Original article

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Academic journals: selection methods for public support in Russia

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Abstract
We have developed an evaluation procedure and performed an expert evaluation of the Russian academic journals to select promising journals under the "Support of Strategic Plans for Academic Journals to Be Indexed in International Scientometric Databases" project. The aim of the article is to describe in detail the methods of the selection process for the project and its primary results. Selection of the journals falls into four stages: development of the preliminary list of journals (2,856 journals in the long list), evaluation of the journals from the preliminary list, evaluation of journal strategic plans and the final selection for financial support. As a result, 100 journals have been selected to be supported financially.

Keywords: journal evaluation, Russian research, journal development.

Introduction

Nowadays, the academic journal is the most sustainable and reliable communication channel for scientists all over the world. For international publishing houses and organisations, it is vital to support, develop, and improve the competitiveness of academic journals.

In Russia the first project aimed at supporting academic journals was run in 2014-2016.[a] The amount of the financial support was 21 740 euro (1 euro ≈ 46 rubles in January 2015) per year per journal. Thirty academic journals were selected to participate in the project.[1, 2, 3]

The first project resulted in nine participating journals in Scopus, and four participating journals having applied to Scopus. The feedback showed the necessity to continue with the project on the governmental level.

In 2017 the second project was launched and 100 academic journals were allocated 13 300 euro[a] (1 euro ≈ 76 rubles in April 2018) each as financial backing annually until 2019.[4]

The aim of the article is to describe in details the methods of the selection process for the project and it's primary results.

Methods

The selection procedure was principally focused on choosing 100 promising academic journals to be provided with the financial support. The selection procedure had 4 stages: development of the preliminary list of journals and formation of the expert team, evaluation of the journals from the preliminary list, evaluation of applications and journal strategic plans, and final selection.

Selection stage 1. Development of the preliminary list of journals and formation of the expert team

Preliminary list of journals

We were tasked to select Russian academic journals on the basis of independent reviewing of incoming materials, presence in the scientific community, regular publication. We defined the journal as "Russian" when its issuing body was registered in Russia. We did not separate the journals by language of publication (Russian or English full text, metadata in English) at this stage.

In the context of the project, "presence" implies the journal's availability in databases and catalogues. Sources for the preliminary list included the list of journals drawn up by the Higher Attestation Commission, journals included in the Astrophysics Data System, Agris, Chemical Abstracts, GeoRef, MathSciNet, Russian Science Citation Index, Scopus, PubMed, Ulrich's Periodicals Directory, Web of Science Core Collection, and zbMath.

We concluded that if a journal was available in at least one of the databases mentioned above, it had passed the first selection stage and has formal features of an academic journal (independent reviewing of incoming papers, ISSN, website, regular publications).

a. Amount of financial support in 2014-2016 and in 2018-2019 in Russian rubles was the same. Difference between the amounts of the financial support stated in euro is explained by the fluctuation of currency exchange rate (Russian ruble to euro).

Experts team

The expert team consisted of 114 editing and publishing professionals, authoritative scientists in different subject areas, and members of the Russian Expert Council for Evaluation and Promotion of Journals, with publications in International Scientific Databases (ISDs) in 2015-2017.

Selection stage 2. Evaluation of journals from the preliminary list

We evaluated the journals from the preliminary list by combining quantitative and qualitative criteria.[5] We forwarded the preliminary list to the experts of Dissernet (a volunteer community network working to clean Russian science of plagiarism, https://en.wikipedia.org/wiki/Dissernet) to check for plagiarism, evaluate the self-citation rate, and to assess compliance with the reviewing policy (double-blind, blind) and publication ethics. Commentaries for each journal were passed to the experts in corresponding specific subject areas.

The following criteria were used for evaluation:

- Publication frequency (-2 or 2 points)

Experts gave -2 points to the journals that have low publication frequency (<4 issues per year) and are unlikely to increase the number of Russian publications in ISDs, and to the journals that have high publication frequency (>24 issues per year). Experts gave 2 points to the journals that they thought would increase the number of Russian publications in ISDs. High publication frequency was marked unfavourably, because funds for financial support were limited, and we had to select journals with most common publication frequency and equal charges for proof-reading, translation and printing.

- Journal capacity (-2 or 2 points)

Experts gave -2 points to the journals that have insufficient capacity (<5 original articles per issue) and are unlikely to increase the number of Russian publications in ISDs, and to the journals that have very high capacity (>20 articles per issue) but fail to maintain high quality of their articles. Experts gave 2 points to the journals that have appropriate capacity (>5 original articles), that they thought would increase the number of Russian publications in ISDs, and maintain high quality of their articles.

- Subject matter coverage (-2, 0, or 2 points)

Experts gave -2 points to the journals that publish articles on a variety of subject areas, thus having difficulties in listing in ISDs, 0 points to journals that publish articles on allied subject areas (for example, fishing industry, aquaculture, natural environment protection, water protection, human ecology), 2 points to academic journals that specialised in one academic field. No advantage (no points) was given to inter-disciplinary journals at this stage.

- Quality of reviewing (-4, 0, or 4 points)

Experts gave -4 points to the journals that publish articles of low quality. Experts gave 0 points to the journals that provide no information on their reviewing policy on their websites or require authors to provide additional review (ie review by a dissertation advisor, a head of laboratory or a familiar colleague). Experts gave 4 points to the journals that have transparent reviewing policy.

- Compliance with publication ethics (-9, 0, or 9 points)

Experts gave -9 points to the journals that violate publication ethics rules. Experts gave 0 points to the journals that provide no information regarding publication ethics and financial policy on their websites. Experts gave 9 points to the journals that had no evidence of publication ethics violation and provided detailed information about publication ethics and financial policy on their websites.

- Scientific level (-2 or 2 points)

Experts gave -2 points to journals that publish more than 1/3 of non-scientific content: informational, advertising, and popular science articles. Experts gave 2 points to journals that, in the experts' opinion, publish scientific content only.

- Evaluation of the credibility of the publishing house (-2 or 2 points)

Experts gave -2 points to the journals issued by publishers realised as predatory within the community (it means the journals which accept an article for publication without peer-review, only after proof of payment). Experts gave 2 points to the journals issued by a publishing house credible in the research environment.

- Issuance (-9 or 1 points)

Experts gave -9 points to the journals not published on a regular basis. Experts gave 1 point to the journals published on a regular basis.

- Percentage of self-citation (2, 0, or -2 points)

Experts gave 2 points to the journals that have self-citation rate <30%. Experts gave 0 points to the journals that have the self-citation rate 30-50%. Experts gave -2 points to the journals that have the self-citation level >50%.

- Prospects of a journal to be listed and increasingly cited in ISDs (0 or 7 points).

While evaluating such criteria as "subject matter coverage", "quality of reviewing", "compliance with publication ethics", "percentage of self-citation", experts used the data acquired from Dissernet.

Selection stage 3. Evaluation of applications and journal strategic plans

At first, the bibliometric indicators of a journal were determined, its editor-in-chief, and whether the editorial board members were indexed in Scopus, Web of Science, or the Russian Index of Science Citation. The acquired data were forwarded to experts who used the data to evaluate the journals. Two experts as a minimum carried out special examinations for each journal.

The quality and credibility of the journals were evaluated using the following criteria:

- geographical diversity of the editorial staff/board (0-4 points)
- geographical diversity of the authors (0-4 points)
- quality of the reference lists (the reference list includes verified references, does not include references on secondary documents, such as dissertations, textbooks, lectures) of the scientific articles (0-4 points)
- reference lists in Roman Script (0 or 5 points)
- quality of the reference lists in Roman Script (0-4 points)
- presence of DOIs (0 or 2 points)

- availability of the web version of the journal (0 or 2 points)
- ISSN online (0 or 2 points)
- scientific value of the published articles (evaluated by experts in relevant subject fields) (0-4 points)
- content relevance to the goals and objectives of the scientific edition, as well as to compliance with stated goals of the journal (0-4 points)
- compliance with scientific and technological development priorities (0-4 points)
- presence of unique scientific research in the journal (0-4 points)
- compliance of the journals' subject matter with the most cited fields in ISD and transparency of the editorial policy (0-4 points)
- quality of peer-review (the type of reviewing is assessed: internal or external reviewing; clear recommendations for reviewers; terms of review; the rejection rate in the publication; description of the review process on the website) (0-4 points)
- Russian language quality (0-4 points)
- English full text (0-4 points)
- English language quality (0-4 points)
- quality of the figures and graphic design of the articles (0-4 points)
- compliance with the standard structure of scientific articles (0-4 points)
- publication frequency and capacity (number of articles) of the journal (0-4 points)
- quality of graphic printing and online presentation (0-4 points)
- level of editorial and publishing design in general (image of the journal), quality of abstracts (authors' summaries) in Russian (0-4 points)
- quality of abstracts (authors' summaries) in English (0-4 points)
- quality of authors' address data (affiliation) for each article in Russian, quality of authors' address data (affiliation) for each article in English, credibility and relevance of the journal within the Russian scientific community (0-3 points)
- credibility and relevance of the journal within the international scientific community, credibility and relevance of the journal within the scientific community of the editor-in-chief, editorial council, and editorial board members (0-3 points)
- credibility and relevance of the journal within its authors' scientific community (0-4 points)
- credibility and relevance of the journal according to bibliometric indicators (0-4 points)
- popularity of the journal in the scientific community (journal is well-known to experts in the scientific community, has good circulation, is included in databases) (0-4 points)
- popularity of the journal in the foreign Internet segment (0-4 points)
- access to comprehensive information about the journal on its Russian website (0-4 points)
- access to comprehensive information about the journal on its foreign website, popularity of the journal prints in the Russian market and the Russian Internet segment (subscription, availability in databases and electronic library systems) (0-4 points).

The strategic plan of the journal was evaluated based on the following criteria:

- quality and comprehensiveness of the suggested strategic plan (0-3 points)
- opportunities for the implementation of the suggested strategic plan focused on bringing the journal to the international level and (or) raising its credibility (quartile) (0-3 points)
- validity of expenditures related to the strategic plan (0-4 points)
- strategic plan feasibility (0-4 points).

We classified the criteria into several categories of specific value each:

- scientific content of the journal – 0.25
- editorial policy of the journal – 0.2
- publishing features of the journal (layout quality, quality of language and references) – 0.15
- credibility of the journal – 0.2
- availability and popularity of the journal – 0.1
- evaluation of the strategic plan – 0.1.

Having evaluated all the criteria, the experts shared their opinion as to whether a journal fit the criteria of the strategic plan, and provided the final grade.

Selection stage 4. Final selection

Quotas have been introduced to select academic journals whose subject matter is topical and in demand globally (Supplement 1).

After determining the quotas for each subject rubric, journals were selected according to the following conditions:

- two experts awarded a positive final grade
- 30% of the quota were journals already listed in the ISD and 70% were not listed
- priority was given to the journals with no translated version and that were not edited by a non-Russian publishing house
- the sum of the points awarded to a journal.

The complete information about the selection procedure and the set criteria to evaluate the journals and to choose experts is available to the public on the project site https://развитиежурналов.рф. The project site also contains a list of journals selected[4] and a list of journals that filed applications for the third selection stage.[6] For all the journals eliminated at different stages, expert evaluations and development guidelines have been prepared. No proposals to reconsider evaluation findings have been received from the editorial staff of the journals.

Results

The preliminary list contained 2,856 journals. As a result of the selection process, 970 (33%) journals from the preliminary list were selected, 500 (17.5%) of journals were evaluated in the second selection stage, and finally 100 (3.5%) were selected.

The selection of journals took 4 months. Journals on the preliminary list were evaluated by 114 experts, including 10 expert bibliometricians.

Fifty nine per cent of journals from the preliminary list were awarded low points for "Observance of publication ethics standards" (1,710 journals; the main reasons for low points were plagiarism and publication without peer review, only after proof of payment). 22.5% of journals received low points for "Review quality" (644 journals, the main reasons for low points were internal peer review, non-available peer review policy, high level of self-citation). 970 journals that scored 26+ points qualified for the 2nd stage; 500 of these submitted applications for the third selection stage.

Experts have noted the following most common drawbacks of the strategic plan: the strategic plan is uncreative; it does not meet the journal development purposes or the project purposes; the stated purposes can be reached without the state support; the plan does not contain definite goals and purposes; the plan is not feasible; the plan addresses ongoing issues and does not enhance the journal's authority in the scientific community; the plan is not original; the journal development prospects upon completion of the project are vague; development targets are set incorrectly; not enough measures and events are envisaged to bring the journal to the international level; the journal contains a lot of formal drawbacks, which cannot be eliminated by the suggested strategic plan; the measures put forward in the plan are not efficient.

Experts have noted the following most common drawbacks of the journals that filed applications: the journal is a local one, has a local author team and publications, the review quality is questionable, the journal lacks scientifically valuable content, the journal does not meet formal ISD criteria, there is no distinct editorial policy, poor citations, the subject matter of the journal is of no interest for the world community, the journal editorial staff does not know its weak points and has no idea of how the journal is to develop, the journal has low credibility in the Russian scientific community. The following most common positive qualities of the journals that were selected were identified: good level of English language in a number of journals, clear journal's policy and authoritative editorial board.

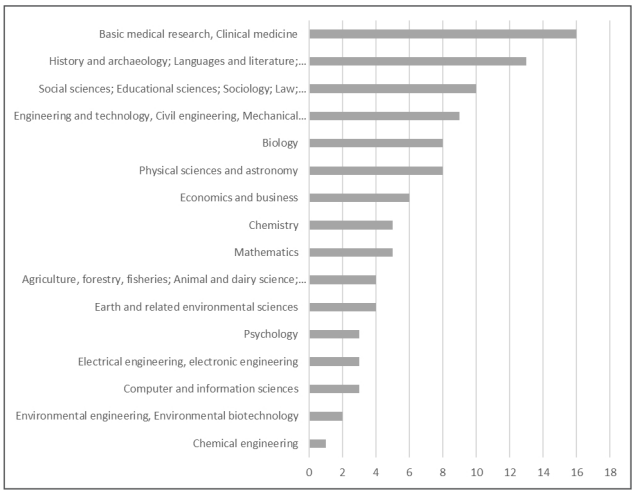

Figure 1. Subject areas of the selected journals

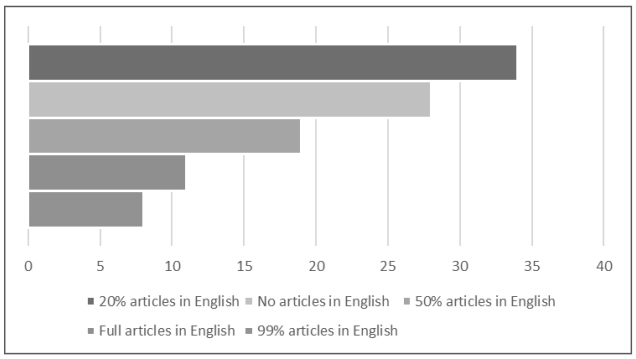

Figure 2. The assignment of journals by the number of English-language articles

Discussion

A multi-stage selection of journals is a time-consuming and costly procedure. The small quantity of positive comments from the experts is one of the discouraging aspects of this project. In the next stages of the project, we will ask the experts to report on advantageous features of the journals.

Only 50.2% of the 5678 Russian academic journals indexed in the Russian Index of Science Citation are included in scientometric and subject-specific databases and thus generally visible to the international scientific community.

From our point of view, the given selection procedure allowed us to solve the project task: to select 100 promising academic journals to be given appropriate financial reward. Owing to the multi-stage selection of the journals, we managed to focus experts' efforts on the in-depth study of promising journals, avoiding a detailed analysis of journals that failed to meet the project goals. With the help of quantitative and qualitative criteria, the state of the journals has been accurately assessed. Having evaluated the strategic plans of the journals, we have determined the current state of the journals and further plans of the editorial staff.

A comprehensive analysis allowed us to identify typical drawbacks of Russian academic journals. We are planning to use the data obtained for developing training programmes and methodological recommendations for editors. In addition, in 2018 four open free webinars for academic journal editors were held.

In late 2018, a re-examination of the 100 winning journals was to be carried out to select 70 journals that will continue to take part in the project in 2019. Experts will estimate the journals' dynamics of development (autumn 2017 – autumn 2018), as well as the outcome of the completed strategic plan and achievement of its goals.

Supplement 1

Credibility and relevance of the journal according to bibliometric indicators.

Analytical tools of the following databases were used for the evaluation: Web of Science (WoS), Scopus, and the Russian Index of Science Citation (RISC, the Russian national citation database, supported by the National Electronic Library). The indicators used for the journals included in Science Citation Index Expanded (SCI-E) and Social Sciences Citation Index (SSCI) were: total number of articles (2008-2017), total number of citations, total number of citations without self-citation, average number of citations per article, journal's h-index (2008-2017), journal's impact-factor (2016), journal's quartile in 2016. For the journals included in the Arts & Humanities Citation Index (AHCI) the indicators were: total number of articles (2008-2017), total number of citations, total number of citations without self-citation, average number of citations per article. For the journals included in the Emerging Sources Citation Index (ESCI) the indicators were: total number of articles (2015-2017), total number of citations in SCI-E, SSCI and AHCI, total number of citations in WoS Core Collection, total numbers of citations without self-citation, average number of citations per article in WoS Core Collection. For the journals included in Scopus the indicators were: total number of articles (2008-2017, total number of citations, total number of citations without self-citation, average number of citations per article, h-index (2008-2017), CiteScore 2016, SJR 2016, journal's quartile (2016). For the journals included in the Russian Index of Science Citation the indicators were: first year indexation in RISC, total number of articles, total number of citations, average number of citations, rank in RISC, two year impact factor RISC, two year self-citation index, five year Herfindal index of citing journals, ten year impact factor RISC (0-4 points).

Final selection

Quotas

When determining the subject matter quotas, we considered the correlation of the volume of Russian and international publications flow indexed in WoS Core Collection and its change during 2012—2016 on all second level OECD subjects, the volume of international publications flow in 2016 on all second level OECD subjects, as well as the number of applications from the journals on all second level OECD subjects.

To compare the SRSTI (State Rubricator of Scientific and Technical Information) journal subject matter and OECD journal subject matter, ARISTI (All-Russian Institute of Scientific and Technical Information) expertise was referred to and based on schemes (http://scs.viniti.ru/rubtree/main.aspx?tree=RGNTI) a converter to determine OECD rubrics was developed according to the rubrics of SRSTI assigned to the journals.

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