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NAZAROVETS M. A.

Maksymovych Scientific Library of the Taras Shevchenko National University of Kyiv (Kyiv, Ukraine), e-mail: marynanazarovets@gmail.com, ORCID 0000-0003-1797-4533

## CITATION DATABASES: THE ROLE OF THE ACADEMIC LIBRARIAN

**Objective.** Indicators of citation databases are widely used as a tool for evaluating academic productivity and decision-making in science and technology. Academic libraries organize services to work with such resources.

**Methods.** Based on the analysis and description of the work of the Information Monitoring Service, the role and type of support that academic libraries can provide in the process of their use are considered. **Results.** The portfolio of services for the use of citation databases provided by the employees of the Service consists of administration and organization of access, consulting, and information work, monitoring and analysis of publishing activity, organizing information, information support of journal's editorial boards. **Conclusions.** Such services of academic libraries are diverse and require the development of theoretical and methodological basis for their quality implementation, continuous training of staff, their more active involvement in research processes.

*Keywords:* citation databases; library of higher education institution; library and information services; scientific communication

### Introduction

The development of digital resources, which allowed a faster and more convenient exchange of large amounts of information, led to the development of tools and methods of scientific communication. Citation databases (hereinafter CDB) of scientific literature have confidently occupied their own niche in the tools of scientific communication, performing several complementary functions: search for scientific content, partners and funding sources for future research, dissemination of information on research results and their evaluation, creating profiles of authors and institutions, etc. In Ukraine, the use of information about publication activity from the databases, in particular commercial international CDB on the Web of Science platform and CDB Scopus, is governed by many regulations, for evaluating the effectiveness of institutions scientific activities, and for licensing educational activities, and for awarding academic titles, etc.

Since the end of 2017, the Ministry of Education and Science of Ukraine has been organizing the connection of higher education institutions and research institutions to international scientific databases at the expense of the state budget (Ministry of Education and Science of Ukraine, 2017). Employees of institutions that use this opportunity have access to the Web of Science and Scopus, both from institutional local networks and remotely.

Important features of the work of a higher education institution librarian are, on the one hand, a good knowledge of the organization of digital tools for scientific communication, in particular CDB, and on the other hand – knowledge of the research work of their institutions. Therefore, it is obvious that in Ukrainian higher education institutions it is in libraries separate departments are created that work with the CDB, which are used as a tool for assessing scientific productivity and decision-making in the field of science and technology at these institutions.

Academic libraries form an appropriate portfolio of information and library services based on the needs of users, which include students, scientific and pedagogical staff, the institution administration, and the functions that CDB can provide. It is important to note that this is not just the transformation of old services in accordance with changes in communication tools, but the creation and capability of completely new services.

Analysis of recent research and publications shows a high level of attention to the use of the new information technologies in the process of evaluating the results of publication activity.

Their prominent role in the significant renewal of higher education institutions scientific libraries services to support science substantiates T. Kolesnykova (2017). V. Horovyi and S. Horova (2021) emphasize that the introduction of electronic information technologies has not only led to the renewal of library and information services for research, but also requires academic librarians to improve their professional level. N. Hrytsenko, O. Kliushnikova and O. Sandul (2021) investigate the processes of creating and updating scientific author profiles in the CDB, the moderation of which they rely on academic libraries as aggregators of biobibliographic and abstract resources. The paper of S. Nazarovets (2021) is devoted to the analysis of the peculiarities of the use of the CDB in the process of evaluation of scientific activity in Ukraine, which examines the main databases that are the most popular today for the search for scientific information, as well as the emergence of their alternatives in the global information space. O. Mryglod and S. Nazarovets (2019) conduct an in-depth analysis of indicators based on the CDB used in Ukrainian regulations governing the process of evaluating scientific activity.

Academic librarians of Ukrainian higher education institutions actively share at conferences and in scientific publications their own experience of mastering in their institutions new services related to work with the CDB: for example, in the Library of the Vinnytsia Mykhailo Kotsiubynskyi State Pedagogical University (Bilous, 2018), the Scientific Library of Kharkiv Petro Vasylenko National Technical University of Agriculture (Nikolayenko & Rybalchenko, 2019), the Scientific Library of Uzhhorod National University (Smirnova, 2020) and in others. In part, the services related to the CDB have also been described earlier in the paper on the preconditions for the establishment, main functions, and prospects of development of the Information Monitoring Service (M. Nazarovets, 2016, 2020). However, during six years of working experience with CDB, these services have changed, expanded, and improved over time, based on user requests and the work of Ukrainian and foreign colleagues.

Therefore, the purpose of this paper is to identify and describe the main roles and types of support for scientific activities of the institution that academic libraries can provide in the process of using CDB on the experience of the Information Monitoring Service created in the Maksymovych Scientific Library of the Taras Shevchenko National University of Kyiv (hereinafter University).

### **Methods**

The main data for the paper were obtained by the method of analysis and description of types of support for scientific activities of the institution based on 6 years (2015-2021) of CDB practical experience of the Information Monitoring Service of Maksymovych Scientific Library of the Taras Shevchenko National University of Kyiv.

### **Results and Discussion**

The Information Monitoring Service (hereinafter SIM) was established in 2015 on the basis of the Maksymovych Scientific Library (hereinafter SL) in order to monitor the effectiveness of the presentation of scientific achievements of representatives of the Taras Shevchenko National University of Kyiv in the global information space and their comprehensive information support. Conventionally, SIM services can be divided into 3 main groups: monitoring of the University's positions in the authoritative rankings of higher education institutions of the world, information support of researchers and information support of the editorial boards of University journals. A significant amount of library and information services provided by SIM are implemented through the functionality of the most popular international CDB, such as Google Scholar (Google LLC), Scopus (Elsevier), Web of Science Core Collection (Clarivate) etc. Also, alternative possibilities

are considered, from Dimensions (Digital Science), Open Ukrainian Citation Index (State Scientific and Technical Library of Ukraine) and other.

The portfolio of services to use the capabilities of the CDB provided by academic librarians, SIM staff, consists of administration and organization of access, consulting and information work, monitoring and analysis of publishing activity, organizing information, information support of journal's editorial boards.

First, SIM staff play the role of CDB **administrators**, performing a range of services, including the organization of providing access to the database to the University representatives. Until 2017, prepaid access to the Scopus was provided directly through the organization of the University agreements with Elsevier, to the databases on the Web of Science platform – through the organization of the University agreements within the e-VERUM consortium with Thomson Reuters, and later – Clarivate Analytics. Since 2017, SIM has been organizing access for the University to these CDB through the state centralized procurement by the State Scientific and Technical Library of Ukraine at the request of the Ministry of Education and Science of Ukraine. In different periods of time SIM also organized test accesses to the Scopus, Web of Science Core Collection, Dimensions. In quarantine conditions with restrictions on the University attendance by students since March 2020, the relevance and demand for the service of remote access to the Scopus, which is implemented within the administrative work of SIM with this CDB, has significantly increased.

After gaining access, the SIM informs the University representatives about the availability of prepaid or test access to the CDB. In addition, University representatives are informed about the availability of CDB, to which they have open access (for example, Google Scholar). Information is provided through mailings to the e-mail boxes of the University departments, on the official website and page of the SL on Facebook.

An important work within the implementation of the administrative function is the collection of usage statistics for the formation of reports on the use of prepaid or test access to the CDB in the University to form an understanding of their demand and decide on the need for further subscription.

Also, upon individual requests, SIM provides information support to users in the process of creating their own accounts in the CDB to get the opportunity to use additional functionality and remote access to the Scopus and Web of Science.

The next type of services provided by SIM includes activities of **consulting and information work**. For the University representatives to know about the functional capabilities of the CDB and to use them as efficiently and correctly as possible, SIM organizes trainings on working with the databases (conducted by both official trainers – representatives of resources, and librarians – SIM staff), these include mass events, events for selected specialized user groups and individual consultations on request. From March 2020, trainings are conducted mainly with the remote tools of communication, videos and presentations for such trainings are posted on the website of the SL (among them «Scopus and Web of Science journal search tools», «Author profile in Scopus – search, correction», «Google Scholar – Advantages and Disadvantages» and other).

In addition to trainings, SIM staff prepares step-by-step illustrated manuals on working with CDB, which are also freely available in electronic format to all users on the SL site («Google Scholar for scientists», «Author profile in Scopus», «Search for journals in the Web of Science» etc.).

In the complex of the SIM consulting and information services on work with CDB it is necessary to allocate separately work on the help in search of the scientific periodicals indexed in Scopus and Web of Science Core Collection for publication by the University representatives of results of own research. At the beginning of SIM's activity, at the request of representatives of

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separate departments (faculties, specialties), librarians prepared lists of journals in Scopus and/or Web of Science Core Collection, by certain subject areas, with a review of scientometrics indicators of the journals, links to the official websites of the publishers, etc. However, it was later decided to abandon this practice, as it is very resource-intensive with unproven efficiency and relatively rapid loss of information relevance. In the future, the emphasis is on teaching users how to find journals according to their needs and specific research topics, avoiding the use of poor-quality sources for publication.

An important component of SIM's portfolio of CDB services is the **monitoring and analysis of publication activity** of University representatives in Scopus and Web of Science Core Collection, the results of which (the total number of publications of the institution, h-index of the institution, the most cited publications, distribution of publications by subject areas, distribution of publications by countries the authors of which researchers from the University were jointly published with, the number of publications of the institution for the reporting period, their distribution by University departments, number of publications by departments per employee, etc.) form the basis of current and administration annual reports on scientific and technical work of the University.

The beginning of indexation of new publications authored by scientists who have indicated their affiliation to the University in the Scopus and Web of Science Core Collection is monitored monthly. Heads and employees of the University departments are regularly informed about the results of monitoring, which allows them to track the dynamics of publication activity for further administrative decisions. Every month information is singled out about the top 3 publications among the list of new publications indexed in these CDB (separately for each of the resources), that appeared in the world periodicals with the highest CiteScore and Impact Factor. In addition to internal University information, messages with links to these texts are published on the official SL page on the social network Facebook, thus increasing their visibility, expanding the readership and recognition of the results of their authors.

In 2020, a service was introduced to search by SIM staff and further verify by the SL director the availability of publications of reviewers, opponents, and chairs of specialized scientific councils for awarding the degree of Doctor of Philosophy in journals indexed in Scopus and/or Web of Science Core Collection.

To compile correct reports on the publication activity of the University, it is important that the CDB stores the most complete and correct data. It is also important in the context of using this data to evaluate universities in compiling world rankings of higher education institutions (QS World University Rankings, Times Higher Education World University Rankings). Therefore, SIM is also working on **organizing the information in the university profiles** in the Scopus and Web of Science Core Collection (searching and adding publications that are missing for various reasons). To improve the University's position in Webometrics Ranking of World Universities, SIM monitors the content of the University's profile in the Google Scholar, informing University representatives about the importance of correctly filling in their author profiles in this CDB.

For the most correct identification of the authors' affiliation to the institution, SIM conducts systematic information work on the use of the full official name of the University (*Taras Shevchenko National University of Kyiv*) by its representatives when they publish the results of their own research activities. Also, consulting and information work is carried out on the use of the University representatives in the publication of their own author identifiers ORCID for error-free recognition of them by CDB algorithms and the formation of their author profiles.

Publications and author profiles in Scopus and the Web of Science Core Collection are also searched at the individual request of the University representatives if data on these publications and authors have been indexed with errors and therefore have not been identified during ongoing

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monitoring. SIM is also looking for reasons why the publication was not indexed. And, if necessary, SIM provides assistance to the University representatives in requesting CDB technical support to organize information about their publication activity in these databases.

A separate area of work in the portfolio of services is the **information support of the editorial boards** of the University scientific periodicals on the best publishing practices, in particular to facilitate their presentation in authoritative international CDB. With information mailings and during personal meetings, SIM inform members of editorial boards of availability of appropriate CDB, its requirements and procedures for journal indexing. At the request of the University administration, SIM regularly monitors the readiness of journals for indexing in Scopus and Web of Science Core Collection in accordance with their minimum requirements (without analyzing the quality of the content, which can only be done by a specialist in the subject area of the journal). The administration of the University, its departments, and representatives of the editorial boards of journals receive the results of the analysis with the substantiation and information on possible ways to improve the indicators.

Since 2016, SIM has been registering Digital Object Identifier – DOI (with the support of The Initiative for Open Citations) for the University journals (for September 2021 – for 54 journals), which contributes to their sustainable identification on the WWW and compliance with MES of Ukraine requirements for «B» category journals. SIM uses the functionality of the citation database Open Ukrainian Citation Index to monitor the correctness and completeness of metadata transmitted about publications during the registration of DOI, as well as to track the citation of the University journals.

### Conclusions

The experience of working with CDB in academic libraries is not new. Libraries try to cover the widest range of services that can be provided with the functionality of these databases. For 6 years, SIM has been constantly working on updating the portfolio of these services to support the requests of the University representatives most effectively. The experience of SIM shows that the high demand, relevance for evaluation and decision-making in science and technology, and a wide range of services related to the opportunities provided by the CDB in academic libraries requires the development of a theoretical and methodological basis for their quality implementation, continuous training of library staff, their more active involvement in research processes taking place in institutions.

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NAZAROVETS M. A.

Наукова бібліотека ім. М. Максимовича, Київський національний університет імені Тараса Шевченка (Київ, Україна), e-mail: [marynanazarovets@gmail.com](mailto:marynanazarovets@gmail.com),  
ORCID 0000-0003-1797-4533

## БАЗИ ДАНИХ ЦИТУВАНЬ: РОЛЬ АКАДЕМІЧНОГО БІБЛІОТЕКАРЯ

**Мета.** Показники баз даних цитувань активно використовуються як інструмент оцінювання наукової продуктивності й прийняття рішень у сфері науки та техніки. В академічних бібліотеках організуються сервіси по роботі з такими ресурсами. **Методика.** На основі аналізу та опису роботи Служби інформаційного моніторингу розглянуто роль та тип підтримки, яку академічні бібліотеки можуть надавати у процесі їх використання. **Результати.** Портфель послуг з використання можливостей баз даних цитувань, що надаються співробітниками Служби, складається з: адміністрування та організації доступу, консультативно-інформаційної роботи, моніторингу та аналізу публікаційної активності, упорядкування інформації, інформаційної підтримки редакцій наукових видань. **Висновки.** Такі послуги академічних бібліотек є різноманітними та потребують розробки теоретико-методичного підґрунтя для їх якісної реалізації, постійного навчання персоналу, їх більш активного включення у дослідницькі процеси.

*Ключові слова:* бази даних цитувань; бібліотека закладу вищої освіти; бібліотечно-інформаційні послуги; наукова комунікація

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