DOI: https://doi.org/10.34069/AI/2023.61.01.0
How to Cite:
Rojas-Bahamón, M., & Arbeláez-Campillo, D. (2023). Transforming editorial and peer review processes for a digital age. *Amazonia Investiga*, *12*(61), 7-9. https://doi.org/10.34069/AI/2023.61.01.0

Editorial

Transforming editorial and peer review processes for a digital age

Written by:
Magda Julissa Rojas-Bahamón
https://orcid.org/0000-0003-4882-1476
Ph.D. Education and environmeetal culture. Professor IE Jorge Eliecer Gaitán.
Investigation Group: Primmate - Recognized by Ministry of Science, Colombia.
Diego Felipe Arbeláez-Campillo
https://orcid.org/0000-0002-9041-9563
CEO editorial Primmate SAS, Colombia.
Research Group: Languages, Representations and Education, Universidad de la Amazonia, Colombia.

We live in a world where information is generated and disseminated at an unprecedented pace, and science, as a key driver of human progress, is not immune to this phenomenon. In this context, it is crucial that the editorial and peer review processes in scientific journals adapt to ensure agile and efficient communication of scientific advances. In this editorial, we will discuss the need to modernize these processes and propose possible solutions to accelerate the dissemination of knowledge in our society.

The Current Situation

Currently, the review and publication process of a scientific article can take months or even years (Huisman & Smits, 2017). This delay in communicating results can have a negative impact on research and development, especially in rapidly evolving fields such as biomedicine, artificial intelligence, and environmental sustainability (Gibson, 2019). Slowness in the dissemination of knowledge can hinder scientific progress and limit the community's ability to address pressing global problems (Brembs et al., 2013).

A historical example of a similar adaptation is the development of scientific communication during the Scientific Revolution in the 17th century. Gutenberg's invention of movable type printing allowed for rapid and massive distribution of information, leading to an increase in the production and dissemination of knowledge (Eisenstein, 1980). In the same way, we must adapt to the current digital age to ensure that science remains a driver of progress and well-being.

The Need for Change It is evident that the editorial and peer review processes in scientific journals need to be updated to meet the demands of a constantly evolving world (Björk, 2015). Researchers, institutions, and research funders must come together to demand a more agile and efficient approach that allows for rapid dissemination of scientific results (Fyfe et al., 2017). By doing so, not only will scientists' benefit, but society as a whole will also be ensured that knowledge is available in a timely manner and used to address global challenges.

A clear example of the acceleration of scientific processes occurred in 2020. In this year, the COVID-19 pandemic generated an unprecedented increase in the production and dissemination of scientific literature. According to data from the Web of Science database, by December 2020, more than 100,000 articles related to COVID-19 had been published (Zhou & Chen, 2021). This rapid growth in scientific literature was possible thanks to global collaboration among researchers, the adoption of open research approaches, and the streamlining of review and publication processes (Horbach, 2020). The speed in the production and dissemination of scientific information related to COVID-19 allowed the scientific community and decision-makers to quickly address the challenges posed by the pandemic and develop effective prevention, diagnosis, and treatment strategies (Kupferschmidt & Cohen, 2020).

Proposed Solutions

Adopting faster and more transparent peer review systems: By adopting an open peer review

approach, in which the names of reviewers and authors are known to all parties (Ross-Hellauer, 2017), the quality and speed of reviews can be improved, fostering accountability and collaboration among researchers (Wicherts, 2016).

Reviewer Bank: Implementing a "reviewer bank" can be an effective strategy for streamlining the peer review process in scientific publishing. This bank would consist of a database of experts in various disciplines and fields of research who would be willing to participate in manuscript review and actively collaborate in assessing the quality of research. A well-structured and managed reviewer bank would allow scientific journal editors to quickly identify the most suitable and competent reviewers to evaluate a specific manuscript, thereby reducing the time required to find experts and accelerating the overall review process. In addition, this reviewer bank could offer training , resources, and recognition to its members, incentivizing active participation and ensuring quality and efficiency in the peer review process.

Implementation of Artificial Intelligence: Artificial intelligence and machine learning tools can streamline editorial and peer review processes by identifying relevant articles, assigning suitable reviewers, and detecting potential issues in publications (Callaway, 2020). Incentives for reviewers: It is essential to recognize the work of reviewers and offer incentives for performing high-quality reviews within shorter timeframes (Kovanis et al., 2016). These incentives may include public recognition, academic or professional credits, and access to additional research resources (Squazzoni et al., 2017).

Encouraging training and collaboration among reviewers: Training in effective review techniques and promoting collaboration among reviewers can improve the quality and speed of peer review (Pöschl, 2012). Additionally, establishing collaboration networks among researchers and experts in different fields facilitates the review process and allows for a more fluid exchange of knowledge (Stossel, 2006).

A current example of this process is the Publons platform developed by Clarivate. This tool contributes to the promotion of collaboration among reviewers in the peer review sphere. By allowing reviewers to maintain a public record of their contributions and receive recognition for their work, Publons fosters accountability, knowledge sharing, and the formation of networks among reviewers from different fields and disciplines.

Performance metrics for scientific journals: Implementing metrics that assess the speed and efficiency of editorial and review processes can motivate scientific journals to improve their practices (Mongeon & Paul-Hus, 2016). These metrics could also be used by researchers, institutions, and funders to select suitable journals for the publication of their work (Wouters et al., 2015).

Modernizing the editorial and peer review processes in scientific journals is a pressing necessity in a constantly evolving world (Horbach & Halffman, 2018). Adopting more agile and efficient strategies can accelerate the dissemination of scientific knowledge and boost progress in various research areas (Peters et al., 2016). It is crucial that the scientific community, institutions, and research funders unite in this effort to ensure that science remains a driver of development and well-being for humanity (Rennie et al., 2003).

Bibliographic references

Björk, B.-C. (2015). Have the “mega-journals” reached the limits to growth? PeerJ, 3, e981.

Brembs, B., Button, K., & Munafo, M. (2013). Deep impact: Unintended consequences of journal rank. Frontiers in Human Neuroscience, 7, 291.

Callaway, E. (2020). AI curates papers with a little help from its human friends. Nature, 582(7811), 137–138.

Fyfe, A., Coate, K., Curry, S., Lawson, S., Moxham, N., & Røstvik, C. M. (2017). Untangling academic publishing: A history of the relationship between commercial interests, academic prestige

Horbach, S. P., & Halffman, W. (2018). The changing forms and expectations of peer review. Research Integrity and Peer Review, 3(1), 8.

Horbach, S. P. (2020). Pandemic publishing: Medical journals drastically speed up their publication process for COVID-19. Quantitative Science Studies, 1(3), 1056-1067.

Kupferschmidt, K., & Cohen, J. (2020). Race to find COVID-19 treatments accelerates. Science, 367(6485), 1412-1413.

Mongeon, P., & Paul-Hus, A. (2016). The journal coverage of Web of Science and Scopus: A comparative analysis. Scientometrics, 106(1), 213-228.

Peters, D. P., Ceci, S. J., & Plotkin, J. B. (2016). The future of empirical science: New tools for a new age. Behavioral and Brain Sciences, 39, e111.

Pöschl, U. (2012). Multi-stage open peer review: Scientific evaluation integrating the strengths of traditional peer review with the virtues of transparency and self-regulation. Frontiers in Computational Neuroscience, 6, 33.

Rennie, D., Flanagin, A., & Godlee, F. (2003). The Future of Peer Review. BMJ, 327(7414), 564-567.

Stossel, T. P. (2006). The art of peer review. The Scientist, 20(3), 12.

Squazzoni, F., Bravo, G., & Grimaldo, F. (2017). Long- and short-term determinants of the recall of scientific items: Insights from the Web of Science and Scopus data sets. Journal of Informetrics, 11(2), 356-365.

Voytiuk, T. (2022) The invasion of Russia put more than three hundred million people at risk of starvation – Borrell. Suspilne Media.

Wouters, P., Sugimoto, C. R., Larivière, V., McVeigh, M. E., Pulverer, B., de Rijcke, S., & Waltman, L. (2015). The Metric Tide: Literature Review (Supplementary Report I to the Independent Review of the Role of Metrics in Research Assessment and Management). Digital Science.

Zhou, P., & Chen, H. (2021). The swift increase of COVID-19-related literature: Patterns, themes, and the role of preprints. Quantitative Science Studies, 2(1), 367-379.