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O. V. CHERNOBAY¹, O. YU. AKSENOVA^{1*}¹Scientific and Technical Library, Dnipropetrovsk National University of Railway Transport named after Academician V. Lazaryan, Lazaryan St., 2, Dnipropetrovsk, Ukraine, 49010, tel +380 (056) 373 15 71, e-mail olga_chernobay@ukr.net^{1*}Scientific and Technical Library, Dnipropetrovsk National University of Railway Transport named after Academician V. Lazaryan, Lazaryan St., 2, Dnipropetrovsk, Ukraine, 49010, tel +380 (056) 373 15 71, e-mail podgainaya_o.u@mail.ru**RESOURCES OF OPEN ACCESS AS A TOOL FOR FORMATION OF SCIENTIFIC RATING OF SCIENTISTS**

Purpose. Scientific journals in open access play an important role in scientific communications. It is they are able to provide an operational studying the leading publications and their scientific substantiation in the form of reference to the works of authors that were used in the research. The achievement of high citation index is an important component of scientific activity for the modern scientist. The purpose of the article is to determine the tools to increase the citation index of scientists. **Methodology.** The methods of generalization, analysis and synthesis, as well as a systematic approach were used in the research. **Findings.** The university library has an important mission - to distribute the results of research activity of the university scientists. As part of this functional activity area of the scientific and technical library of DNURT a repository of scientific papers, a system of open access for scientific journals and online versions of proceedings were organized. These resources provide the opportunity for a wide range of scientists to study the results of research carried out by their colleagues in DNURT and to cite them in their own articles. During the scientometric research the library staff use the following information platforms: Google Scholar, SciVerse Scopus, DOAJ, Russian Science Citation Index, SCImago Journal & Country Rank. **Originality.** The work originality is the determination of the ways to influence the formation of the high citation index for scientist. **Practical value.** The article proves the feasibility of using the open access resources (electronic journals, proceedings and the institutional repositories) to gain the scientist popularity in the professional scientific community.

Keywords: scientific and technical libraries; university libraries; publication activity of libraries, open access; electronic journals; repositories; information analytics; citation index; scientist's rating; scientometrics; Open Journal Systems, OJS

Introduction

The spread of the new model of scientific communication related to the activities in digital environment has brought the library functionality far beyond the information storage and making it available. To the greatest extent it concerns the university libraries; because they as the centers of social and information communication have the mission to distribute the results of research conducted by scientists – representatives of the given institution. That is why the university library has to organize the effective cooperation between the representatives of scientific community from different countries working on the same problem.

According to scientific traditions, the publications in scientific journals were the main tool of scientific data exchange at all times. Today it is the scientific journals that occupy the leading position among the information sources used by information world. Indeed, the articles in scientific publications are the major component of the open com-

munication system between scientists. Articles are the most important source of information about the history of research and scientific developments. The scientist rating in the scientific community, which is determined by the number of references to the certain author's articles (the so-called citation index), is in direct proportion to the originality and practical value of these articles. At the moment, this is the key coefficient in the scientific rating forming of the cited scientist [11, 12].

Purpose

The purpose of the article is to determine the tools to increase the scientist citation index. Also, there is a need to find the ways of forming high rating of scientist and the audience accumulation to study his scientific publications.

Methodology

To ensure high productivity of the work a number of scientific methods was used during the study.

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Features of the functioning of open access journals were studied using the method of analysis and synthesis.

During the search of general rules for the organization of repositories and electronic journals in open access the generalization method was used in the article.

A systematic approach provided a disclosure of the research object (electronic journals) integrity and the mechanisms, which provide their application, as well as the revealing the connections between its elements.

The articles of Shrayberg Ya.L., Zemskov A.I., Solovyanenko D., Kuchma I. served as the basis for studying the features of the open access platform. In the above-mentioned materials the authors discuss advantages and disadvantages of open access. The main advantages of the open access journals first of all lie in the fact that the document content is available to all users (regardless of whether they are readers of the library, which is subscribed to the journal), and secondly, the articles published in the open access journals are cited earlier and more often than the articles published in the subscription journals. The disadvantages of open access involve the negative judgments: “there is no need in it”; “it is too impractical in the realization”, etc [6-8].

As early as 2004 Iryna Kuchma in her article "Jus primae noctis? Open access!" wrote: "Open access is a modern practice of scientific communication for those who broke the established principles of scientific communication of the last four hundred years, and has gone far beyond the traditional scientific journal sample *Le Journal des Savants* or *Philosophical Transactions of the Royal Society of London* published in 1665". There is a good opportunity to save money on publishing and distribution the paper copies and complete traditional journals as a means of scientific communication by thematic or institutional archives. If the registration of authorship, certification of research quality (using the peer review), scientific communication and storage of research results are the functions of library, the institutional archives can perform at least three of these four functions – registration, scientific communication and storage-archiving [4].

Moreover, the issues of citation are covered in the work of D. Tarasov and O. Garasim "The use of specialized search systems to obtain the citation

values of electronic scientific archives." Scientists pay special attention to the problem of determining the citation index of documents of electronic scientific archive and computing scientometric indicators of Ukrainian scientists [7].

Also it is important to note the publication of A.Yu. Ivanova "Ethical aspects of publication activity of university library." It served as an important source of information on the aspects of the university library activity of publication on the site the results of intellectual activity of professors and students [1].

Findings

In modern society, traditional printed publications have lost the prerogative in this direction: with mass distribution of the Internet scientists are increasingly turning to resources providing maximum efficiency in the article preparation and publication. Therefore, for the library, as for the leading source of scientific information in the university, it is important to provide access to such resources or actively contribute to its formation.

From this perspective, the libraries create:

- repositories of scientific papers,
- journals of open access,
- online versions of proceedings.

Thus, the library has an important mission – to distribute the results of university research activity [2, 3].

Today in Ukraine there is a system of journal electronic copies. This is an intermediate stage in the transition to more advanced information system, consisting of scientific journal sites. This will ensure the creation of a system of Ukrainian Science Citation Index, which in turn is one of the key aspects of Ukrainian science. The Information and Communication Network of Ukrainian Universities – URAN, supervises the project (as a part of the state program).

Within this activity direction the Library of Dnipropetrovsk National University of Railway Transport named after Academician V. Lazaryan (DNURT) since 2010 has organized functioning of the repository and the sites of system of scientific publications:

1. «Science and Transport Progress. Bulletin of Dnipropetrovsk National University of Railway Transport named after Academician V. Lazaryan» (<http://stp.diit.edu.ua/>).

2. «Anthropological Measurements of Philosophical Research» (<http://ampr.diit.edu.ua/>).

3. «Transport Electrification» (<http://etr.diit.edu.ua/>).

4. «Electromagnetic Compatibility on Railway Transport» (<http://ecsr.diit.edu.ua/>).

5. «Bridges and Tunnels: Theory, Research, Practice» (<http://bttpr.diit.edu.ua/>).

6. «Problems of Transport Economics» (<http://pte.diit.edu.ua/>).

7. «Transport System and Transport Technology» (<http://tstt.diit.edu.ua/>).

Besides supervision of site system, the Department of Librarian and Informational Technology of the Library is the co-editor of two scientific periodicals – "Science and Transport Progress. Bulletin of Dnipropetrovsk National University of Railway Transport named after Academician V. Lazaryan" and "Anthropological Measurements of Philosophical Research". Staff supervise the motion of author articles, liaise with reviewers, scientific and literary editors, ensure the correctness of metadata in three languages (Ukrainian, Russian and English), regulate the issues concerning the copyright and publication advertisements. Activities of librarians are provided by the platform Open Journal Systems (OJS) – system of open access journals, created to organize data sets in order to provide free access to them.

Today OJS is the most popular technological solution in the industry of scientific publications, as of July 2012 more than 15 thousand organizations in the world use this system. In some states OJS operates as a national or transnational journal platform. In some states OJS operates as a national or transnational journal platform. It serves hundreds of titles of scientific journals. Among the states that have or are only forming the national research information platforms based on OJS are USA, Canada, Russia, Spain, Lithuania, Norway, Portugal, Serbia, Croatia, etc. Such approach appears to be expedient for other countries, which are not represented by powerful publishing corporations that can represent a national scientific information product in the globalized competitive environment [9, 10].

An example of local initiative of Denmark is the University of Aarhus undertaking on converting of all the traditional journals into electronic ones. Technical implementation of the project was entrusted to the State and University Library of

Denmark, which implements this pilot project. In turn, it grew out of the recommendations of one of the leading libraries in Denmark – Copenhagen Business School, CBS. CBS introduced this service in 2003. From the moment of appearing the number of downloads of electronic journals is growing very rapidly [9].

In Harvard's Faculty of Arts and Sciences employees-authors of articles deposit copies of journal articles in the institutional repository. They automatically transfer the right to the university and university license on the provision of open access to these articles using the Internet. The distribution of the research findings and increase of their own Science Citation Index is important for them. The scientific library ensures the resource management and maintenance of the repository.

Due to this platform the following steps become possible: the creation of sites for scientific publications, setting of white label sites, configuration setting of the appearance of information resource pages, technical support and consultation for users, maintenance of information integrity and access to this information, open access to all publications, setting the foundations - parameters of the platform, setting of the basic parameters for platform, user registration and determination of their access rights, setting of support infrastructure, the development of working processes and stages in the archive creation, operational information delivery on copyright and licenses [9].

OJS has several built-in design options for journals, with possibilities of more complex settings provided by the web design proficiency. Setting and design of the future journal site are discussed with the editorial board of university during the project installation [9].

As part of publishing activity the editors of scientific publications should also cope with the following problems: definition of scientific publication policy, the responsibility for scientific credibility and originality of publications, their conformity to the stated claims, and process of information placing in the open access [1]. Performance of these tasks becomes possible due to the fact that the scientific library provides server, supports software and updates, as well as provides training and OJS functionality support, especially in the intensive start-up phase of the project [9].

It should be noted that the introduction of documents by placing them in an electronic envi-

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ronment and providing an open access helps to both the optimization of scientific information exchange among scientists and the library revitalization. Publication activity of the library, which includes participation in the publication of the findings of intellectual activities of scientists, greatly expands the scope of its interests and leads to the development of the new role of the library as an active mediator (and often, as participant) in scientific communications [2, 3, 6].

General trend of the university publication activity any library can trace independently, using in their research the most known free scientometric data source – Google Scholar. During scientometric research a number of other information platforms can be used: Web of Science (company Thomson Reuters), SciVerse Scopus (publisher Elsevier), Russian Science Citation Index (RSCI), SCImago Journal & Country Rank, etc. It is the tool used by the staff of the Sector of Information Analytics of the Librarian and Informational Technology Department of the DNURT Library to explore the current state of the university scientists' ratings and the rating of the University as a whole.

In terms of the present need to account citation indices of author scientific papers, the problem of their determination for Ukrainian scientists arises. The issue is that a significant part of published works are not included into the databases of the systems for the citation index forming. This problem can be solved by placing periodicals in the international catalogues and scientometric systems.

Our scientific editions “Science and Transport Progress. Bulletin of Dnipropetrovsk National University of Railway Transport named after Academician V. Lazaryan” and “Anthropological Measurements of Philosophical Research” are placed in the international scientometric databases, repositories and search systems: Ulrichsweb™ Global Serials Directory, DOAJ, Google Scholar, Polish Scholarly Bibliography, eLIBRARY.ru, Index Copernicus, CiteFactor, DRIVER, BASE, OCLC WorldCat, Beardslee Library, Cal State Monterey Bay, Universia, ScienceGate, NTHRYS, The Grove Library.

Originality and practical value

The article discovers the possibilities of the new scientific communication model and substantiates the leading role of the university library in its

implementation. It characterizes the open access resources (electronic scientific journals, proceedings and institutional repositories) directly influencing the scientists rating formation.

Scientific value of the work is the determination of influence ways on the formation of scientist high citation index. Since all scientists are concerned with this problem, regardless of nationality and scientific interests, this research is of significant practical usefulness for them.

Conclusions

Thus, the provision of open access to articles and scientific research of university scientists facilitates their study by wider audience and, consequently, leads to higher citation index and personal scientist rating.

Summarizing, it should be noted that the electronic scientific journals, proceedings and institutional repositories are an effective tool of scientific and information communications. They have key importance in distribution of information about scientist's research. Their rational use will help to ensure a scientist reputation in the professional scientific community

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РЕСУРСЫ ОТКРЫТОГО ДОСТУПА КАК ИНСТРУМЕНТ ФОРМИРОВАНИЯ НАУЧНОГО РЕЙТИНГА УЧЕНЫХ

Цель. Научные журналы в открытом доступе имеют важное значение в научных коммуникациях. Именно они в состоянии обеспечить оперативное ознакомление с ведущими публикациями и их научным обоснованием в виде ссылок на работы авторов, которые использовались в исследовании. Для современного ученого важным компонентом научной деятельности является достижение высокого индекса цитирования. Целью данной работы является определение инструментов повышения индекса цитирования ученых. **Методика.** При проведении данного научного исследования использовались методы обобщения, анализа и синтеза, а также системный подход. **Результаты.** На университетскую библиотеку возлагается важное предназначение – распространение результатов научно-исследовательской деятельности ученых вузов. В рамках этого функционального сегмента деятельности научно-технической библиотеки ДНУЖТ были организованы: репозитарий научных работ, система научных журналов открытого доступа и он-лайн версии сборников научных трудов. Эти ресурсы предоставляют возможность широкому кругу ученых ознакомиться с результатами работ, проведенными их коллегами в ДНУЖТ и процитировать их в собственных статьях. При наукометрических исследованиях сотрудники библиотеки используют такие информационные платформы: Google Scholar, SciVerse Scopus, DOAJ, Российский индекс научного цитирования, SCImago Journal & Country Rank. **Научная новизна.** Научной новизной данной работы является определение способов влияния на формирование высокого индекса цитирования ученого. **Практическая значимость.** В статье приводятся убедительные доказательства целесообразности использования ресурсов открытого доступа (электронных научных журналов, сборников научных трудов и институциональных репозитариев) для обеспечения популярности ученого в профессиональных кругах научной общественности.

Ключевые слова: научно-технические библиотеки; библиотеки университетов; публикационная деятельность библиотек; открытый доступ; электронные журналы; репозитарии; информационная аналитика; индекс цитирования; рейтинг ученого; наукометрия; Open Journal Systems; OJS

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РЕСУРСИ ВІДКРИТОГО ДОСТУПУ ЯК ІНСТРУМЕНТ ФОРМУВАННЯ НАУКОВОГО РЕЙТИНГУ ВЧЕНИХ

Мета. Наукові журнали у відкритому доступі мають важливе значення в наукових комунікаціях. Саме вони в змозі забезпечити оперативне ознайомлення з провідними публікаціями та їх науковим обґрунтуванням у вигляді посилань на роботи авторів, які використовувалися в дослідженні. Для сучасного вченого важливим компонентом наукової діяльності є досягнення високого індексу цитування. Метою даної роботи є визначення інструментів підвищення індексу цитування вчених. **Методика.** При проведенні даного наукового дослідження використовувалися методи узагальнення, аналізу та синтезу, а також системний підхід. **Результати.** На університетську бібліотеку покладається важливе призначення – поширення результатів науково-дослідницької діяльності вчених вузів. У рамках цього функціонального сегмента діяльності науково-технічної бібліотеки ДНУЗТ були організовані: репозитарій наукових робіт, система наукових журналів відкритого доступу та он-лайн версії збірників наукових праць. Ці ресурси надають можливість широкому колу науковців ознайомитися з результатами робіт, проведеними їх колегами в ДНУЗТ і процитувати їх у власних статтях. При наукометричних дослідженнях співробітники бібліотеки використовують такі інформаційні платформи: Google Scholar, SciVerse Scopus, DOAJ, Російський індекс наукового цитування, SCImago Journal & Country Rank. **Наукова новизна.** Науковою новизною даної роботи є визначення способів впливу на формування високого індексу цитування вченого. **Практична значимість.** У статті наводяться переконливі докази доцільності використання ресурсів відкритого доступу (електронних наукових журналів, збірників наукових праць та інституційних репозитаріїв) для забезпечення популярності вченого в професійних колах наукової громадськості.

Ключові слова: науково-технічні бібліотеки; бібліотеки університетів; публікаційна діяльність бібліотек; відкритий доступ; електронні журнали; репозитарії; інформаційна аналітика; індекс цитування; рейтинг вченого; наукометрія; Open Journal Systems; OJS

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