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## CONCEPT OF SCIENTIFIC JOURNAL IN CONDITIONS OF INTEGRATION INTO THE INTERNATIONAL INFORMATIONAL SPACE

*The purpose of the article is to formulate the conceptual foundations for the functioning of scientific journals in the conditions integration into the international information space. The methodology suggests the use of a number of general scientific methods: logical analysis, generalization, grouping, and systematization, comparison, generalization, and stratification. Application of analytical and synthetic allows the content analysis of the information resources of the leading science-computer databases to formulate and systematize the general principles of the organization and functioning of the scientific journal international standard. Scientific novelty of the work consists in the formation of a single generalized system conceptual principles of the organization and operation of a scientific journal to its integration into the international information space. Conclusions. The general concept of the scientific journal reflects a set of principles based on domestic, international standards publishing and publishing ethics and systematized and generalized requirements of leading science-computer databases.*

**Key words:** *concept, scientific journal, science-based database, editorial policy, content, website.*

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## КОНЦЕПЦІЯ НАУКОВОГО ЖУРНАЛУ В УМОВАХ ІНТЕГРАЦІЇ В МІЖНАРОДНИЙ ІНФОРМАЦІЙНИЙ ПРОСТІР

**Метою роботи** є формування концептуальних засад функціонування наукових журналів в умовах інтеграції до міжнародного інформаційного простору. **Методологія дослідження** передбачає використання низки загальнонаукових методів: логічного аналізу, генералізації, групування і систематизації, порівняння, узагальнення та стратифікації. Застосування аналітико-синтетичного підходу дозволило на основі контент-аналізу інформаційних ресурсів провідних наукометричних баз даних сформулювати та систематизувати загальні принципи організації та функціонування наукового журналу міжнародного зразка. **Наукова новизна** роботи полягає у формуванні єдиної узагальненої системи концептуальних принципів організації та функціонування наукового журналу з метою його інтеграції в міжнародний інформаційний простір. **Висновки.** Загальну концепцію наукового журналу відображає комплекс принципів, в основу яких покладено вітчизняні, міжнародні стандарти видавничої діяльності і публікаційної етики та систематизовані і узагальнені вимоги провідних наукометричних баз даних.

**Ключові слова:** концепція, науковий журнал, наукометрична база даних, редакційна політика, контент, веб-сайт.

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## КОНЦЕПЦІЯ НАУЧНОГО ЖУРНАЛА В УСЛОВИЯХ ІНТЕГРАЦІЇ В МЕЖДУНАРОДНОЕ ИНФОРМАЦИОННОЕ ПРОСТРАНСТВО

**Целью работы** является формирование концептуальных основ функционирования научных журналов в условиях интеграции в международное информационное пространство. **Методология исследования** предусматривает использование ряда общенаучных методов: логического анализа, генерализации, группировки и систематизации, сравнения, обобщения и стратификации. Применение аналитико-синтетического подхода позволило на основе контент-анализа информационных ресурсов ведущих наукометрических баз данных сформировать и систематизировать общие принципы организации и функционирования научного журнала международного образца. **Научная новизна** работы заключается в формировании единой обобщенной системы концептуальных принципов организации и функционирования научного журнала с целью его интеграции в международное информационное пространство. **Выводы.** Общую концепцию научного журнала отражает комплекс принципов, в основу которых положены отечественные, международные стандарты издательской деятельности и публикационной этики, а также систематизированные и обобщенные требования ведущих наукометрических баз данных.

**Ключевые слова:** концепция, научный журнал, наукометрическая база данных, редакционная политика, контент.

*Relevance of the research topic.* The purpose of the work is to formulate the conceptual foundations for scientific journals functioning in the conditions of integration into the international information space. To achieve the goal, the main tasks are to determine an analytical framework of the study; develop an algorithm for formulating the conceptual principles of the scientific journal creation and functioning; form a system of conceptual principles of the scientific journal creation and functioning.

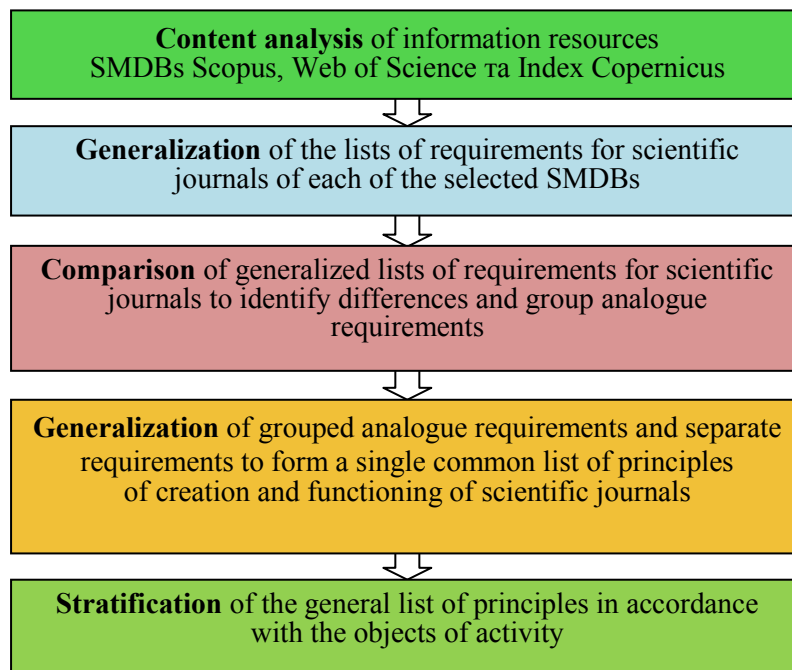
*Analysis of recent research and publications.* The journal pattern of disseminating scientific knowledge in the aspects of "registration" of a new idea or research, "certification" of the research quality, informing about the research and its results has been successfully tested by time [10]. The mainstream of the up-to-date global science is the accumulation of high-quality scientific knowledge in the context of a single international scientific information space [2; 3]. The unified scientific information space can be regarded as a "factual and interpretative field", which is a mass communication environment, where the fact with a plurality of its interpretations, distributed by the means of communication, is a component of the knowledge management system [4]. It is implemented by integrating scientific content of the regional and international publications into international scientometric databases (SMDB). Indexing in the relevant SMDBs is an indicator of the journal status, which should ensure the compliance with international quality standards. Scientific journals undergo strict "face control" according to the criteria that reflect the conceptual foundations for functioning of a high-quality scientific publication [5; 7].

The representation of domestic scientific periodicals in international SMDBs is a problem area of the scientific communication sphere. The main reason for the insignificant dynamics of the integration process of domestic publications into the international information space is their nonconformity with the basic principles of functioning of the international sample of scientific journal, which causes a paradoxical increase in

the number of scientific publications against the background of deterioration in their quality [8, 9]. Removal of this disharmony requires the development of a unified concept of scientific journal [10], which will transform the national scientific periodical publications and bring it to a new level in accordance with modern standards and regulatory requirements governing the presentation of scientific publications in electronic space and creating effective sophisticated information resources [6]. Domestic scientists have repeatedly attempted to analyze in detail the requirements of SMDBs for journals and formulate general recommendations on their basis [7; 8; 11].

An important role in the field of scientific communication belongs to the academic and scientific libraries, which gradually modernize their functional and intended purpose in line with modern trends in the development of science. An important direction in the activities of Scientific Library of Lviv Polytechnic National University (SL) has become the multidisciplinary activity on adaptation of the creation and organization of the content of academic publications issued by the scientific and educational institutions and departments of the University in accordance with the requirements of domestic and international standards. In this aspect, the key tasks of the SL are to carry out scientific, methodological, and consulting activities to update the content creation of the existing and to establish new academic publications of the Lviv Polytechnic University in accordance with the requirements of the leading SMDBs.

*Presentation of the main material.* The system of conceptual principles for the creation and functioning of the scientific journal, presented on the official website of Scientific Library of Lviv Polytechnic National University [1], is the result of analytical and synthetic elaboration of the requirements of the world's leading SMDBs Scopus, Web of Science and Index Copernicus. The algorithm of forming a system of conceptual principles of functioning of an international sample of scientific journal covers a number of stages (Fig. 1).



**Fig. 1.** Algorithm of formation of a system of conceptual principles of scientific journals functioning

The content analysis of official information resources Scopus [14], Web of Science [15] and Index Copernicus [13] allowed singling out information arrays directly related to the requirements for scientific journals and the peculiarities of their selection for each of the chosen databases.

Three lists of requirements, put forward by each of the SMDBs for scientific journals, have been formed by generalizing designated information arrays.

Comparison of the generalized lists revealed a one hundred per cent convergence of the requirements in their sense, except for certain points concerning the peculiarities of evaluating scientific journals by the experts of the corresponding database. At the same time, every list has inherent differences in the systematization and wording of requirements. Having selected the analogue requirements from each of the list, they were grouped by sense.

By generalizing the formulations of groups of analogue requirements and requirements that have no analogues in all three databases, a single common list of principles of the creation and functioning of scientific journals has been formed.

According to the subjects of activity, a unified general list of principles of the creation and

functioning of scientific journals is stratified into three groups:

- general principles of editorial policy of a scientific journal;
- principles of content creation of a scientific journal;
- principles of website design of a scientific journal.

The general principles of editorial policy of the scientific journal reflect the conformity with domestic and international standards of publishing activity. They cover a set of decisive approaches to the creation and functioning of a scientific journal:

1. Publication of the reviewed materials.
2. Compliance with the standards of publishing ethics and avoidance of unfair behavior [12].
3. Correspondence of the actual publication of the journal with the declared periodicity, which is checked by the experts of scientometric databases through analysis of:
  - archive of journal issues at least two years before the application is submitted to Scopus;
  - archive of journal issues for the current year at the time the application is submitted to Index Copernicus;

– three journal issues, which will be published after the application has been submitted to Web of Science.

4. Involvement of foreign authors, reviewers and members of the editorial board.

5. Availability of printed and electronic (in XML, PDF format) versions of the journal with ISSN-print and ISSN-online assigned IDs respectively.

6. Availability of own website. In particular, experts of Web of Science recommend using a special Open Journal Systems platform.

Publication of only reviewed materials and adherence by the editorial board of the scientific journal to the Provision on publishing ethics and avoidance of unfair behavior is a guarantee of the high quality of the publication as a source of reliable scientific knowledge.

The correspondence of the actual journal issue with the declared periodicity is equivalent to the stability of the journal functioning, the evidence of the availability of sufficient authors.

The involvement of foreign authors, reviewers and members of the editorial board is an integral feature of an international scientific publication. The scope of geography of authors serves as an indicator of trustworthiness of the journal in the global scientific community.

The assignment of ISSN identification numbers to the scientific journal and the availability of its own website helps to ensure the identification of its uniqueness and “visibility” in the information space.

The principles of creating the content of a scientific journal include a set of approaches to ensure compliance of the form of presentation and identification of scientific content of the journal:

1. Compliance with the rules of the international publishing convention, which stipulate:

- uniqueness, informative value and relevance of the journal name;
- availability of basic metadata on the cover of the paper and electronic versions of the journal;
- clarity and standardization of the journal structure;
- descriptiveness of headings and abstracts of articles;
- completeness of contact information about each author;

– completeness of bibliographic information for cited references;

– availability of article identifiers, in particular digital object identifier (DOI)

2. Unification of the language of content:

– submission of publications in English is a priority;

– submission of publications in the language of the original with the mandatory duplication in English of the main metadata (title of the article, abstract, key words, information about the authors) and the quotation list in the Latin transcription.

Compliance with the standards of the international publishing convention is an indicator of the level and quality of editorial processing of the content of the scientific journal, which manifests itself in standardization and unification of the structure and design of the articles and the scientific journal in general, as well as in ensuring effective mechanisms for publications search in the information space by providing digital object identifier (DOI).

The unification of the language of journal presentation is the result of the linguistic editing of scientific content in order to expand the journal readership.

The principles of website design of the scientific journal reflect a set of approaches to the presentation of the publication on the Internet that ensure the transparency of its functioning and promotion among information consumers:

1. Availability of the English version of the website.

2. Availability of an electronic system for storing download statistics and articles printout from a website.

3. Expanded information content of the website, which includes:

- browseable and downloadable electronic archive of journal issues (full text and abstract);
- information on the subject and periodicity of the journal issues;
- information on the editor-in-chief, structure and composition of the editorial board and the international advisory board;
- information about the journal’s publishing house;
- statement on compliance with publishing ethics;
- information on the organization of the review procedure;



- a review manual and a downloadable review form;
- unified requirements for authors regarding the design, presentation and criteria for articles selection;
- an application form of the author (downloadable) regarding the originality of the study, the author’s contribution to the article, the absence of a conflict of interest, financial resource-

es of the study (to be filled out and sent by the author to the journal staff in case of acceptance of the article for publication).

The principle of expansion of the information content of the website of the scientific journal reflects the principles of its structuring in order to realize the maximum “visibility” of the publication on the Internet (*Fig. 2*).

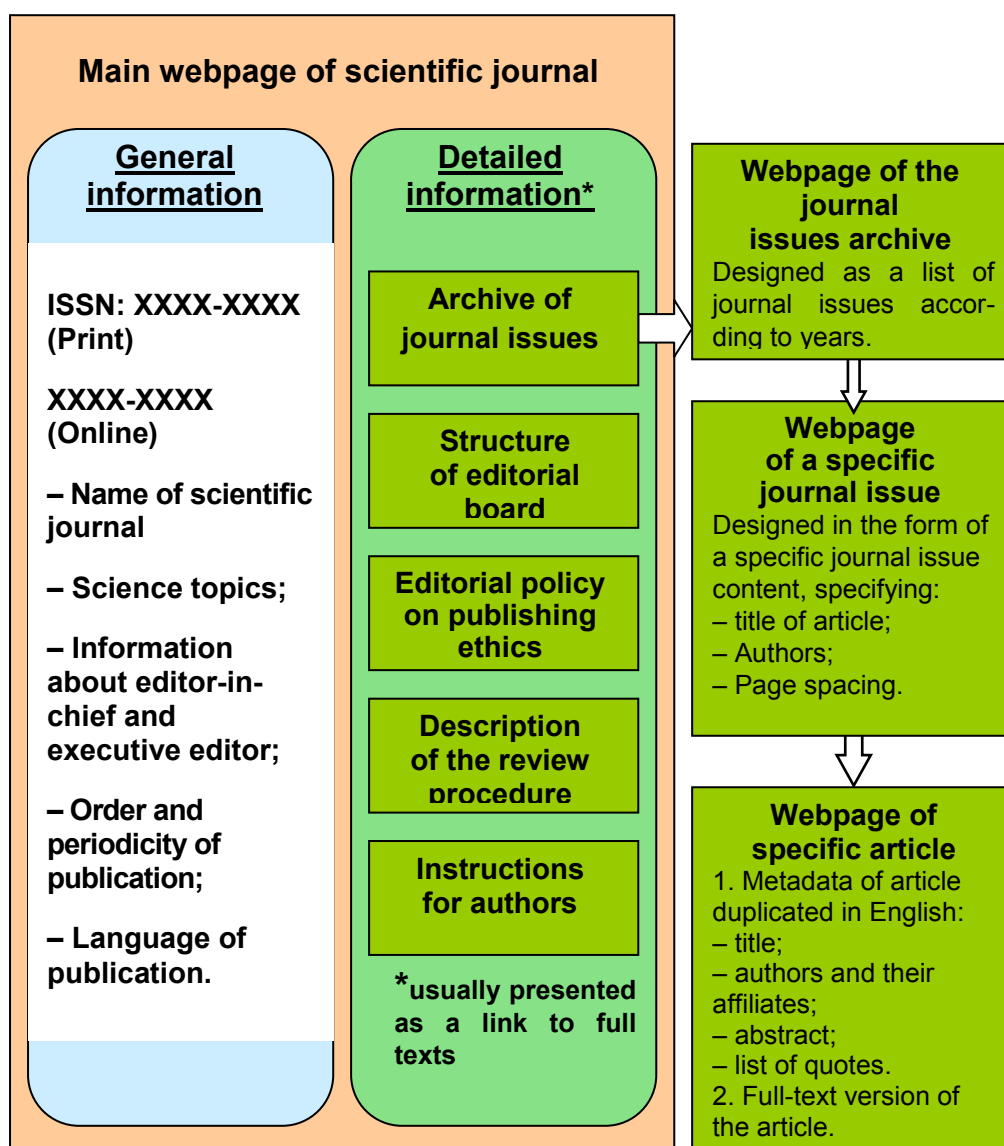


Fig. 2. Website structure of scientific journal

The need to create an English version of the website corresponds to the principle of unification of the content language of the journal in the aspect of expanding the readership. The availability of an electronic system for storing download statistics and articles printout from a website, the electronic archive of issues and the level of detail

of the information content, which reflects the main aspects of the journal functioning, serves as a tool for an adequate expert review of its quality and demand.

All groups of stratified principles, being in symbiotic relationship, form a single system (Fig. 3).

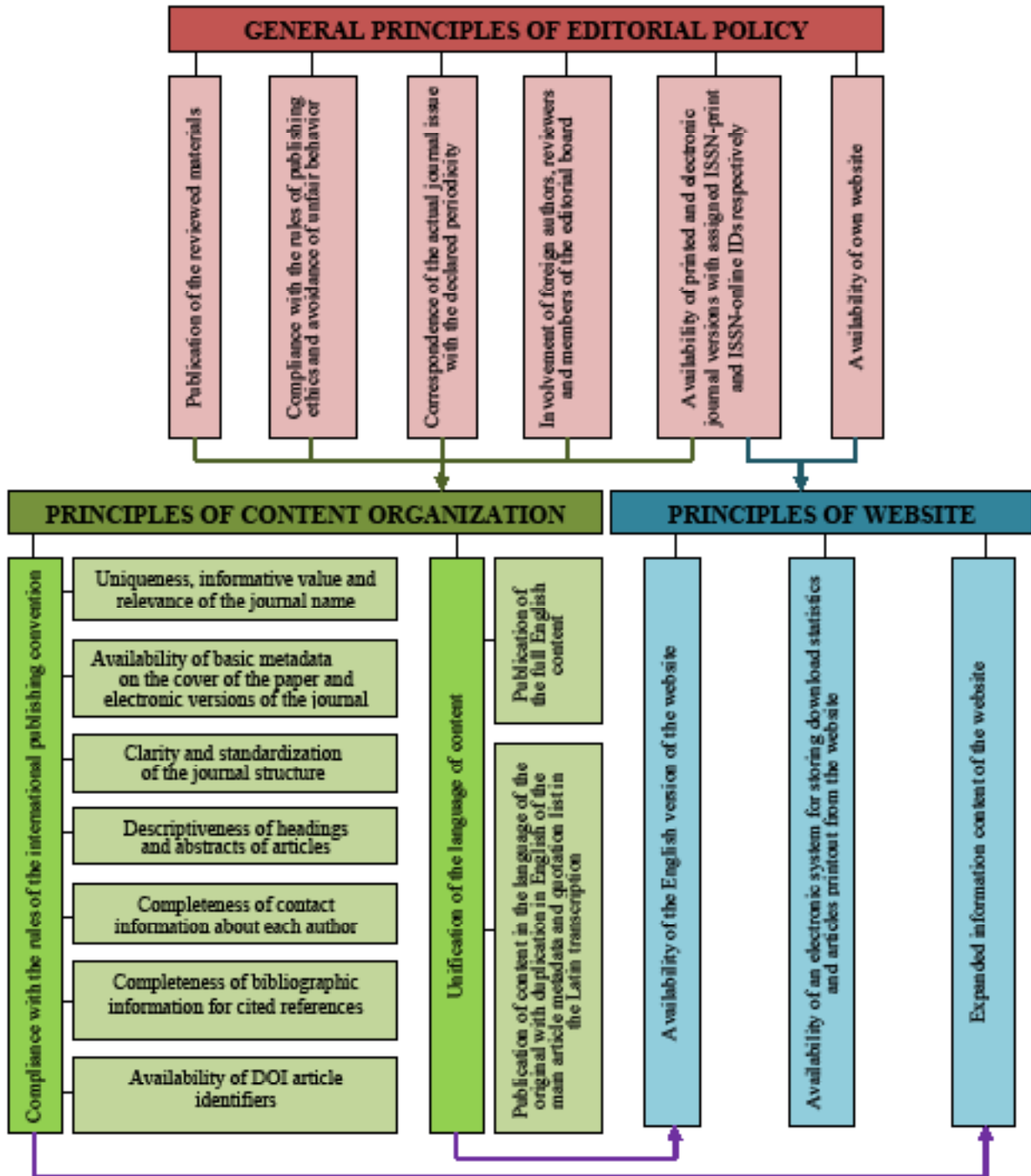


Fig. 3. System of conceptual principles of organization and functioning of scientific journal

The general principles of editorial policy form the core of the scientific journal concept and are specified in the principles of the content creation and website design.

*Conclusions.* The defined conceptual principles of the creation and functioning of the scientific journal correspond to the domestic, international standards of publishing activity and publishing ethics, as well as requirements of the leading SMDBs. Three main directions of updating of the scientific journal have been distinguished: implementation of the effective editorial policy, development of a high quality content, creation of own web site.

The principles of editorial policy of the scientific journal reflect the conformity with domestic and international standards of publishing activity and cover a set of approaches that are the basis of the organization of processes for the creation and functioning of a scientific journal.

The principles of creating the content of a scientific journal include a set of approaches to ensure compliance of the form of presentation and identification of scientific content of the journal, which is the result of editorial processing and linguistic editing.

The principles of the website design of the scientific journal reflect a set of approaches to the presentation on the Internet that ensure the transparency of functioning of the publication and promotion among information consumers:

All groups of principles form a single system and are inextricably linked with each other. Multifaceted implementation of the formed conceptual principles will ensure the compliance of the scientific journal with international standards as a source of high-quality scientific content and reliable scientific knowledge.

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