

ELSEVIER: Bridging Researchers and the World

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ABSTRACT

Elsevier plays a significant role in advancing agricultural research through its integrated publishing and analytics ecosystem. By providing access to high-quality peer-reviewed journals and digital platforms such as ScienceDirect and Scopus, Elsevier enhances research visibility, collaboration, and evidence-based decision-making. Its citation metrics and analytical tools support research evaluation and strategic planning in agriculture. While Elsevier's integrated publishing ecosystem promotes high-quality peer review, global accessibility, and data-driven insights, challenges such as subscription costs, article processing charges, and metric limitations remain areas of concern. Overall, Elsevier's publishing and analytics infrastructure significantly contributes to accelerating innovation, advancing sustainable agricultural practices, and supporting global food security initiatives.

INTRODUCTION

Elsevier is a Dutch academic publishing company specializing in scientific, technical and medical content. Its products include journals such as *The Lancet*, *Cell*, the *Sciencedirect* collection of electronic journals, the online citation

database Scopus, the SciVal tool for measuring research performance, the ClinicalKey search engine for clinicians, and the ClinicalPath evidence-based cancer care service. Elsevier's products and services include digital tools for data management,

instruction, research analytics, and assessment. It has a long and influential history. It was founded in 1880 in Amsterdam, the Netherlands, and was named after the historic Elsevier family of printers and publishers who were active during the 16th and 17th centuries (Elsevier, 2025). In its early years, Elsevier focused mainly on publishing scholarly books and academic journals, catering to the growing demand for organized scientific knowledge in Europe.

During the 20th century, particularly after World War II, Elsevier expanded rapidly beyond the Netherlands. The company began publishing in English, German, and other major languages, which helped it reach a wider international audience. It established offices in key global locations such as London and the United States, strengthening its presence in the global academic publishing market. During this period, Elsevier built a strong reputation as a major publisher of high-quality scientific and medical journals.

In the late 1990s, Elsevier underwent a major digital transformation in response to changes in technology and research practices. In 1997, it launched ScienceDirect, an online platform that provided electronic access to thousands of journals and books, revolutionizing how researchers accessed academic literature. This was followed by the launch of Scopus in 2004, one of the largest abstract and citation databases, which enabled researchers to track citations, analyze research trends, and evaluate academic performance more effectively (Elsevier, 2025).

In the present day, Elsevier operates as part of the RELX Group and has evolved beyond traditional publishing into a knowledge and analytics company (RELX, 2025). It provides advanced digital tools, databases, and analytical solutions that support research, innovation, and decision-making. Elsevier now serves a wide range of users, including

researchers, universities, healthcare professionals, governments, and industries, playing a crucial role in the global research and innovation ecosystem.

Elsevier's Publishing Ecosystem in Agriculture:

Elsevier offers a comprehensive suite of peer-reviewed journals, books, and databases dedicated to agricultural sciences. Journals such as *Agricultural Systems*, *Field Crops Research*, and *Crop Protection* provide rigorous, high-impact research outputs that inform both academic inquiry and practical application. Elsevier's ScienceDirect platform ensures wide accessibility and integration of multidisciplinary research, enabling cross-sector collaboration.

Digital Tools and Data Analytics:

Beyond traditional publishing, Elsevier's investment in digital tools such as Scopus and Mendeley enhances research visibility and collaboration. These platforms facilitate literature reviews, citation tracking, and knowledge management, which are invaluable for agricultural researchers seeking to stay abreast of emerging trends and innovations. Additionally, Elsevier's data analytics capabilities support meta-analyses and modeling efforts crucial for precision agriculture and policy formulation.

Impact on Sustainable Agriculture and Food-Security:

Elsevier's role extends to promoting research that addresses sustainability goals. Publications focusing on agroecology, climate-resilient crops, and integrated pest management are instrumental in guiding sustainable practices. Elsevier provides multifaceted set of citation metrics through its platforms, most notably Scopus, which stands as one of the largest and most comprehensive abstract and citation databases encompassing

peer-reviewed literature across disciplines, including agricultural sciences. By enabling detailed tracking of citation trends, author influence, and journal performance, these metrics support evidence-based decision-making in research prioritization, funding allocation, and academic assessment.

Citation metrics:

Citation metrics are quantitative measures used to evaluate the impact, influence, and visibility of research publications, authors, or journals based on the number and quality of citations they receive from other scholarly works. Since citations indicate that a study has been recognized and utilized by other researchers, these metrics help assess research performance in an objective and systematic manner. They are widely used to compare journals, measure author productivity, evaluate institutional research output, and support decisions related to funding, promotions, and publication strategies. To evaluate the research impact Elsevier uses different types of citation metrics (Elsevier, 2025).

- **CiteScore:** CiteScore measures the average number of citations received per document published in a journal over a four-year period. It is calculated by dividing the total number of citations received in a given year by the total number of documents published in the previous four years. This metric provides a broad indication of a journal's citation performance and overall research influence within its field (Elsevier, 2025).
- **SCImago Journal Rank (SJR):** The SCImago Journal Rank (SJR) evaluates a journal's scientific influence by considering both the number of citations received and the prestige of the citing journals. Citations from highly reputed journals are weighted more heavily than those from less influential sources. Therefore, SJR reflects not only citation quantity but also the

quality and reputation of the citation sources (Elsevier, 2025).

- **Source Normalized Impact per Paper (SNIP):** SNIP measures a journal's contextual citation impact by normalizing citation counts across different subject fields. Since citation practices vary widely among disciplines, SNIP adjusts for these differences, allowing meaningful comparisons between journals from diverse research areas. It helps in assessing a journal's impact independent of field-specific citation behavior.
- **Field-Weighted Citation Impact (FWCI):** Field-Weighted Citation Impact compares the actual number of citations received by a publication to the expected global average for similar publications in the same subject area, year, and document type. A value of 1.0 indicates performance at the world average, while values above 1.0 indicate higher-than-average citation impact. FWCI is useful for evaluating research performance relative to global benchmarks (Elsevier, 2025).
- **h-index:** The h-index is a metric used to measure the cumulative research impact of an author or journal. An author has an h-index of h if they have published h papers, each of which has been cited at least h times. This index reflects both productivity and citation impact, balancing the quantity of publications with their influence.

Key features:

The key features of Elsevier reflect its commitment to research excellence, innovation, and global knowledge dissemination.

- **Leading Global Publisher**

Elsevier is widely recognized as a leading global publisher of scientific, technical, and

medical research. It publishes thousands of peer-reviewed journals and numerous academic books across diverse disciplines, including agriculture, engineering, health sciences, social sciences, and environmental studies. With a strong international presence and collaborations with academic societies and institutions, Elsevier contributes significantly to the dissemination of high-impact and credible research worldwide.

• Major Research Platforms

Elsevier operates major research platforms such as ScienceDirect, Scopus, and Mendeley, which collectively support the entire research workflow. ScienceDirect provides access to a vast repository of full-text journal articles and book chapters. Scopus serves as a comprehensive abstract and citation database, enabling researchers to track publications, analyze citation patterns, and evaluate journal performance. Mendeley facilitates reference management, academic networking, and research collaboration. These platforms enhance research visibility, accessibility, and scholarly connectivity at a global level.

• High-Quality Peer Review and Editorial Standards

Elsevier maintains rigorous peer-review procedures and strong editorial policies to ensure the quality, originality, and reliability of published research. Manuscripts submitted to Elsevier journals undergo critical evaluation by subject experts who assess methodological rigor, scientific relevance, ethical compliance, and contribution to existing knowledge. This structured and transparent review system helps maintain academic integrity and strengthens trust in published findings.

• Citation Metrics and Research Evaluation

Elsevier provides several widely recognized citation metrics, including CiteScore,

SCImago Journal Rank (SJR), Source Normalized Impact per Paper (SNIP), Field-Weighted Citation Impact (FWCI), and the h-index. These indicators measure research performance by analyzing citation data and journal influence. They enable comparison across disciplines, assess the relative impact of publications, and support evidence-based decisions related to journal selection, funding allocation, and academic evaluation.

• Publishing Models: Subscription and Open Access

Elsevier supports both subscription-based and open access publishing models to meet diverse research and funding requirements. The subscription model allows institutions and individuals to access content through paid subscriptions, while the open access model ensures that research articles are freely available to readers worldwide. This flexible publishing approach promotes wider dissemination of knowledge while accommodating different financial and institutional frameworks.

• Research Analytics and Decision-Support Tools

Elsevier offers advanced research analytics and decision-support tools that assist universities, research organizations, and policymakers in strategic planning and performance assessment. Through data-driven insights, benchmarking systems, and institutional analysis, these tools support funding decisions, research strategy development, and policy formulation.

Scope

Elsevier's offerings encompass a wide range of scholarly outputs peer-reviewed journals, conference proceedings, academic books, and data analytics tools serving a global audience that includes researchers, educators, extension agents, and policymakers in agriculture. It

operates on a massive scale publishing ~2,960 journals and major reference works (e.g. Gray's Anatomy) in 13 languages. It provides digital solutions (Scopus, ScienceDirect, SciVal) for researchers, librarians and clinicians.

Advantages in Agricultural Research

- **High Visibility and Credibility:** Publishing within Elsevier's journals often leads to broad dissemination and recognition within the scientific community, enhancing the visibility of research outputs and facilitating academic and practical impact. It publishes high-quality and peer reviewed journals such as Agricultural Systems and field Crops Research ensuring scientific reliability and standard research ethics.
- **Interdisciplinary Integration:** Elsevier's platforms encourage cross-disciplinary collaboration which is critical for developing holistic solutions to agricultural problems. Through databases like Scopus and ScienceDirect researcher can access studies from multiple disciplines, track cross field citations and identify collaborative networks.
- **Data-Driven Insights:** The availability of comprehensive citation metrics and analytics offers empirical evidence on research impact, enabling researchers and institutions to benchmark performance, identify influential studies, Clinical and education insights, Editorial decisions, data integration and track the evolution of scientific discourse.
- **User-Friendly Platform:** Science Direct and Scopus feature intuitive interfaces and integrated tools that streamline research workflows, from literature searches to citation management, making these resources accessible to users with varying levels of technical expertise.

- **Contribution to Innovation and Policy:** Elsevier provides reliable data which is essential for informed decision making it plays a major role in healthcare decisions institutional policy making and industrial and technological advancements.

Challenges:

- **Subscription Costs:** Access to many Elsevier journals and databases is often restricted to institutions or individuals with paid subscriptions, which can limit availability for researchers in low-resource settings or institutions with constrained budgets, potentially hindering equitable access to knowledge.
- **Publication Fees:** While open access options enhance dissemination, they frequently involve article processing charges (APCs) that may pose financial barriers for some researchers, particularly those without dedicated funding support.
- **Citation Metrics Limitations:** Citation-based metrics primarily reflect academic recognition and may not fully capture the societal, environmental, or practical impacts of agricultural research. This limitation is significant in agriculture, where applied outcomes and policy influence are critical.
- **Complexity of Tools:** The advanced analytics and extensive functionalities offered by Elsevier platforms can present a steep learning curve for some users, necessitating training and support to maximize their effective use.

Elsevier is a leading global scientific, technical, and medical publishing company founded in 1880 in the Netherlands. It provides high-quality peer-reviewed journals, books, and digital research platforms such as ScienceDirect, Scopus, and Mendeley. These platforms help researchers access literature,

track citations, and evaluate research impact through metrics like CiteScore and h-index. In agriculture, Elsevier supports sustainable practices, interdisciplinary research, and food security by disseminating reliable scientific knowledge. Despite challenges like subscription costs and publication fees, Elsevier plays a major role in global research, innovation, and evidence-based decision-making.

CONCLUSION:

Elsevier's extensive academic publishing and digital infrastructure significantly impact agricultural research by facilitating knowledge dissemination, fostering interdisciplinary collaboration, and supporting evidence-based decision-making. Its relevance in agriculture is underscored by its commitment to advancing sustainable practices and addressing global challenges through accessible, high-quality scientific communication.

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