of relevant research in scientometric databases. C. Tapullima-Mori *et al.* (2024) analysed publications on the application of artificial intelligence in education. The study identified key trends and research areas in this field and analysed the citation and impact of relevant publications in Scopus and Web of Science.

Studies conducted by J. Tennant (2020) noted that Web of Science and Scopus are not global databases, but reflect only a certain part of scientific publications. This necessitates a critical reflection on the role as the only criterion for evaluating scientific activity and addressing other search engines for scientific publications. A comparative analysis of the coverage of journals in Web of Science and Scopus by P. Mongeon & A. Paul-Hus (2016) revealed differences in the collections, which affects the results of scientific research. The results obtained in the study can be used as an empirical basis for further comparative studies on the dynamics of coverage of scientific periodicals by leading scientometric databases. The identified features of the formation of collections and subject areas will contribute to a deeper determination of the indexing criteria and the impact on the representativeness of scientific information. Furthermore, R. Pranckutė (2021) examined the role of Web of Science and Scopus as primary sources of bibliographic information in the modern academic world, but also emphasises the need for a critical approach. Notably, awareness of the potential limitations and biases inherent in these scientometric databases is an important aspect to ensure the objectivity of the evaluation of scientific publications. Further research can address the impact of the editorial policy of journals and the criteria for inclusion in Scopus and Web of Science on the formation of their collections and subject areas.

Research conducted by V. Singh *et al.* (2021) compared the coverage of journals in Web of Science and Scopus, identifying differences in collections and the impact of these differences on scientific performance. The results of the analysis can be directly applied by researchers in selection a target journal for publication, accounting for the specifics of the formation of collections and subject areas in Web of Science and Scopus, which will increase the probability of indexing and citing in the relevant scientometric database. W. Liu *et al.* (2019) analysed the use of Web of Science and Scopus for academic publications, emphasising the importance for

scientific communication. The analysis confirmed the key role of Web of Science and Scopus as fundamental tools for representing and evaluating academic productivity in the global scientific community. The findings contribute to a broader determination of the mechanisms of functioning of these scientometric databases as important components of modern scientific communication.

The study aimed to identify and analyse the peculiarities of the formation of collections and subject areas of scientific journals in the Scopus and Web of Science scientometric databases, and to assess the impact on scientific communication and the evaluation of scientific activity. To achieve this goal, the following tasks were set: to analyse the principles of forming collections of scientific journals in Scopus and Web of Science; to compare the classification and subject areas of scientific journals in these scientometric databases; to identify the differences and similarities in quantitative indicators characterising the representation of journals in Scopus and Web of Science.

The research novelty is determined by a comprehensive analysis of the peculiarities of the formation of collections and subject areas of scientific journals in Scopus and Web of Science to identify the impact on scientific communication and evaluation of scientific activity.

Materials and Methods

A set of methods aimed at identification of the peculiarities of the formation of collections and subject areas of scientific journals indexed in the Scopus and Web of Science databases was employed. The methodological approach was based on the principles of comparative analysis, which identified differences and similarities in the structure and content of these databases.

The main research methods included systematic analysis, which was used to study the structure of Scopus and the principles of forming collections of scientific journals in the Web of Science database; comparative analysis, which was used to identify differences and similarities in subject areas and classify scientific journals in these databases; bibliometric analysis, which was used to analyse quantitative indicators characterising the representation of journals in the Scopus and Web of Science databases, in particular, the number of journals in each subject area, citation indices, and other scientometric indicators (impact factor and scientific activity). An information search was used to collect and analyse data from the official websites of Scopus (Scopus, n.d.) and Web of Science (Web of Science, n.d.), as well as from scientific publications related to the research topic (Singh *et al.*, 2021; Piltiai *et al.*, 2021; Tapullima-Mori *et al.*, 2024).

The application of a set of methods, including systematic, comparative and bibliometric analysis, as well as information search, was used for a comprehensive study of the peculiarities of the formation of collections and subject areas of scientific journals in the Scopus and Web of Science databases. The analysis was based on

information obtained directly from the databases, as well as from official documents and scientific publications related to the research topic (Liu *et al.*, 2019, Tennant, 2020).

Results and Discussion

An analysis of the scientific literature demonstrated a growing interest in the study of scientometric databases as tools for evaluating scientific activity. Researchers are actively studying the impact of these databases on the development of scientific communication, the formation of scientific collections, and the identification of priority areas of research. However, despite the significant number of publications, some aspects of the formation of collections and subject areas of scientific journals in the Scopus and Web of Science databases remain insufficiently studied. In particular, the following need to be studied in more detail: the dynamics of changes in subject headings and the impact on the reflection of scientific trends; the peculiarities of the formation of interdisciplinary fields and the role in the development of interdisciplinary research; the impact of journal selection algorithms on the representation of different scientific fields; a comparative analysis of the criteria for selecting journals for the Scopus and Web of Science databases, addressing the specifics of different scientific fields.

The study addressed the peculiarities of the formation of collections and subject areas of scientific journals in the Scopus and Web of Science scientometric databases. The analysis has revealed key differences and similarities in the approaches to the formation of the classification of subject areas and the criteria for selecting journals that reflect the specifics of each database. The obtained results can be used to assess the impact of these features on scientific communication and evaluation of scientific activity.

The study has demonstrated that the Scopus and Web of Science scientometric databases, despite common goals of providing access to high-quality scientific information, have different approaches to the classification of subject areas. The identified differences relate to both quantitative and qualitative characteristics of the journals presented, which affects visibility in the scientific community. Analysis of these differences is substantial for determination of the principles of scientometric databases and the impact on scientific communication.

Notably, Web of Science is a highly respected global citation database, central in shaping the modern scientific information space. For scientific publications, indexing in the main collection of Web of Science is a strategic priority, as it contributes to a significant increase in their visibility and influence in the international scientific environment. The Web of Science Core Collection (Fig. 1) is represented by six citation indices covering a wide range of scientific disciplines, including the natural sciences, social sciences, arts, and humanities. The total volume of the database exceeds one billion citations, thus providing wide access to relevant information from

more than 250 scientific fields. A unique feature of Web of Science is the indexing of all metadata, which establishes comprehensive links between research and the broader scientific context (Which Clarivate products do you have access to? (n.d.).

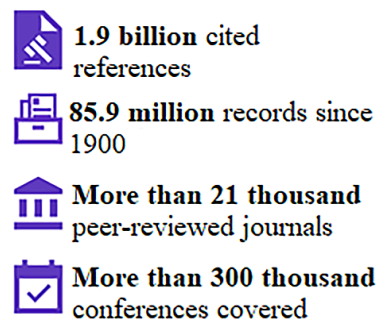


Figure 1. Web of Science Core Collection (data for 2023)
Source: Which Clarivate products do you have access to? (n.d.)

Indexing of scientific journals in Web of Science increases accessibility to the international scientific community and is a prerequisite for obtaining the impact factor, a substantial metric for the scientific reputation of the publication. Of particular importance is the use of the Web of Science Core Collection platform, which is a leading international abstract and bibliographic database of scientific citation that provides access to carefully selected scientific publications. This platform indexes articles from the most influential periodicals, monographs and conference proceedings covering a wide range of scientific disciplines.

One of the key features of Web of Science is its chronological depth, which enables retrospective search of publications dating back to 1900 (Collection List Downloads, n.d.). The depth of chronological coverage depends on the subscription level of the institution providing access to this database. The analysis of the Web of Science platform (Web of Science, n.d.) has revealed its key role as a tool for scientists, researchers and librarians, which is to ensure effective search for relevant scientific publications, possibility to conduct an accurate and comprehensive search for scientific materials that meet the specified criteria; tracking the citation of scientific papers, which can be used to analyse the citation of scientific papers, which is an important indicator of the impact and significance in the scientific community; bibliometric analysis to assess the scientific activities of individual researchers, research teams and institutions.

The analysis of the Web of Science Core Collection demonstrated and identified the structure, which includes the following citation indices: Science Citation Index Expanded (SCIE), Social Sciences Citation Index (SSCI), Arts & Humanities Citation Index (AHCI), and Emerging Sources Citation Index (ESCI) (Fig. 2). The Web of Science core collection includes only journals that meet high editorial standards and demonstrate scientific quality.

Each entry in the Web of Science Core Collection contains a set of metadata that provides complete information about the publication. These include journal title, international standard serial numbers (ISSN and e-ISSN), name and address of the publisher, language of

publication, and subject category to which the journal belongs. This metadata is substantial in the processes of search, analysis, and evaluation of scientific information, efficiently selecting relevant publications and assessing the impact in respective subject areas.



Figure 2. Web of Science Core Collection citation indexes

Source: compiled based on data Collection List Downloads (n.d.)

The study determined that the Science Citation Index Expanded (SCIE) is an expanded version of the Science Citation Index (SCI) and an integral component of the Web of Science Core Collection. This database is an abstract and bibliographic database covering more than 9461 of the most influential scientific periodicals representing 182 scientific disciplines. The total volume of SCIE is more than 67.3 million+ records and more than 1.18 billion cited references, with chronological coverage from 1900 to 2024. Access to the index is provided through the Web of Science online platform, which is part of the Core Collection. The Science Citation Index Expanded (SCIE) is an important tool for scientists, researchers, and information professionals for search and analysis of scientific literature, evaluation of the impact of scientific publications, and trend tracking in the development of scientific disciplines (Science Citation Index Expanded, n.d.).

The Social Sciences Citation Index (SSCI) is a citation index that is part of the Web of Science Core Collection and indexes more than 3547 scientific periodicals covering 47 social science disciplines, as well as selected articles from 3,500 leading scientific and technical journals. The total volume of the database is over 11.6 million+ records and more than 122 million cited references, with chronological coverage from 1900 to 2024. The Social Sciences Citation Index is an important tool for researchers of the social sciences, as it provides access to high-quality scientific publications, which can be used to assess the impact of research (Social Sciences Citation Index, n.d.).

The study determined that the Arts & Humanities Citation Index (AHCI) indexes more than 1818 journals in 25 arts and humanities disciplines. The chronological coverage of the AHCI is from 1975 to 2024, and the total number of records reaches more than 5.5 million+ with 33.4 million cited references (Arts & Humanities Citation Index, n.d.). The study determined that the arts and humanities have specific features, distinguish from the clinical, natural, and social sciences. In particular, the differences relate to the type of scientific content, peer review standards, and citation rules, which should be addressed in analysis and evaluation of scientific publications in

these fields. The findings demonstrate the importance of the AHCI as a tool for evaluating and analysing scientific publications in the arts and humanities, as well as the need to incorporate the specific features of these fields in scientific research.

The study analysed the Emerging Sources Citation Index (ESCI), which is an index of citation of new sources created in 2015. This index includes more than 8496 titles of scientific periodicals, with archival data dating back to 2005. The journals presented in ESCI cover a wide range of scientific disciplines, from international and interdisciplinary publications to journals specialising in narrow regional studies. The total volume of ESCI is more than 5.6 million+ records and 74.4 million cited references, with chronological coverage from 2005 to 2024 (Emerging Sources Citation Index, n.d.). Notably, ESCI included high-quality scientific publications selected based on criteria that reflect the thoroughness of the editorial process and adherence to best practices at the journal level, which emphasises the importance of ESCI as a source of information for researchers seeking to learn relevant scientific works.

The analysis of the Web of Science scientometric database revealed the presence of the Book Citation Index (BKCI), which is an index of book citations. According to the analysis, the BKCI includes more than 157,000 editorially selected monographs and collections, with 10,000 new publications added annually. The total volume of cited references is more than 53.2 million, with chronological coverage from 2005 to 2024 (Book Citation Index, n.d.).

The Book Citation Index is a multidisciplinary resource covering the fields of social sciences, arts and humanities. Furthermore, BKCI is represented by two separate editions: a scientific edition and an edition of social sciences and humanities. BKCI's scientific publication covers such subject areas as physics, chemistry, engineering, computing and technology, clinical medicine, life sciences, as well as agriculture and biology. In particular, the Social Sciences and Humanities edition covers the relevant disciplines. BKCI series include only books published since 2005, which indicates the relative

modernity of publications in the Web of Science database compared to journal publications, which have been indexed since 1900 (Book Citation Index, n.d.).

The analysis demonstrated that the Conference Proceedings Citation Index (CPCI) is a part of the Web of Science Core Collection and is central in reflecting the latest scientific developments. Conference proceedings indexed in the CPCI are a source of up-to-date information that demonstrates current trends and innovative ideas that have not yet been reflected in periodicals. In this case, the CPCI can be used to search cited references to assess the impact of scientific conferences on the development of science. The Conference Proceedings Citation Index contains more than 314,000 conference proceedings with 70 million cited references, with chronological coverage from 1990 to 2024 (Conference Proceedings Citation Index, n.d.). Thus, CPCI is an important tool for scientists, researchers and analysts to track current scientific developments, assess the impact of conferences on the development of scientific fields and search for relevant information.

There are other thematic collections on the Web of Science platform, such as Specialty hosted collections (CABI: CAB Abstracts and Global Health, Food Science and Technology Abstracts, Inspec, Medline); Regional collections (ARCI Arabic Citation Index, Chinese Science Citation Database, KCI Korean Journal Database, SciELO Citation Index); Specialty collections (Zoological Record, Current Contents Connect, Biological Abstracts, BIOSIS Citation Index); Patent, data and preprint collections (Data Citation Index, Derwent Innovations Index and Preprint Citation Index) (Fig. 3).

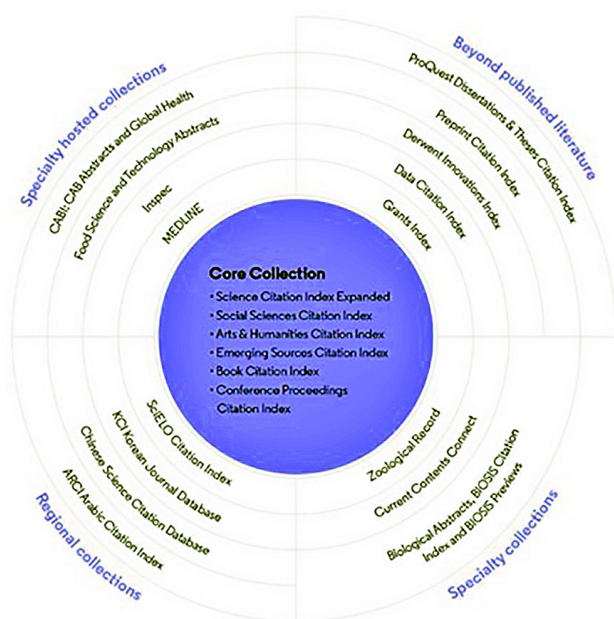


Figure 3. Structure of the Web of Science scientometric database

Source: Which Clarivate products do you have access to? (n.d.)

Importantly, despite the indexing of journals on the Web of Science platform, articles from these journals included in the specified collections are not subject to general indexing. Articles are indexed exclusively for the journals included in the Core Collections – the main collection of Web of Science. The analysis of the Web of Science platform (Web of Science, n.d.) revealed its complex structure, which includes the main collection and specialised collections, each of which has a selection and indexing criteria. The main collection of Web of Science is a key resource of the platform, which covers more than 21,000 peer-reviewed high quality scientific journals from around the world, including open access publications. In addition, the collection contains more than 205,000 conference proceedings and 104,000 books selected by the editorial board.

The revealed multicomponent structure of Web of Science indicates a differentiated approach to the formation of collections, which can be used to the representativeness and quality of the presented scientific publications. Specialised collections that operate in parallel with the main collection reflect the specifics of individual fields of knowledge and types of scientific publications. The results of the study demonstrate that Web of Science is a comprehensive platform that provides access to a wide range of scientific information. The diversity of collections and selection criteria meets the needs of different categories of users, including scientists, researchers, teachers, and students. Notably, the Web of Science Core Collection is substantial for scientometric analysis and evaluation of scientific activity. The careful selection of publications, wide coverage of scientific disciplines, and deep chronology render this database indispensable for scientists, researchers, and librarians.

The analysis revealed that Scopus (n.d.) is an abstract and analytical database developed by the Elsevier publishing corporation in 2004. It aims to optimise the research activities of scientific institutions and professionals in the field of science and healthcare. Scopus is positioned as one of the leading databases of abstracts and citations of peer-reviewed scientific periodicals. Indexing of a scientific journal in Scopus indicates that the scientific papers published in it are incorporation during citation analysis among 70 million other scientific publications included in the Scopus database. The results of the study demonstrated that Scopus is actively used by more than 4,500 universities and 150 research organisations around the world to evaluate the effectiveness of scientific research, which confirms its important role in the modern system of scientific communication and evaluation of scientific activity (Scopus Content, n.d.).

An analysis of the structure of the Scopus scientometric database (Fig. 4) has shown that trust in the information presented in this database is based on the high level of verification and selection of content. Scopus indexes publications from more than 7000 publishers that

are thoroughly verified and selected by an independent Content Selection Advisory Board (CSAB). Therefore, this process ensures the high quality of scientific publications presented in Scopus, which, in turn, contributes

to the reliability and credibility of information obtained by researchers using this database. Thus, indexing a publication in Scopus is an indicator of its credibility and scientific value.

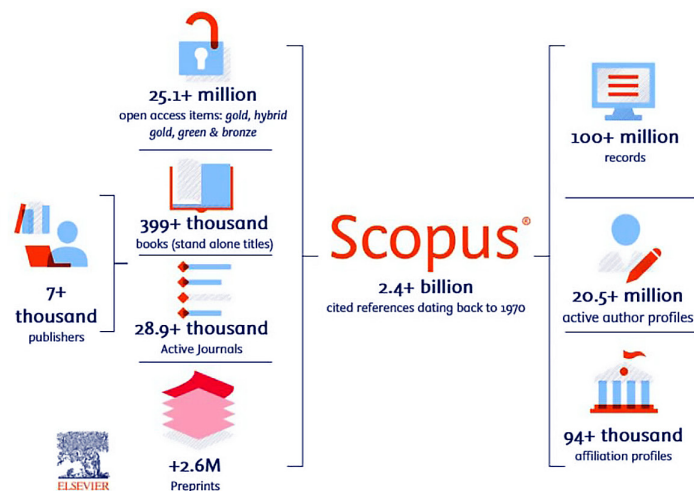


Figure 4. Scopus scientometric database

The numbers shown are rounded and are current as of February 2025.

Source: Scopus (n.d.)

The list of foreign journals indexed in the Scopus scientometric database includes medical, legal, economic, pedagogical, behavioral, theoretical, and empirical aspects. In the context of the analysis of the peculiarities of the formation of collections and subject areas of scientific journals in the Scopus (n.d.) and Web of Science (n.d.) databases, an important step is a comparative study of key characteristics. To visualise the data obtained and identify differences and similarities between these platforms, a comparative table was developed. It contains information on the size of databases, subject areas, journal selection criteria, citation analysis tools, and other important parameters.

The presented table (Table 1.) is the result of a comprehensive analysis of the Scopus (n.d.) and Web of Science (n.d.) scientometric databases, as well as scientific publications related to the subject of the study. In particular, the table systematised and visualised the data obtained, providing a comparative analysis of the key characteristics of scientometric databases. This, in turn, contributes to the formation of objective conclusions about the peculiarities of the formation of collections and subject areas of the Scopus and Web of Science scientometric databases, as well as their impact on scientific communication and evaluation of scientific activities.

Table 1. Comparative analysis of Scopus and Web of Science

	Web of Science	Scopus
Creation	1900	2004
Number of indexed materials (as of the end of 2024)	More than 235 million records (journals, books and materials)	More than 100 million records
Number of journals (as of the end of 2024)	> 34,865 journals + books, materials, patents and datasets	> 28,900 journals + 399,000 books
Update frequency	Each collection is updated on its own schedule from daily to monthly. Main collection daily (7 days a week)	Updated daily
Number of citations (as of the end of 2024)	2.95 billion	2.4 billion
Subject areas covered	Life sciences, clinical medicine, animal and plant biology, biotechnology, agriculture, environmental sciences, physics, chemistry, earth sciences, mathematics, engineering, technology, computer science	Life and health sciences; chemistry, physics, mathematics, engineering, social sciences, psychology, economics, biology, agriculture, ecology, general sciences
Geographical coverage	80 countries	60% of titles originate from countries other than the US

Source: compiled based on Scopus Content (n.d.), Web of Science (n.d.)

A comparative analysis of the Scopus and Web of Science scientometric databases revealed both common and distinctive features in the structure and functionality. As the analysis demonstrated, Scopus and Web of Science are highly valued scientometric databases of scientific information used to evaluate scientific activities, search for relevant publications and analyse citations. However, Scopus is characterised by a wider coverage of journals, especially in the social sciences and humanities, while Web of Science has stricter criteria for selecting publications, which ensures high quality of the information provided.

The results of the study demonstrated that Scopus and Web of Science are complementary tools for scientists, researchers, and analysts. The choice of a database depends on the specific needs of the user, in particular, the field of research, the required level of information detail, and the purposes of the analysis. Both databases are substantial in the development of scientific communication and evaluation of scientific activities at the international level.

The analysis of the peculiarities of the formation of collections and subject areas of scientific journals in the Scopus and Web of Science databases revealed both similarities and significant differences in the approaches of these leading tools for evaluating scientific activity. The results are consistent with the general trend noted by F. Ghanadinezhad *et al.* (2023) in a review of approaches to forecasting trends in scientific productivity. The study noted the growing importance of scientometric data for estimation of the dynamics of science, which correlates with the emphasis on analysis of the structure of key scientometric databases.

Comparing the coverage of journals, the analysis confirms the findings of A. Chadegani *et al.* (2013), which indicated the presence of unique publications in the Web of Science and Scopus collections. However, in contrast to the study by A. Selemani *et al.* (2023) on the analysis of African medical journals and identification of specific features of representation in international and regional databases, the present study covers a wider range of scientific disciplines, identifying general trends and specific features of collection formation regardless of geographic or sectoral context.

The analysis of the structure of Web of Science revealed the presence of the main collection and specialised citation indices (SCIE, SSCI, AHCI, ESCI, BKCI, CPCI), which is consistent with the description presented in T. Sych *et al.* (2020), who studied the representation of Ukrainian educational management publications in Scopus and Web of Science. However, T. Sych *et al.* addressed quantitative indicators of representation, while the present study provides a more comprehensive overview of all major Web of Science indices, including chronological coverage and volume, which expands the determination of the capabilities of this platform.

The importance of Web of Science as a highly valued global citation database, as emphasised in the study, correlates with the opinion expressed in the study by J. Mingers & L. Leydesdorff (2015) on the review of the theory and practice of scientometrics on the key role of such tools in shaping the scientific landscape and assessing scientific productivity. At the same time, the detailed study of the structure of the main Web of Science collection and its individual indices (SCIE, SSCI, AHCI, ESCI) broadened the determination of the mechanisms of journal selection and categorisation, which is an important aspect that was partially analysed by L. Bornmann *et al.* (2014) in the study of the scientific productivity of the BRICS countries based on the most cited papers.

The analysis of Scopus, as in J. Moral-Muñoz *et al.* (2020), confirms its positioning as a leading reference and analytical database, as well as the importance of software tools for bibliometric analysis. However, this study emphasises the content selection process by the CSAB as a key mechanism for ensuring the quality and reliability of information, which is an important addition to the general description of the platform and distinguishes this analysis from the review of tools presented by J. Moral-Muñoz *et al.* (2020).

The results of this study also correlated with the findings of a study by O. Vysochan *et al.* (2021) on bibliometric analysis of the literature on sustainable development accounting, emphasising the importance of an appropriate scientometric database to ensure a representative sample. The differences in the formation of collections and subject areas of Scopus and Web of Science confirm the need to address these features during scientometric research in various fields of knowledge.

This study confirmed the general trend of growing interest in scientometric databases as key tools for evaluating scientific activity, which was also noted by C. Herzog *et al.* (2020) and M. Visser *et al.* (2021) emphasising the importance of openness and accessibility of scientometric data for a wider range of researchers, which corresponds to the objective of the principles underlying the formation of these databases. At the same time, the study conducted a comparative analysis of the formation of collections and subject areas in Scopus and Web of Science, which is an important aspect that is partially analysed in the article by M. MacRoberts & B. MacRoberts (2018). In the critical assessment of citation analysis as the main indicator of scientific impact, M. MacRoberts & B. MacRoberts emphasised the need to address the characteristics of different databases and their coverage. The study specified these features by identifying quantitative and qualitative differences in the representation of journals.

In contrast to the article by J. Ravenscroft *et al.* (2017) on extending the metrics of scientific impact beyond the academic environment, the presented study addressed the internal mechanisms of scientometric databases. However, determination of how collections are formed and what subject areas are represented is an

important basis for further analysis of scientific impact. R. Williams & L. Bornmann (2016) and the present study highlighted the importance of data sampling in bibliometric research. R. Williams & L. Bornmann emphasised the potential biases associated with incomplete or unrepresentative coverage of publications. Presented study, revealing differences in the scope and subject coverage of Scopus and Web of Science, emphasised the need for a cautious approach to choosing a database for analysing and interpreting the results.

Thus, the results of the study confirmed the importance of Scopus and Web of Science as key for navigating the global scientific space and evaluating scientific activities. The identified differences in the approaches to the formation of collections and classification of subject areas emphasise the need for a critical reflection on the capabilities and limitations of each of these platforms in conducting research and evaluating their results.

■ Conclusions

The study identified and analysed the peculiarities of the formation of collections and subject areas of scientific journals in the Scopus and Web of Science scientometric databases. The study established that both databases are important tools for evaluating scientific activity, but they have significant differences in approaches to the formation of subject areas of scientific journals, indexing and selection of articles.

Notably, Web of Science employs a unified set of criteria that ensures a high level of quality of scientific publications presented in the database. This position determined the approach aimed at selecting the most influential and cited journals, which reflects the desire to ensure the highest level of representation of scientific information. Based on this, the classification of scientific periodicals in the Scopus and Web of Science databases shows significant differences, which, in turn, leads to different representation of subject areas. These differences are not only a technical aspect, but also have a direct impact on the processes of analysing and interpreting scientific information. In contrast, Scopus employs a more flexible approach to the selection of scientific journals, covering a wider range of journals in its database. This approach ensures a greater diversity of scientific information presented, which can be useful for researchers working in different fields of science.

The main differences between Scopus and Web of Science are the selection criteria, orientation, and diversity of the information presented. Web of Science uses a standardised set of criteria that ensures a high level of quality of the presented publications, while Scopus uses a more flexible approach that covers a wider range of journals. In particular, Web of Science emphasises selection of the most influential and cited journals, while Scopus includes a wider variety of scientific information. Thus, in particular, Scopus is characterised by a greater variety of scientific information presented, while Web of

Science is distinguished by a high level of quality of the presented publications.

A broad determination of the differences in the classification and presentation of subject areas in Scopus and Web of Science is a prerequisite for the correct analysis of scientific information and the effective use of these databases in research. The choice between Web of Science and Scopus depends on the research goals and user needs. Web of Science is most suitable of access to most influential and high-quality publications is required. However, Scopus is more suitable if broader range of scientific information is necessary.

The analysis of the Web of Science and Scopus scientometric databases revealed both common features and significant differences in characteristics, which is key to the role in modern scientific communication and research evaluation. In particular, the study determined that Web of Science has a deeper chronological coverage, dating back to 1900, while Scopus began its operations in 2004. At the end of 2024, Web of Science indexed more than 235 million records, including journals, books, and conference proceedings, which exceeds more than 100 million records in Scopus. The number of journals represented in Web of Science is also higher, with more than 34,865 titles, compared to more than 28,900 journals in Scopus. Both databases demonstrate a significant number of citations – 2.95 billion in Web of Science and 2.4 billion in Scopus as of the end of 2024, which emphasises the importance as tools for tracking the impact of scientific publications.

In terms of subject areas, Web of Science has broader coverage in such fields as life sciences, clinical medicine, plant and animal biology, biotechnology, agriculture, environmental sciences, physics, chemistry, earth sciences, mathematics, engineering, technology, and computer science. Scopus, on the other hand, covers life and health sciences, chemistry, physics, mathematics, engineering, social sciences, psychology, economics, biology, agriculture, ecology, and general sciences.

These statistics emphasised that, despite the common goal, Web of Science and Scopus have quantitative and qualitative differences in collections and subject areas. These differences should be incorporated by researchers in selection of a platform for information retrieval, evaluating research activities, and determining a strategy for publishing. A deeper determination of these features will contribute to a more efficient use of the capabilities of each of the scientometric databases. Further research should analyse changes in the composition of collections and subject headings in both databases, their impact on researchers' publication strategies, and a comparative study of journal inclusion/exclusion criteria, considering the evolution of scientific fields and interdisciplinary research.

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■ Conflict of Interest

None.

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Особливості формування колекцій та предметних галузей наукових журналів у наукометричних базах даних Scopus та Web of Science

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Анотація. Актуальність досліджуваної проблеми зумовлена зростаючою роллю наукометричних баз даних Scopus та Web of Science як ключових інструментів оцінювання наукової діяльності та необхідністю оптимізації процесів формування колекцій і визначення предметних галузей наукових журналів для підвищення їхньої видимості та впливовості у глобальному науковому просторі. Метою статті було дослідити особливості формування колекцій та визначити предметні галузі наукових журналів, що індексуються у міжнародних наукометричних базах даних Scopus та Web of Science. Методи дослідження: для виявлення специфіки формування колекцій та предметних галузей наукових періодичних видань використано методи аналізу та синтезу, систематизації та узагальнення даних, а також контент-аналізу наукометричних баз даних Scopus та Web of Science. Розглянуто критерії відбору періодичних видань, структуру предметних галузей та специфіку формування колекцій у Web of Science. Проаналізовано відмінності у підходах до класифікації наукових журналів за предметними галузями та досліджено вплив цих відмінностей на репрезентативність наукових досліджень у різних галузях знань. Визначено основні тенденції розвитку колекцій та предметних галузей наукових журналів у контексті сучасних вимог до наукометричних показників та міжнародних стандартів наукової комунікації. Дослідження показало, що бази даних Scopus та Web of Science мають різні підходи до формування класифікації предметних галузей. Виявлено, що Scopus характеризується ширшим охопленням журналів, особливо в галузі соціальних та медичних наук, тоді як Web of Science фокусується на журналах з високим імпаکت-фактором. Класифікація предметних галузей також відрізняється, що слід враховувати при пошуку та аналізі наукової інформації. Практичне значення дослідження полягає в наданні науковцям і аспірантам емпірично обґрунтованих даних про формування колекцій і предметних галузей журналів у Scopus та Web of Science, що сприятиме оптимізації публікаційних стратегій, підвищенню видимості досліджень і покращенню оцінювання наукового внеску

Ключові слова: класифікація; дослідження; публікації; імпакт-фактор; наукова комунікація