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METHODOLOGICAL BASIS OF LITERATURE REVIEW IN THE FIELD OF MINING IN THE ONLINE ENVIRONMENT FOR UKRAINIAN SCIENTISTS

By

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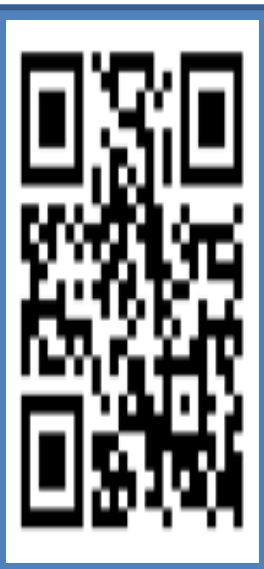

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Abstract

Purpose. *To develop methodological principles for the systematization, analysis, and evaluation of literature sources in the field of mining within the internet space, adapted to the needs of Ukrainian scientists. This will enhance the effectiveness of scientific research, ensure compliance with current quality standards for scientific information, and optimize the process of searching for and selecting relevant sources.*

Findings. *Recommendations have been developed for the systematic search, analysis, and evaluation of literature sources in the field of mining within the internet space, considering the needs of Ukrainian scientists. An algorithm for utilizing authoritative scientific databases, digital libraries, and specialized thematic resources has been proposed. This algorithm comprises the stages of search, preliminary analysis, and selection of relevant materials.*

A methodology for the preliminary analysis of sources has been defined, involving the assessment of their relevance, scientific novelty, compliance with current research standards, and significance for mining science. An approach to classifying sources by thematic areas, publication types (monographs, scientific articles, regulatory acts), and chronological frameworks has been developed.

The methodology for conducting an analytical literature review has been substantiated, incorporating the summarization of source content, identification of key concepts, dominant trends, and scientific discussions in the mining industry. Criteria for evaluating the scientific value of sources have been established, based on indicators such as citation index, impact factor of the publication, author credibility, and contribution to the development of the field.

A structural model for the literature review has been proposed, encompassing the introduction, main thematic sections, critical analysis, and conclusions. The stages of integrating the literature review into scientific research are outlined, including the identification of research gaps and the justification of promising directions for further studies in the field of mining.

Results. *The conducted research allows us to state that the application of a systematic approach to literature review in the field of mining contributes to improving the quality of scientific analysis and identifying key trends and research gaps. The assessment of scientific gaps identified important directions for further research, including the development of integrated methodologies utilizing modern digital technologies. Furthermore, the research results highlighted the importance of improving methods for evaluating the relevance and scientific impact of sources in the digital environment, which will contribute to enhancing scientific reviews and their effectiveness in the context of the digital transformation of the scientific space.*

The originality. *Scientific novelty. For the first time, methodological principles for conducting a systematic literature review in the field of mining within the digital space have been developed, taking into account the specific characteristics of scientific activity among Ukrainian researchers. A structured approach to the analysis and systematization of sources has been proposed, based on modern methods for evaluating*

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scientific information and adapted to the digital research environment. An algorithm for the classification and selection of sources has been developed, considering the particularities of mining science, including the influence of technological and regulatory changes on research development. Enhanced criteria for assessing the scientific significance of literature sources have been established, improving the objectivity, reliability, and relevance of the obtained results. The necessity of integrating modern digital technologies and algorithmic analysis methods has been substantiated to enhance the effectiveness of scientific reviews.

Practical implementation. *The proposed methodological principles will assist Ukrainian researchers in preparing high-quality systematic literature reviews for dissertations, articles, and reports. The algorithm optimizes the process of searching and analyzing sources, reducing time and resource expenditures. A structured approach enables the identification of scientific problems and prospects in the mining sector. Recommendations for source evaluation contribute to the development of knowledge bases, educational materials, and the improvement of scientific information management.*

Keywords: *literature review methodology, mining, scientific sources, information systematization, critical analysis, search algorithm, scientific significance evaluation, scientific trends, research methodology, academic analysis, review structure, source relevance, information search, digital scientific resources, bibliographic analysis, open access, scientometric indicators, thematic classification of literature, Ukrainian scientists, scientific research in Ukraine.*

Introduction

The problem of reviewing literature sources in the field of mining is crucial, as its resolution directly affects the effectiveness of further scientific research and practical developments in this area, particularly in the context of integrating the internet space as a resource for accessing current scientific information. However, researchers do not always give this issue the attention it deserves, which may lead to erroneous conclusions and the selection of incorrect research directions, ultimately negatively impacting the development of the industry.

A qualitative analysis of literature helps identify gaps in existing scientific works, determine relevant problems, and scientific trends. This enables the forecasting of new research directions and finding ways to improve technological processes in the mining industry. Therefore, a well-structured literature review methodology forms the basis for future scientific achievements.

The relevance of this problem is due to the need to ensure high-quality scientific works and their compliance with modern requirements, especially considering the growing role of the internet space as the primary source of scientific information. Without a carefully conducted literature review, it is impossible to create new scientific concepts or ensure the effective application of results in practice.

A systematic approach to source analysis allows for the creation of a clear review structure, enhancing the reliability and accuracy of the conclusions. This approach is important for both the academic environment and for the implementation of results in the mining industry. Through detailed literature analysis, it becomes possible to formulate well-grounded recommendations for improving the safety and efficiency of mining operations.

Thus, solving this problem contributes not only to the development of science but also holds significant practical importance, laying the foundation for increasing mining productivity and introducing new technologies, particularly through the use of internet space to enhance access to scientific data and research results.

Main part

This section presents the methodological principles of reviewing literature sources in the field of mining, which is a crucial stage of scientific research in the internet space for Ukrainian researchers. A literature review allows for the identification of scientific gaps, systematization of existing knowledge, and the determination of directions for further development [1 - 4]. The described aspects form a cohesive and interconnected structure, ensuring an effective and scientifically grounded approach to analyzing existing research, creating a unified process for a deep and comprehensive understanding of the studied problem.

Considering the significance of the internet space, particularly digital tools and scientometric databases, it is important to focus on their use for systematizing and structuring scientific sources. For Ukrainian researchers, the opportunity to access international platforms and scientific communications is especially relevant, as it expands research horizons and contributes to the integration of national scientific achievements into the global environment.

The criteria for selecting sources are fundamental to ensuring the scientific quality of the review. The correct choice of sources determines whether the research will be based on current and reliable data. These criteria include checking the reputation of the source, the authority of publications, the novelty of the material, and its alignment with the research objectives. In the field of mining, particular attention should be paid to the diversity of approaches to technical, environmental, and economic aspects, which significantly influence the final results of the research.

The methodology for reviewing literature involves selecting appropriate methods for systematizing and analyzing sources. These can include traditional methods, such as meta-analysis,

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as well as modern tools, such as scientometric databases, which allow for quantitative evaluation of literature. Considering the specifics of the mining industry, particularly the need to account for environmental and technical factors, is crucial for achieving scientific accuracy and detail in the review.

Structuring and generalizing information is critically important for better perception and understanding of the material. Clear organization of the studied aspects, including the definition of main topics and subtopics, enables the identification of key directions for further study. In the field of mining, this is especially significant, as technical aspects, such as geotechnical studies and environmental risks, have a considerable impact on the success of future developments.

Conclusions and the identification of gaps are important outcomes of the review. They allow for not only the systematization of information but also the identification of key problems and shortcomings in existing research. This enables the formulation of scientific questions that require further resolution and the identification of unexplored aspects that could become the focus of new research. In the context of mining, this is especially important, as the industry continually faces new challenges that require the updating of scientific approaches.

Thus, all these aspects form a coherent methodological foundation that ensures a high level of literature review. Their consideration not only enhances the scientific accuracy of the research but also fosters the development of new ideas and approaches in the field of mining, creating the foundation for further scientific achievements and the improvement of practical solutions.
Let's examine these aspects in more detail.

A. Criteria for Source Selection

When selecting literature sources for review in the online space, it is critically important to assess their reliability and relevance for Ukrainian researchers. One of the main criteria is publication in peer-reviewed scientific journals or authoritative databases, as this ensures that the material has been verified by independent experts, guaranteeing high scientific quality.

The relevance of the source is significant, as it allows for considering the latest achievements and trends in the field of mining, contributing to keeping the review up to date with current knowledge. The methodological foundation of the source determines its value, as reliable data collection and analysis methods promote objectivity and accuracy in conclusions, which is crucial in the context of scientific research.

Relevance to the topic is a key selection criterion: sources must directly address the studied aspects and align with the scientific goal of the article. Additionally, the research experience of the author is important, as works by recognized specialists or authors with proven competence enhance the credibility of the review.

The degree of citation of a source can serve as an indicator of its significance for the scientific community, reflecting the impact and importance of the material in the relevant field. The geographical context of the study also matters, as regional specifics can influence the applicability of the results to a particular issue.

Sources that offer new scientific approaches or alternative perspectives are often useful for broadening the range of possible solutions to the problem. The interdisciplinary nature of sources adds value to the review, allowing for the consideration of contributions from related fields for a more comprehensive analysis of the topic.

Attention should be paid to the completeness of the research in the source—works that cover all aspects of the topic provide a deeper understanding and help avoid gaps in the review. The publication date also matters to maintain relevance, especially in rapidly developing fields where knowledge can quickly become outdated.

Finally, evaluating the qualitative and quantitative methods used in the sources contributes to a balanced review, as combining both approaches provides a more complete picture of the phenomenon under investigation.

B. Methodology of Literature Review

In the process of searching and analyzing literature, it is essential to apply a combination of systematic and narrative reviews, which allows for a comprehensive study of the researched topic. A systematic review enables structuring the search based on clearly defined criteria, ensuring transparency and reproducibility of the research. To do this, key words and phrases should be developed that reflect the main aspects of the topic, and these should be used to search in authoritative databases.

The review should begin with a narrative overview, which provides a general understanding of the subject matter, identifies key research areas, and highlights trends. This approach helps to outline priorities and compile a list of key topics for further systematic exploration. Initially, it is recommended to familiarize oneself with online publications from leading educational and academic institutions in the mining sector; these can be found online using relevant keywords.

The use of databases like Scopus and Web of Science allows access to high-quality, peer-reviewed literature, ensuring the reliability of the sources obtained. Scopus covers a broad range of scientific disciplines and includes publications relevant to both technical and natural sciences. Web of Science, on the other hand, facilitates the identification of the most cited works and authors, allowing the inclusion of influential research in the review.

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More specific resources, such as Google Scholar, are also used for literature searches, expanding the list of sources and providing access to the latest publications, including conference abstracts and open-access works. After forming the initial list of sources, filtering is done based on criteria of reliability, relevance, and topic applicability. The evaluation of the methodology of sources is an important step, as it allows the exclusion of works with questionable or weak methodological foundations.

Among other useful resources for literature search and analysis is ResearchGate — a popular platform for researchers that provides access to publications and allows knowledge exchange between scientists. ResearchGate enables free access to articles, dissertations, reports, and also facilitates contacting authors to obtain full texts if they are not available in open access. This platform is also valuable for tracking new publications on a chosen topic and for establishing collaborations between researchers from different countries.

One cannot overlook the very important website, the Internet Archive (https://archive.org/) — a nonprofit organization that has been an essential resource for researchers, historians, scientists, and the general public since 1996. The mission of the Internet Archive is to provide universal access to knowledge and cultural artifacts, including through the creation of a digital library of websites and other cultural resources.

In the modern era, when web content quickly disappears, the Internet Archive plays the role of a digital library, preserving over 28 years of web history through its Wayback Machine platform. The archive contains vast amounts of information: over 835 billion web pages, 44 million books, 15 million audio recordings, 10.6 million videos, 4.8 million images, and 1 million software programs.

The Internet Archive actively collaborates with over 1,200 libraries and other partners worldwide to preserve important web pages and other resources. Every user with a free account has the opportunity to upload media to the archive, making the platform even more accessible to all.

The Internet Archive is also heavily involved in digitizing books. Since 2005, the organization has been offering digital versions of books for free download, including books published before 1928, as well as hundreds of thousands of modern books available through the Open Library platform. This is particularly important for individuals with disabilities.

In addition, the Internet Archive preserves television programs starting from the late 2000s, creating a valuable resource for researchers, especially for preserving news broadcasts, including an archive of news related to the events of September 11, 2001. Since 2009, the television archive has been searchable by subtitles, making it easier to find important information.

The Internet Archive serves millions of users daily and has become one of the 300 largest websites in the world. To ensure user privacy, the organization does not store readers' IP addresses and provides secure access via the HTTPS protocol.

The Internet Archive actively collaborates with numerous foundations and organizations, such as the Andrew W. Mellon Foundation and the National Science Foundation, highlighting the importance of its mission. The organization is a member of many professional associations, which underscores its role in the library community.

Thus, the Internet Archive is not only a resource for storing information but also a powerful tool for ensuring access to knowledge and cultural heritage. It offers free opportunities for accessing a vast wealth of information collected over decades and supports all users in finding the necessary literature for scientific research.

This archive preserves unique copies of rare books, such as Agricola, G. (1556). De Re Metallica libri XII [5] and Newton, I. (1686) Philosophiae Naturalis Principia Mathematica [6], which increases the value of this resource for researchers in the mining industry.

Interesting research materials can also be found in the digital library Gallica (https://gallica.bnf.fr), which belongs to the National Library of France (Bibliothèque nationale de France, BnF). This important resource provides access to a large number of digital documents, including books, journals, maps, manuscripts, audio recordings, and other materials. Gallica was founded with the aim of preserving and promoting the cultural heritage of France, becoming an important tool for researchers, students, and anyone interested in history and culture. The library contains millions of documents from various fields of knowledge, ranging from literature and art to history and science. Users can find both modern and ancient texts, making this resource unique for research in different areas.

One of the significant aspects of Gallica is free access to all materials, which makes them available to a global audience, promoting the preservation and popularization of cultural heritage among new generations. The library actively collaborates with other libraries, archives, and research institutions, which allows it to continually expand its collection and increase its diversity. These partnerships contribute to access to even more valuable materials that can complement scientific research.

The Gallica platform offers an easy-to-use interface for search and navigation. Users can view documents in various formats, download them, or share them with others. The search system allows for quick access to the desired materials based on various criteria, significantly easing the research process. The preservation of cultural heritage is an important mission of the

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library, as many documents hold historical, cultural, and scientific value.

For example, one of the materials available is the 1859 treatise by Jules Burd "Traité pratique de la résistance des matériaux appliquée à la construction des ponts, des bâtiments, des machines, précédé de notions sommaires d'analyse et de mécanique, suivi de tables numériques donnant les moments d'inertie de plus de 500 sections de poutres différentes" (Practical Treatise on the Resistance of Materials Applied to the Construction of Bridges, Buildings, Machines, Preceded by Summary Notions of Analysis and Mechanics, Followed by Numerical Tables Providing the Moments of Inertia of Over 500 Different Beam Sections) [7]. This treatise is unique and can only be accessed through the Gallica library. The material can be freely downloaded not only in PDF or JPEG formats but also in TXT format, making it easier to work with.

Thus, Gallica is an indispensable resource for researchers, especially in the context of access to historical and technical materials that can significantly complement literature reviews in the field of mining and related scientific disciplines in the online space.

Literature analysis should be conducted through the classification of sources by subtopics, which allows identifying structured research directions and gaps in knowledge. In this process, bibliometric analysis tools should be applied to build citation networks and determine key theoretical and methodological foundations.

For effective bibliography management, it is recommended to use Mendeley software. Mendeley is a free reference manager, founded in 2007 in London by a group of researchers. This program enables efficient management of bibliographic data, which is an important step in preparing scientific works. Thanks to the automatic import of bibliographic data from numerous scientific databases and journals, Mendeley significantly simplifies the information gathering process. Users can add articles by simply dragging PDF files or downloading them directly from a web browser.

One of the main advantages of Mendeley is the ability to organize the library. Articles can be categorized by topics, tags, and groups, which facilitates their further search and systematization. Users can add notes and highlights to documents, which makes the analysis and preparation for writing scientific papers easier.

The program also supports the creation of bibliographies in various citation styles, which is important for meeting the requirements of scientific journals and academic institutions. This helps save time and effort when preparing reference lists, making the process of writing scientific papers more structured.

Moreover, Mendeley offers the possibility to collaborate with other researchers. Users can create groups to share publications, discuss, and comment, which fosters the development of the scientific community and enhances the quality of research.

Thus, Mendeley is an indispensable tool for researchers, as it helps effectively manage information and focus on conducting high-quality research. Using this program not only saves time but also improves the quality of scientific works. The official Mendeley website is www.mendeley.com. Here, you can find information about the program's features, download it, and access training resources and support [8].

For preparing literature reviews, it is recommended to use MS Office, especially for convenient processing of textual materials, creating tables, and generating bibliographies. This set of tools ensures effective organization and systematization of the found materials.

The final stage includes a critical analysis of the selected sources, which allows highlighting the strengths and weaknesses of the research and identifying opportunities for further development. The approaches used in the studies should be evaluated in terms of their applicability and reproducibility. The choice of a combined approach — systematic and narrative review — ensures the depth and objectivity of the literature analysis, laying a solid foundation for the research.

C. Structuring and Synthesizing Information

When conducting a literature review in the field of mining within the online space, a crucial step is the application of methodological principles outlined in the work of Kitchenham, Budgen, and Brereton (2015) [9]. This work serves as a foundation for developing a systematic approach to data collection and analysis, ensuring a deeper understanding of the researched topic. The recommendations provided in Kitchenham et al. (2009) [10] should be implemented to structure the literature review, allowing for the identification of key trends and challenges in mining engineering and geotechnics.

The SEGRESS methodology, described by Kitchenham, Madeyski, and Budgen (2023) [11], plays a significant role in reporting research findings. Its application enhances the quality of literature reviews by providing clear guidelines for substantiating and formulating conclusions. This tool enables effective source tracking and citation, reducing the risk of errors. Utilizing these studies ensures a systematic and well-grounded approach to reviewing literature sources.

Moreover, this methodological framework facilitates the identification of knowledge gaps requiring further investigation. The proposed approaches not only aid in structuring information but also establish a conceptual foundation for future research. As a result, the literature

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review becomes more comprehensive and insightful, opening new perspectives for scientific analysis. Such methodological approaches form a critically important basis for further studies, ensuring the recognition of the topic's relevance.

As the results of the conducted research indicate, the preparation of reference lists should be carried out in accordance with the national standard of Ukraine, DSTU 8302:2015 "Information and Documentation. Bibliographic Reference. General Provisions and Rules for Compilation" [12]. This standard was developed by the Book Chamber of Ukraine and came into effect on July 1, 2016. Key stages, such as technical verification, editing, approval, and preparation for publication, were carried out by the Institute of Standardization (UkrNDNC), which serves as the National Standardization Body (NSB).

However, certain technical errors were made during the preparation of the document. To correct them, the Book Chamber of Ukraine developed the necessary amendments, coordinated them with the relevant Technical Committee, and submitted them for approval to the National Standardization Body. The amendments were incorporated into the text of the standard after confirming the necessity of their implementation [13]. The corrections were officially published in the NSB's journal "Information Index of Standards", 2016, No. 12 (408), p. 103.

Moreover, in 2018, the Ministry of Education and Science of Ukraine issued Order No. 32 dated January 15, 2018, "On the Approval of the Procedure for Forming the List of Scientific Professional Publications of Ukraine" [14], which does not impose specific requirements on the formatting of reference lists in scientific periodicals. Thus, as of today, the compilation of bibliographic lists (including in-text references and literature lists) in accordance with DSTU 7.1:2006 "Bibliographic Record. Bibliographic Description. General Requirements and Compilation Rules" is not mandatory.

On the websites of Ukrainian universities and their libraries, presentations are available that provide a detailed explanation of the requirements of DSTU 8302:2015 "Information and Documentation. Bibliographic Reference. General Provisions and Rules for Compilation." Some universities offering such presentations include:Scientific Library of Zaporizhzhia National University [12], [13], [15], [16], [17], [18]; Borys Grinchenko Kyiv Metropolitan University [19]; H. I. Denysenko Scientific and Technical Library of the National Technical University of Ukraine 'Igor Sikorsky Kyiv Polytechnic Institute' [20]; Scientific Library of Volodymyr Dahl East Ukrainian National University [21]; Library of Kamianets-Podilskyi Ivan Ohienko National University (K-PNU) [22].

Special mention should be made of the work by Radchenko A. I. [23], which provides detailed methodological recommendations regarding the new standard "Bibliographic Reference. General Provisions and Rules for Compilation" (DSTU 8302:2015).

According to current requirements, a bibliographic list can be formatted using either DSTU 8302:2015 [12] with the amendments introduced [13] or, in accordance with the Order of the Ministry of Education and Science of Ukraine No. 40 dated January 12, 2017 (registered with the Ministry of Justice on February 3, 2017, under No. 155/30023) "On the Approval of the Requirements for Dissertation Formatting" (with amendments introduced by Order No. 759 dated May 31, 2019) [24], one of the internationally recognized citation styles recommended for scientific publications. These styles include: MLA (Modern Language Association) style; MLA (Modern Language Association) style; APA (American Psychological Association) style; Chicago/Turabian style; Harvard style; ACS (American Chemical Society) style; AIP (American Institute of Physics) style: IEEE (Institute of Electrical and Electronics Engineers) style; Vancouver style; OSCOLA; APS (American Physics Society) style; Springer MathPhys Style.

It is worth noting that in technical publications worldwide, the APA style is frequently used and remains one of the most popular among researchers.

D. Conclusions and Identification of Gaps

When conducting a literature review in the field of mining for Ukrainian researchers, it is advisable to use the methodological guidelines outlined in Kitchenham B. (2007) Guidelines for Performing Systematic Literature Reviews in Software Engineering [25]. This technical report provides essential instructions for systematic literature reviews, including planning, data collection, analysis, and presentation of results. Applying these recommendations enables a structured approach, ensuring effective tools for identifying, selecting, and evaluating relevant sources. Such an approach enhances scientific accuracy, ensures objectivity, and facilitates the reasoned formulation of conclusions.

The guidebook Poperednii ohliad literatury: Posibnyk dlia efektyvnoho doslidzhennia by Gilberto de Abreu (2023) [26] serves as a valuable resource for conducting a literature review in mining sciences. It offers practical recommendations on preliminary literature analysis, emphasizing research efficiency and the importance of a systematic approach to data collection and analysis. The guidebook outlines key stages of the review process, including identification of relevant sources, their evaluation, and structuring of information. The author also highlights the significance of formulating clear research questions and hypotheses, which are essential for defining future research directions in the context of mining sciences.

The application of the outlined methodological principles allows for structuring the literature review in a way that helps

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identify knowledge gaps and formulate new research inquiries. This can be achieved through the following steps:

Summary of Existing Research. First and foremost, it is essential to summarize the key scientific works analyzed within the review. This provides a clear understanding of what has already been studied in the field and helps identify the most common approaches, theories, or methods. Particular attention should be paid to key findings that hold the greatest relevance to the research topic.

Analysis of Research Gaps. After summarizing the results of previous studies, it is crucial to identify gaps in scientific knowledge. These gaps may include:
— Insufficient research on specific aspects of the topic;
— The need for new methods or approaches that have not yet been adequately explored;
— Unaccounted-for factors or contextual changes that may influence the research outcomes.

To achieve this, existing studies should be compared, and key questions requiring further investigation or clarification should be identified.

Formulation of New Research Inquiries. Based on the identified gaps, new research inquiries should be formulated to address these shortcomings. These may include:
— Questions regarding future research directions;
— Proposals for new hypotheses or theoretical models;
— Recommendations for improving methodologies or implementing new technical tools.

Evaluation of Scientific Contributions. It is essential to assess how previous research has contributed to the scientific understanding of the topic. This enables a summary of past contributions and helps identify aspects that require further refinement or the development of new approaches.

Proposals for Future Research. Based on the identified gaps, specific future research directions can be proposed to fill the missing knowledge in the studied field. These may include:
— Application of new methods or technologies;
— Investigation of aspects that have previously been overlooked;
— Testing the effectiveness of already established approaches in new conditions.

Thus, the process of drawing conclusions and identifying gaps is a critical stage of the literature review, as it not only summarizes existing findings but also highlights key questions for the further development of research in the field of mining sciences.

Conclusions

This study has established the methodological foundations for conducting a literature review in the field of mining within the online environment. It has been determined that applying a systematic approach, based on the principles of systematic reviews, enhances the quality of scientific analysis by enabling the identification of key trends, research gaps, and promising directions for further studies. The use of modern methodological guidelines for conducting literature reviews ensures objectivity, reproducibility, and reliability of the obtained results.

The digitalization of the scientific domain creates new opportunities for accessing a broad range of sources while simultaneously necessitating the application of clear criteria for evaluating their credibility and relevance. A critical task is the utilization of authoritative databases and the implementation of algorithmic methods for information retrieval and analysis.
— The assessment of research gaps has outlined several key issues requiring further investigation. In particular, promising research directions include:
— Development of integrated methodologies for analyzing scientific sources using modern information technologies and artificial intelligence;
— Investigation of the impact of open access to scientific publications on the quality and pace of research development in the field of mining;
— Enhancement of approaches to the formation of bibliographic databases tailored to the specificity of mining science and technology;
— Advancement of methods for evaluating the relevance and scientific impact of literature sources within the digital environment.

Thus, the findings of this study contribute to the development of a structured approach to literature analysis in mining science, while the proposed future research directions open up opportunities for improving the methodology of scientific reviews, enhancing their objectivity and efficiency in the context of the digital transformation of the scientific landscape.

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АНОТАЦІЯ

Мета. Розроблення методологічних засад для систематизації, аналізу та оцінки літературних джерел у галузі гірництва в інтернет-просторі, орієнтованих на потреби українських науковців. Це сприятиме підвищенню ефективності наукових досліджень, забезпеченню відповідності сучасним вимогам до якості наукової інформації, а також оптимізації процесу пошуку та відбору релевантних джерел.

Методика. Розроблено рекомендації щодо систематичного пошуку, аналізу та оцінки літературних джерел у галузі гірництва в інтернет-просторі з урахуванням потреб українських науковців. Запропоновано алгоритм використання авторитетних наукових баз даних, цифрових бібліотек і спеціалізованих тематичних ресурсів, що включає етапи пошуку, первинного аналізу та відбору релевантних матеріалів.

Визначено методику попереднього аналізу джерел, яка передбачає оцінку їхньої релевантності, наукової новизни, відповідності сучасним дослідницьким стандартам і значущості для гірничої науки. Розроблено підхід до класифікації джерел за тематичними напрямами, типами публікацій (монографії, наукові статті, нормативно-правові акти) та хронологічними рамками.

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Обґрунтовано методику формування аналітичного огляду літератури, що передбачає узагальнення змісту джерел, виокремлення ключових концепцій, домінуючих тенденцій і наукових дискусій у гірничій галузі. Визначено критерії оцінки наукової цінності джерел із використанням таких показників, як індекс цитування, імпакт-фактор видання, авторитетність авторів і внесок у розвиток галузі.

Запропоновано структурну модель огляду літератури, що охоплює вступ, основні тематичні розділи, критичний аналіз і висновки. Описано етапи інтеграції огляду літератури у наукові дослідження, зокрема ідентифікацію наукових прогалин та обґрунтування перспективних напрямів подальших досліджень у сфері гірництва.

Результати. Проведене дослідження дозволяє стверджувати, що застосування систематичного підходу до огляду літератури в галузі гірничої справи сприяє підвищенню якості наукового аналізу та виявленню ключових тенденцій та прогалин у дослідженнях. Оцінка наукових прогалин визначила важливі напрями для подальших досліджень, зокрема розробку інтегрованих методологій з використанням сучасних цифрових технологій. Крім того, результати дослідження підкреслили важливість удосконалення методів оцінки релевантності та наукового впливу джерел у цифровому середовищі, що сприятиме покращенню наукових оглядів та їх ефективності в контексті цифрової трансформації наукового простору.

Наукова новизна. Вперше розроблено методологічні засади здійснення систематичного огляду літературних джерел у галузі гірництва в інтернет-просторі з урахуванням специфіки наукової діяльності українських дослідників. Запропоновано структурований підхід до аналізу та систематизації джерел, що базується на сучасних методах оцінки наукової інформації та адаптований до цифрового наукового середовища. Розроблено алгоритм класифікації та відбору джерел, який враховує особливості гірничої науки, зокрема вплив технологічних і регуляторних змін на розвиток досліджень. Визначено удосконалені критерії оцінки наукової значущості літературних джерел, що підвищують об'єктивність, достовірність і релевантність отриманих результатів. Обґрунтовано необхідність інтеграції сучасних цифрових технологій і алгоритмізованих методів аналізу для підвищення ефективності наукових оглядів.

Практична значимість. Запропоновані методологічні засади допоможуть українським науковцям готувати якісні систематичні огляди літератури для дисертацій, статей та звітів. Алгоритм оптимізує процес пошуку й аналізу джерел, скорочуючи час і ресурси. Структурований підхід дозволяє виявляти наукові проблеми та перспективи у гірничій галузі. Рекомендації щодо оцінки джерел сприяють формуванню баз знань, навчальних матеріалів і вдосконаленню управління науковою інформацією.

Ключові слова: *методологія огляду літератури, гірництво, наукові джерела, систематизація інформації, критичний аналіз, алгоритм пошуку, оцінка наукової значущості, наукові тенденції, методика дослідження, академічний аналіз, структура огляду, релевантність джерел, інформаційний пошук, цифрові наукові ресурси, бібліографічний аналіз, відкритий доступ, наукометричні показники, тематична класифікація літератури, українські науковці, наукові дослідження в Україні.*

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