Revista Electrónica Educare | EISSN: 1409-4258 Vol. 28, Suplemento Especial, 2024: 1-32

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

A Management and Sustainability Model for Diamond Route (Non-commercial Open Access) Scientific Journals of the Universidad Nacional, Costa Rica

Modelo de gestión y sostenibilidad de revistas científicas en vía diamante (Acceso Abierto no comercial) de la Universidad Nacional, Costa Rica

Modelo de gestão e sustentabilidade de revistas científicas da via diamante (Acesso Aberto não comercial) da Universidad Nacional, Costa Rica

Andrea Mora-Campos
Universidad Nacional
https://ror.org/01t466c14
Vicerrectoría de Investigación
andrea.mora.campos@una.ac.cr
https://orcid.org/0000-0001-9813-2674

Liana Penabad-Camacho
Universidad Nacional
https://ror.org/01t466c14
Revista Electrónica Educare
liana.penabad.camacho@una.ac.cr
https://orcid.org/0000-0001-9381-182X

María Amalia Penabad-Camacho
Universidad Nacional
https://ror.org/01t466c14
Instituto de Estudios de la Mujer
maria.penabad.camacho@una.ac.cr
https://orcid.org/0000-0002-5095-5775

Andrea Mora; Liana Penabad; María Amalia Penabad; María Fernanda Vega; María Milagro Castro; Nidya Nova; Mónica Ulate; Andrea Méndez; Yuri Morales; Gerardo Cerdas

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

María Fernanda Vega-Solano
Universidad Nacional
https://ror.org/01t466c14
Revista Economía y Sociedad
maria.vega.solano@una.ac.cr
https://orcid.org/0000-0002-8104-8596

María Milagro Castro-Solano
Universidad Nacional
https://ror.org/01t466c14
Revista ABRA
Revista Economía y Sociedad
maria.castro.solano@una.ac.cr
https://orcid.org/0000-0002-0516-5352

Nidya Nova-Bustos
Universidad Nacional
https://ror.org/01t466c14
Revista Ciencias Marinas y Costeras
nidya.nova.bustos@una.ac.cr
https://orcid.org/0000-0003-1966-0415

Mónica Ulate-Segura
Universidad Nacional
https://ror.org/01t466c14
Revista Perspectiva Rurales
monica.ulate.segura@una.ac.cr
https://orcid.org/0009-0005-7740-4980

Andrea Méndez-Solano
Universidad Nacional
https://ror.org/01t466c14
Revista de Historia
andrea.mendez.solano@una.ac.cr
https://orcid.org/0000-0001-5326-2088

Yuri Morales-López
Universidad Nacional
https://ror.org/01t466c14
Revista Uniciencia
yuri.morales.lopez@una.ac.cr
https://orcid.org/0000-0002-2973-4038

Gerardo Cerdas-Vega
Universidad Nacional
https://ror.org/01t466c14
Revista Perspectiva Rurales
gerardo.cerdas.vega@una.ac.cr
https://orcid.org/0000-0003-3912-4193

Received • Recibido • Recebido: 01 / 07 / 2024
Revised • Corregido • Revisado: 29 / 11 / 2024
Accepted • Aceptado• Aprovado: 04 / 12 / 2024

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Abstract

Objective. Describe the construction stages of a structure that organizes good practices derived from the design of a management and sustainability model for Diamond (Non-commercial Open Access) scientific journals of the Universidad Nacional de Costa Rica. **Introduction.** An assessment of the Latin American, Costa Rican, and institutional contexts was carried out on aspects related to policies on open knowledge during the last 20 years. The institutional route and its chronological record that show the evolution of editorial management of the journals since the creation of the first of these publications, approximately 50 years ago are described. **Management model.** The development of the scientific journal management model is described considering the conceptualization, guiding principles, work team, support and advisory bodies, financial sustainability, and monitoring and evaluation of the journals. **Results.** The model's innovation, adaptability, and alignment with international standards stand out, as well as collaborative work, strategic planning, and institutional protection, all of which led to the creation of tangible products including regulations and a manual of procedures. **Conclusions.** A capacity for adaptability in the editorial management of scientific journals is crucial for scientific and social progress. This model promotes sustainability and editorial quality with an emphasis on the diamond path, Open Science, and student inclusion, and its international impact has been recognized in promoting science as a public good and resistance to models based on Article Processing Charges (APC). **Recommendations.** The recommendations are organized with reference to the different sectors that manage scientific communication, highlighting the importance of promoting Non-commercial Open Access, generating venues to discuss the financial sustainability of open knowledge editorial management, and other spaces for international cooperation. Finally, the recognition of scientific communication as a public good must be accompanied by concrete actions that ensure adequate and stable resources that allow maintaining quality editorial management and promote ethical and transparent practices.

Keywords: Scientific journal; editorial management; open knowledge; non-commercial Open Access.

SDG: SDG 4; Quality education; SDG 16; Peace, justice and strong institutions; right to information.

Resumen

Objetivo. Presentar las etapas de construcción de una estructura que organiza las buenas prácticas derivadas del diseño de un modelo de gestión y sostenibilidad de revistas científicas en vía diamante –acceso abierto no comercial– en la Universidad Nacional, Costa Rica. **Introducción.** Se realiza una valoración del contexto latinoamericano, costarricense e institucional en cuanto a las políticas sobre el conocimiento abierto de los últimos 20 años. Por lo que se describe la ruta institucional y el registro cronológico que muestra la evolución de la gestión editorial de las revistas desde la creación de la primera hace 50 años, aproximadamente. **Modelo de gestión.** Se detalla la elaboración del modelo de gestión de las revistas científicas en el cual se toman en cuenta la conceptualización, los principios orientadores, el equipo de trabajo, las instancias de apoyo y asesoría, la sostenibilidad financiera y el monitoreo y la evaluación de las revistas. **Resultados**. Destacan la innovación, adaptabilidad y alineación con estándares internacionales del modelo, además del trabajo colaborativo, la planificación estratégica y la protección institucional, lo que principalmente, conlleva a la creación de productos tangibles como un reglamento y un manual de procedimientos. **Conclusiones**. La capacidad de adaptación en gestión editorial de las revistas científicas es crucial para el progreso científico y social. Este modelo promueve la sostenibilidad y calidad editorial con énfasis en la vía diamante, la Ciencia Abierta y la inclusión estudiantil, además se reconoce su impacto internacional en la promoción de la ciencia como bien público y en la resistencia a modelos basados en *Article Processing Charges* (APC). **Recomendaciones.** Están organizadas según los diferentes sectores

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

que gestionan la comunicación científica, donde se destaca la importancia de que promuevan el acceso abierto no comercial, generen espacios para discutir la sostenibilidad financiera de la gestión editorial del conocimiento en abierto y creen espacios para la cooperación internacional. Finalmente, reconocer la comunicación científica como un bien público, debe estar acompañado de acciones concretas que aseguren recursos adecuados y estables que permitan mantener la gestión editorial de calidad y promuevan prácticas éticas y transparentes.

Palabras clave: Revista científica; gestión editorial; conocimiento abierto; acceso abierto no comercial.

ODS: ODS 4; Educación de calidad; ODS 16; Paz, Justicia e instituciones sólidas; derecho a la información.

Resumo

Objetivo. O objetivo deste *policy report* é apresentar as etapas de construção de uma estrutura que organiza as boas práticas derivadas do desenho de um modelo de gestão e sustentabilidade de revistas científicas diamante –em acesso aberto não comercial– na Universidad Nacional, Costa Rica. **Introdução**. Na introdução, é feita uma avaliação do contexto latino-americano, costarriquenho e institucional em relação às políticas sobre conhecimento aberto nos últimos 20 anos. Assim, descreve-se a rota institucional e o registro cronológico que mostra a evolução da gestão editorial das revistas desde a criação da primeira há cerca de 50 anos. **Modelo de gestão.** Detalha-se a elaboração do modelo de gestão de revistas científicas, no qual são consideradas a conceptualização, os princípios orientadores, a equipe de trabalho, as instâncias de apoio e assessoria, a sustentabilidade financeira e o monitoramento e avaliação das revistas. **Resultados**. Destacam a inovação, adaptabilidade e alinhamento com padrões internacionais do modelo, além do trabalho colaborativo, planejamento estratégico e proteção institucional, o que principalmente leva à criação de produtos tangíveis como regulamentos e manuais de procedimentos, entre outros. **Conclusões.** Apontam que a capacidade de adaptação na gestão editorial de revistas científicas é crucial para o progresso científico e social. O modelo promove a sustentabilidade e qualidade editorial com ênfase na via diamante, na Ciência Aberta e na inclusão estudantil, além de reconhecer seu impacto internacional na promoção da ciência como bem público e na resistência a modelos baseados em *Article Processing Charges (APC)*. **Recomendações.** Estão focados nos diferentes setores que gerem a comunicação científica, onde se destaca a importância de promover o acesso aberto não comercial, gerando espaços para discutir a sustentabilidade financeira da gestão editorial do conhecimento aberto e criando espaços para a cooperação internacional. Finalmente, o reconhecimento da comunicação científica como um bem público deve ser acompanhado de ações concretas que garantam recursos adequados e estáveis que permitam manter uma gestão editorial de qualidade e promovam práticas éticas e transparentes.

Palavras-chave: Revista científica; gestão editorial; conhecimento aberto; acesso aberto não comercial.

ODS: ODS 4; Educação de qualidade; ODS 16; Paz, justicia e instituições eficazes; direito à informação.

Introduction

Among Central American countries, Costa Rica stands out for its successful and innovative management of scientific journals, which facilitates broad access to knowledge generated at the national and international level. Public universities, financed with state funds, lead

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

the processes of continuing education and professionalization in scientific publishing, which has favored the adoption of good practices in the communication of science.

In particular, the Universidad Nacional de Costa Rica, hereinafter UNA-CR, with a strong commitment to Open Access (OA), has formalized a Diamond (Non-commercial Open Access) management model for the dissemination of knowledge derived from academic and scientific production supported by a strategy for implementation of Open Science (OS) (Universidad Nacional, 2023b).

This model conforms to the practices of the Global South regarding the communication of science (Universidad Nacional, 2023b). According to the Toluca Manifesto (Global Summit on Diamond Open Access, 2023), these practices promote equity, inclusion, and sustainability, characteristics that are necessary to communicate knowledge in an accessible and collaborative fashion. It also recognizes the historical experience of Latin America as a point of reference for building an open scientific ecosystem that, as a result of the distortions experienced by the original movement, "has been forced to adopt new names to distinguish commercial from non-commercial solutions" (Global Summit on Diamond Open Access, 2023, paragraph 3).

According to Becerril García (2022), the Open Access diamond (also known as platinum) refers to the non-commercial publication model, in which material is published "that is available online in digital format, being free for readers and authors" (Becerril García, 2022, Favoring communication channels, par. 3). UNA-CR has incorporated Open Science (OS) practices into the procedures of its 27 scientific-academic journals, facilitating various publication tools and strategies for the university community, especially for researchers.

This model links three aspects that are relevant for the communication of science in the Latin American regional context:

- The university's institutional commitment to responsible adoption of the use of Open Science as a non-commercial model of scientific communication.
- The normalization and legitimization of the role of the editor, with an academic profile and a salary, as a responsible figure, driver and manager of scientific communication within the framework of Open Science.
- The creation of institutional regulations to support, formalize, protect and promote sustainability of the previous two points.

This policy report (a performance report according to the COAR nomenclature, 2024) is intended to portray the most relevant aspects of the process of creating the management and sustainability model for scientific journals on the diamond track (Non-commercial Open Access) at the UNA-CR. This model emerged with the appearance of the concept of Open Access in the work of journals at the beginning of the 21st century, and was

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

consolidated with the formalization of normative and procedural criteria established at that university. The usefulness of this document lies in showing a successful case of sustainability of diamond journals, replicable in other countries.

On the other hand, this model coincides with other discussions and proposals on the topic of Open Access and the non-commercialization of knowledge that are being developed in parallel – such as the 1st Global Summit on Diamond Open Access, in Toluca, Mexico, 2023 (Simard et al., 2024) and the Operational Diamond Open Access Criteria for Journals developed by DIAMAS and CRAFT-OA (Armengou et al., 2024) – which highlight relevant aspects for the practice of Open Access such as the recognition of knowledge as a public good driven by the community, free of charge for authors and readers (Armengou et al., 2024; Simard et al., 2024).

This document includes contextualizations at the local, national and international levels, as well as aspects of the consolidated model, including identification of the instances involved, the time required for their creation, their financial sustainability, and their monitoring and evaluation. Methodologically, a reconstruction of events was carried out that involved consulting key experts, a documentary review, and mapping and graphing of processes. This reconstruction, based on collective memory, makes it possible to analyze and recognize the fundamental historical aspects that gave rise to the current model, where international reality and institutional response converge. This analysis of both the past and the present provides a prospective perspective necessary for the successful management of journals in the immediate and medium-term future.

Context of the model

The adoption of Open Access practices in institutional journals is based on a series of statements in various international declarations that call for transparent, traceable, and reproducible practices in research and the communication of knowledge. Figure 1 summarizes these foundational declarations at an international level and shows how they are articulated with other milestones in the Costa Rican national and local university context.

International context

The impact of SciELO, RedALyC, Latindex and DOAJ on editorial management in Latin America (2002, a year for Open Access; 2018, a year for Open Science)

Latin America has various information and indexing systems for scientific journals, conceived as an alternative to the European or North American perspective on knowledge management. These systems, together with the Directory of Open Access Journals (DOAJ), establish criteria for the adoption of a new vision for best editorial practices within the framework of Open Science.

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

These systems have clearly identified the gaps that journals had in their editorial practices and promoted tools to remedy these deficiencies. In this sense, they have created conditions and opportunities to establish Open Access as the way to communicate knowledge. Table 1, based on institutional editorial experience, identifies the contributions and potential of these indexers, highlighting that the years 1997 and 2003 are decisive moments for the consolidation of efforts related to the systematization, standardization and evaluation of scientific communication with a clear positioning in favor of Open Access that is consistent with the declarations of Budapest-2002 (BOAI, 2002; 2012; 2017; 2022), Bethesda-2023 (Brown et al., 2003) and Berlin-2003 (Initiatives of the Max Planck Society, 2003).

In the year 2018 the efforts and calls of Latin American regional indexers converged once again to chart a route towards the next level in the process of sharing Open Access knowledge by promoting updated, rigorous criteria focused on open practices. These indexing entities proposed that scientific journals move towards Open Science and expand the range of actions that each journal should consider for sharing their publications (see Table 1). Among these actions, the following recommendations stand out: adoption of the *Transparency and Openness Promotion (TOP) Guidelines* (Nosek et al., 2014), use of persistent identifiers, sharing data sets, incorporation of preprints into the publication scheme, adoption of models such as publication after approval, continuous publication and open peer review.

As a whole, these indexers have strengthened the quality of editorial processes, adoption of Open Access and protection of the publication structures of scientific journals in Latin America, especially those that are non-commercial.

National context

According to the provisions of the Political Constitution of Costa Rica, in its articles 78, 84 and 85, the State must be the guarantor of the financing of public university education (Republic of Costa Rica, 1949). This translates into investment for training, research and outreach (actions aimed at having a direct impact on the Costa Rican population). In this sense, Costa Rican research has historically been led by public universities, which enables them to carry it out without the mediation of a public or private agency for the promotion of science and technology, as is the case in other countries. In the period 2020-2022, between 54% and 64% of the national investment in scientific and technological activities was carried out by the academic sector (Ministry of Science, Innovation, Technology and Telecommunications [MICITT], 2022, graph 2.2, p. 40).

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Table 1: Contributions of key indexers in the Latin American context from their origins until 2018

Indexer	Objective	Contribution
Latin American Index of Scientific Serial Publications, known as LATINDEX, founded in 1995-1997	Coordinates actions for the collection, processing, dissemination, use and production of Latin American scientific information published in journals and monographic series in Latin American countries. (Latindex, n.d., General Objective, par. 1)	**The Base, the editorial starting point** Establishes a common base of good editorial practices that has contributed to the improvement of the quality of the journals registered in its catalogue
Scientific Electronic Library Online, known as SciELO, founded in 1997	Promote the visibility and availability of full-text online, in addition to the use and impact of research communicated through quality journals published nationally. SciELO's position on Open Access made it a pioneer in Latin America and the Caribbean (Packer, 2021)	**The Technical Pioneer** A pioneer in technical aspects related to implementing digitalization of Open Access through its work on the standardization of article data and the use of XML. In 2018, it positioned Open Science through the use of preprints and data management.
Network of Scientific Journals of Latin America and the Caribbean, Spain and Portugal, known as RedALyC; founded in 2003	Integrate high-quality scientific and editorial journals from the region into its index. After 16 years of giving visibility and supporting the consolidation of journals, it now exclusively integrates those that share the non-profit publication model to preserve the academic and open nature of scientific communication from any region (RedALyC, n.d., About Redalyc, par. 1).	**Leader in the creation of the Latin American identity of non-commercial open access** The unifying force and builder of the Latin American identity in Open Access for non-commercial journals. In addition, it established bridges with Africa, which shares common elements with Latin America in the management of journals, helping to consolidate a model of the Global South
Directory of Open Access Journals, known as DOAJ; founded in 2003	Increase the visibility, accessibility, reputation, usage and impact of quality, peer-reviewed, open access journals published worldwide regardless of discipline, language or country of origin (DOAJ Open Global Trusted, n.d.a)	**The Validator** Re-emphasizes the recommendations of Budapest and provides a directory that constitutes a reference for good Open Access practices

Note: Prepared by the Authors.

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

The National Council of Rectors (CONARE) is an organization that links the actions carried out by Costa Rica's five public universities in Research, Teaching or Social Action. In carrying out its multiple functions, CONARE works through groups called commissions, subcommissions, teams and networks that articulate its work (National Council of Rectors, 2020). In 2011 the Subcommission of Journals and Repositories was created; it is currently known as the Open Science Subcommission of CONARE, which has representatives from the five state universities.

This subcommission has been in charge of managing the collaborative creation of Open Science technological infrastructure, specialized continuing education on the subject, and, in the specific case of journals, promotion of their quality. Likewise, the good practices generated in this subcommission have been replicated in other Latin American countries and have extended the collaboration network of this working group.

For Costa Rican scientific journals, this initiative was fundamental, since the training of editors advanced the adoption of good practices and contributed to the consolidation of management models of institutions such as the UNA-CR. Another factor that contributed to the consolidation of this model was the recognition of journals as venues for scientific communication, managed by the Vice-Rectory for Research (CONARE, 2020). In keeping with this model, in 2023 the UNA-CR, with the support of its Vice-Rectory for Research, consolidated the management and regulatory model for scientific journals that this policy report presents.

According to information on their Web portals, the five public universities that make up CONARE currently publish 99 scientific journals, 97 of them under the diamond model (Non-commercial Open Access), which clearly shows the consolidation and penetration of Open Access and Open Science in the country. The two publications that do not use the diamond model include charges for additional material (60 USD to 75 USD). These publications can be seen in the Kímuk National Repository (CONARE, n.d.) which, as part of its collection, gathers information from all the portals of scientific-academic journals (and other intellectual products) of these state universities.

Institutional context

National and regional policies and regulations related to Open Science that underpin the model

Costa Rica faces the challenge of consolidating a national policy related to Open Science. In this context, between 2021 and 2023, several regional and Costa Rican declarations aligned to orient guidelines for Open Science; notable examples include the United Nations Educational, Scientific and Cultural Organization (UNESCO) *Recommendation on Open Science* (UNESCO, 2021) and the *Declaration 10 Years of LA*

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Referencia: Towards a Non-Commercial Open Science Ecosystem, Latin American Open Science Network and Spain (LA Referencia, 2023). Within this framework, the Central American University Council (CSUCA) consolidated its *Open Science Declaration* (CSUCA, 2023), which was signed by the 25 public universities that comprise it and that represent nine countries in Central America and the Caribbean. Finally, at the national level, the *CONARE Open Science Declaration* (CONARE, 2024) was formalized. These declarations advocate Non-commercial Open Access (which includes the diamond and green routes) and the declaration of publicly funded knowledge as a public good.

The institutional work of UNA-CR in journal management

In the case of the UNA-CR, substantive actions promote various practices and foster dialogue between knowledge in an innovative, systematic and transformative way. Currently, this is carried out through four interrelated modalities: teaching, outreach, research and production, as established by the Organic Statute of this university (Universidad Nacional, 2016).

Scientific journals are part of the substantive actions of universities that allow them to articulate, promote, integrate and project results of the academic and scientific work of different manifestations of knowledge both within a country and in different parts of the world. They also facilitate the collection, analysis and dissemination of knowledge (Universidad Nacional, 2023c; Latindex, n.d.; Confederation Open Access Repositories, 2022). These media also demonstrate the adoption of good international practices in terms of the quality of editorial management that contribute to the internationalization of knowledge, its preservation and its availability to the public.

Currently, their functions, scope and impact transcend the traditional concept of an academic journal, since they also promote social development, dissemination and democratization of knowledge, culture and knowledge dialogue. They also contribute to the culture of intellectual, academic and scientific production, allowing the convergence of academic knowledge generated in various regions. This assists in achieving the ultimate goal of a public institution such as the UNA-CR: the common good and people's quality of life.

Faced with the characteristics of an international environment of accelerated change and a local context that requires dissemination of institutionally generated knowledge, the UNA-CR developed regulations (Universidad Nacional, 2023c) for management of scientific journals that articulate these two realities and allow academic institutions (schools, research institutes or faculties) to support these publications with their own economic resources, to allow, in general:

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

- Consolidating the diamond or Non-commercial Open Access model by exempting authors and readers from payments and freeing access to knowledge from commercial barriers.
- Respecting the disciplinary diversity of each journal and seeking a common base of good practices, but, above all, respecting the need for independence and autonomy in editorial management.
- Formalization of the roles of journal management, especially that of the editor, for the purpose of enhancing the international reach of each publication, promoting transparency in editorial management, increasing the use of communication technologies, and providing stability to those responsible for articulating the medium- and long-term strategies of each publication.
- Direct participation in the institutional mechanisms for monitoring and strengthening scientific-academic publications.
- Promotion of inter-institutional coordination and facilitation of the definition of roles between the key entities that make each publication possible.
- Learning more about the specific contributions of the UNA-CR to knowledge, society and people's quality of life.

This transformation and consolidation of the model involved a consideration of the experience of more than five decades in journal management. This process can be observed in the following critical path, which is complemented by the chronological record of the actions that led to formalization of the knowledge management model through Open Access, as illustrated in Figure 1.

Critical path that establishes the importance of the model

The process of evolution from a traditional publication structure to the current UNA-CR model can be divided into three periods.

Beginning (1973-2003)

- Editorial products, mainly printed with support from the UNA-CR Publications and Printing Program (E. Álvarez and E. Quirós, personal communication, February 7, 2024).
- Journals financed by the institution or by the sale of their printed product.
- Journals with a highly local focus
- Journals without personnel turnover plans and dependent on a single responsible person.

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

- Little or no knowledge of digitalization of scientific communication.
- Management of journal publication guided by existing institutional regulations focused on publishing books.

Transition (2004-2012)

- Scaled process of digitalization marked by the appearance of MHSalud, the first natively electronic journal of the UNA-CR.
- Electronic formats considered as secondary or complementary. It was not until 2011 that the use of the Open Journal System (OJS) (Public Knowledge Project, n.d.) was formalized for institutional journals through the Institutional Journal Portal (M. Flores and M. E. Restrepo, personal communication, February 9, 2024). To assist in this transition, the Information and Communication Technologies Directorate (DTIC) trained journal staff (M. Moreira, personal communication, February 7, 2024).
- Training to enhance good editorial management practices and digitization of journals by Latindex Costa Rica and Redalyc.
- Implementation of more stable funding channels, through the institutional figure of the outreach-research project, which assigns paid hours to the editing role.
- Articulation between the Vice-Rectory for Outreach (VE) and the Vice-Rectory for Research (VI) as institutional governing bodies between 2005 and 2010, to create guidelines that would assist in improving the quality of journals and their monitoring (M. Flores and M. E. Restrepo, personal communication, February 9, 2024).

Consolidation (2013-2020)

- Increased training for indexers to improve journal management and the use of technology.
- Journals focus their production on electronic media, and the number of printed products is reduced (E. Álvarez and E. Quirós, personal communication, February 7, 2024).
- Publication formats are extended to include HTML, EPUB, Audio, and XML markup.
- The Publications and Printing Program provides complementary services to journals such as layout, printing, marking, and philological revision in Spanish (E. Álvarez and E. Quirós, personal communication, February 7, 2024).

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

- Some regional indexers call for consolidating actions in favor of Open Science, particularly through the use of preprints, which stimulates institutional debate, forcing journals to adopt these new practices of scientific communication.
- The need for collaborative work is evident to promote specialization in competitive editorial knowledge, nationally and internationally, and facilitate a responsible and efficient use of available resources.
- In this consolidation process, editors organize decision-making and establish a medium- and long-term vision of the nature of publications under his or her charge.
- In accordance with other good practices of Non-commercial Open Access managed by the UNA-CR, self-deposit (green route) of the products of substantive work is promoted through specialized regulations both for the development of programs, projects and academic activities (Art. 44, Universidad Nacional, 2024c) and for final graduation works (Art. 90, Universidad Nacional, 2023d).

The model (2021-2024, see Figure 2)

- The evolution of knowledge in editorial management at the UNA-CR has enabled the creation of an open and non-commercial publication model, whose procedures guide the strategy and knowledge dissemination within the framework of Open Science.
- The Vice-Rectory for Research coordinates institutional processes related to scientific communication, supports journals with resources, coordinates institutional representation in CONARE, and develops other international initiatives in the field of Open Science.
- The Publications and Printing Program works with 80% of institutional journals, offering style review services, diversified layout to promote continued publication, XML tagging, and printing on demand for journals that request it (E. Álvarez and E. Quirós, personal communication, February 7, 2024). The remaining journals carry out these tasks using their own funds or means.
- The Directorate of Information and Communications Technologies (DTIC) manages the technological maintenance of the journal portal.
- EUNA, the institutional publisher, provides specific services and criteria for journals that wish to obtain the distinction of the EUNA's editorial seal.
- The following institutional rules and definitions were published in 2023:
    - Open science strategy of the Universidad Nacional (Universidad Nacional, 2023b).
    - Regulations for the management of academic and scientific journals of the Universidad Nacional (Universidad Nacional, 2023c).

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Challenges faced

To implement the UNA-CR journal management model, the institutional reality and the international context were taken into account when addressing the dynamics of global scientific communication from the existing structure. This process involved recognition of an emerging institutional scientific publication structure that considers the following:

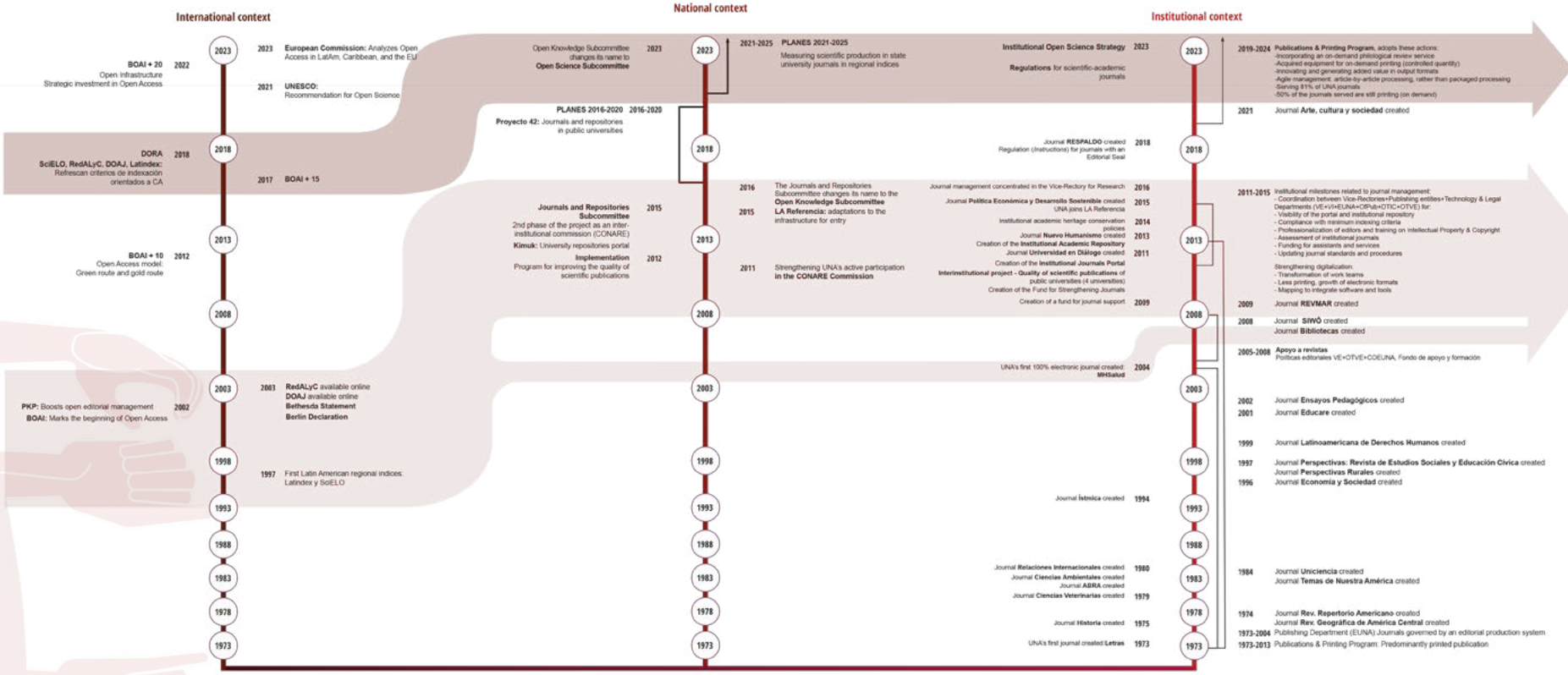
- Assessment of new needs within the framework of electronic publishing.
- Searching for financial support and human and material resources to manage publication.
- Recognition of, and respect for, thematic diversity and its scientific communication
- Facilitation, improvement or refining of administrative processes.
- Identification of inconsistencies rooted in traditional practices and re-alignment of affected regulations.
- Professionalization, continuity and job stability of those responsible for editorial management.
- Construction of a collaborative community among editors.
- Consolidation of the structure that emerged institutionally to address the needs of journals, and which today is a formalized structure.

Development of the scientific journal management model

A collaborative methodology was developed for the construction of the model and regulation of the journals, which encouraged the participation of all editors, the Legal Advisory Department, the Department of Information and Communications Technologies, the Publications and Printing Program, the UNA-CR Press and international specialists in editorial management of scientific journals and Open Science. Examples of these instances include LATINDEX, RedALyC, SciELO, LA Referencia, the Directory of Open Access Journals (DOAJ) and OpenAIRE.

The process of developing the Model and the Regulations for Journals took at least four years, and included multiple workshops, consultations and work sessions aimed at writing the text. Subsequently, the results were submitted for validation and approval by university decision-making bodies.

Figura 1: Contexto internacional, nacional e institucional.



Nota: Elaboración propia. Para navegar la imagen visite el siguiente enlace: https://repositorio.una.ac.cr/handle/11056/27840

Revista Electrónica Educare | EISSN: 1409-4258 Vol. 28, Suplemento Especial, 2024: 1-32
https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Characterization of the model

The following sections describe the elements that make up the Journal Management Model of the Universidad Nacional de Costa Rica.

Conceptualization and positioning

Conceptualization involves revision, reflection and self-criticism that guides the present and future of the institution's stance on journal management. For each journal, it implies reviewing its role in the institution and how it responds to the need for knowledge management. One of the contributions of this model is the possibility of articulating the work of journals through principles that were formalized in the Journal Regulations (Universidad Nacional, 2023c), which allows the standardization and consolidation of good practices.

The UNA-CR recognizes that journals with scientific-academic scopes are part of its university work, that they have strategic importance in returning value to society, and that they must promote the democratization of knowledge, good practices and the adoption of quality criteria (Universidad Nacional, 2023c). These publications must be governed by the principles of Open Access and knowledge dissemination within the context of Open Science. They must also integrate preservation and traceability in the use of information into their work.

Guiding principles

The following principles guide the construction of the model.

Open access: Understood as the free and open availability of scientific content with no barriers other than lack of Internet access (BOAI, 2002).

Reciprocity: Refers to the necessity for collaboration between journals from different institutions and guarantees publication without charge for reception, processing or publication. For each author from an external institution that publishes under these conditions in a UNA-CR journal, there will be a journal in another institution that receives publications from UNA-CR authors under the same conditions. This reciprocity does not require prior or formal agreements between institutions or journals; rather, it is a natural, organic and fluid exchange of publications that share the same principles and best practices of knowledge management in Open Access.

Relevance: Consistency with institutional mission and priorities and with the needs of journal users.

Independent editorial management: Refers to the independence of criteria for the management of internal policies that guarantee fulfillment of academic objectives, and the respective quality management mechanisms in each journal.

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Quality: Compliance with local and international standards, which consider the particularities of each area of knowledge, as well as institutional, national and international conventions on quality, rigor and transparency of scientific communication. The quality of scientific publication is managed by its different actors and the roles they play (e.g. editing, authorship, refereeing).

Sustainability: Expressed in different dimensions, including editorial, operational and financial management, which guarantee permanence over time, preservation of knowledge, and the fulfillment of journals' missions.

Work teams and managerial independence

Each UNA-CR journal has a minimum structure made up as follows (Universidad Nacional, 2023c, p.12):

a) A person responsible for editorial management, with a salaried academic appointment.

b) An editorial board.

c) One or more advisory boards.

d) A bank of external peer reviewers, without prejudice to the possibility of creating other positions, such as associate editor or director, as necessary and at the discretion of the affiliated entity and the person responsible for editorial management or with the editorial board, as necessary.

A basic structure of this type guarantees the minimum of uniformity necessary for all journals and, on this basis, organizes an approach to management which, independently and in accordance with the conditions of its affiliated instance, responds to the specific needs of each discipline. To assure the existence of common basic elements, the fundamental functions of these bodies and roles are defined in the Journal Regulations.

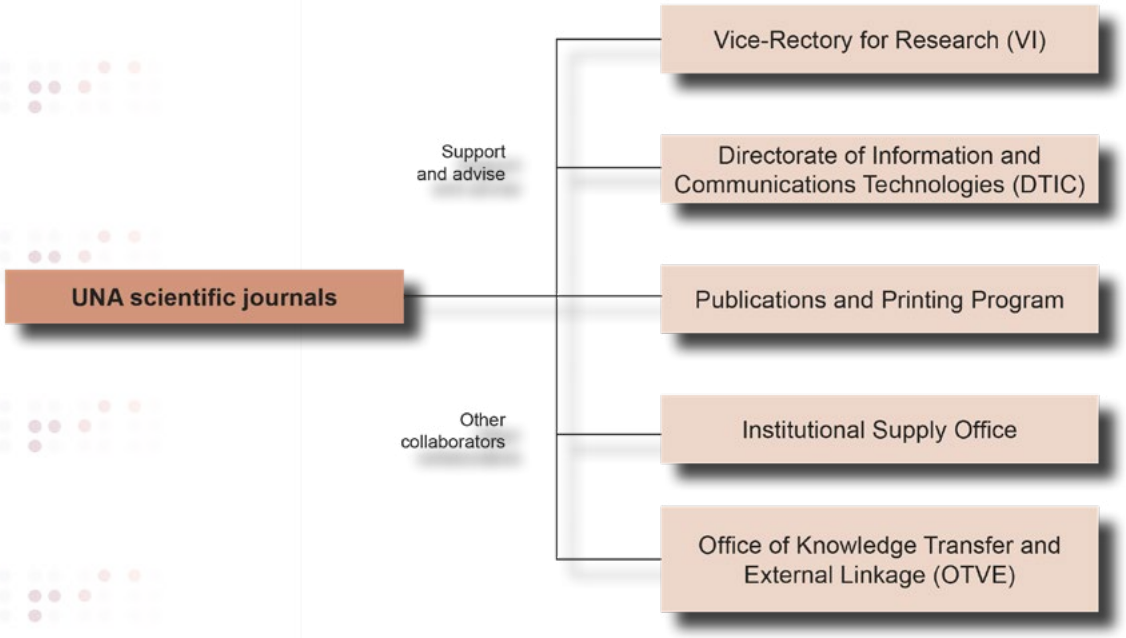
However, in exercising its management independence and autonomy, each journal defines its own internal operating policies, identifies the tools to achieve administrative efficiency, and establishes strategies to manage the resources necessary for timely fulfillment of its objectives (Universidad Nacional, 2023b). Also, within the framework of this management independence, each journal establishes its own indexing strategy and the appropriate times to participate in these information systems.

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Support and advisory bodies

The Journal Regulations (Universidad Nacional, 2023c) define mechanisms for articulating the actions of institutions by first identifying the actors that participate in the journal management process (See Figure 2):

Figure 2: Actors that participate in academic management of scientific journals



Note: Adapted from the Rules for the Regulation of Academic and Scientific Journals of UNA (UNA, 2023c).

The explicit mention of these actors does not exclude the future incorporation of other instances, as required (Universidad Nacional, 2023c).

Financial sustainability

The financial sustainability of scientific publications has historically been limited; it was only during the Transition and Consolidation phases (mentioned in the previous section) that the institution's funding allocations were more clearly identified, at some times with direct support from CONARE funds (CONARE, 2015; Restrepo Salazar & Flores Abogabir, 2015). It is important to note that, although there are limitations, the UNA-CR owns all of its current 28 scientific-academic journals, which gives it autonomy in their administration, and allows these journals to distance themselves from practices related to Article Processing Charges (APC) and to rather operate under the model of Non-commercial Open Access.

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

These practices revive and implement the good practice of transparency in the reporting of funding for scientific communication, as promoted by other sources such as DORA (2012), DIAMAS (Armengou et al., 2024), DOAJ (n.d.b) and the Toluca Manifesto (Simard et al., 2024).

As Table 2 shows, journal funding covers the following items (Universidad Nacional, 2023a; 2023b):

- The editorial management team (editor-in-chief or other actors depending on the availability of the entity that manages each journal).
- Student assistant hours (a stimulus mechanism for regular and outstanding students of the university who participate in academic processes with paid hours (Universidad Nacional, 2024d).
- Hiring of specific services for publication.
- Structural aspects of the operation and maintenance of a journal.

Monitoring and evaluation of journals

The UNA-CR has defined procedures for creating, monitoring and evaluating journals; when a journal is created, it must be registered in the Institutional Research Management System, which includes the virtual platform and the institutional database. The objective of this process is to generate a traceable and transparent route for management of the journals and fulfillment of their individual objectives; it also allows monitoring of the budget allocation for each publication. Subsequently, a six-year management work plan must be created, prepared by each person responsible for a journal, and every two years, a report must be presented that will be evaluated by a committee composed of authorities from the entity to which the publication is attached and two external evaluators specialized in editorial management. An additional opinion from the Vice-Rectory for Research, which is optional, may also be provided. At the end of the six years, a new plan will be formulated for the following six-year period (Universidad Nacional, 2023c).

The UNA-CR also has an Institutional Journal Management Commission (CIGR), made up of a representative from each publication and the institutional entities involved, with approximately 30 members, although participation as guests of representatives of other departments may occur as required. This Commission is responsible for generating an Institutional Plan for Strengthening Academic and Scientific Journals (Institutional Journal Management Commission, Universidad Nacional, 2024), which allows for agile coordination of actions between journal editors and other supporting entities, as well as the identification of needs and challenges that journals face in search of greater impact, quality and visibility, in a collaborative manner:

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Table 2: Standard resource investment in scientific journals

Concept	Investment in dollars[1]	Type of resource
Editor(s) salary	400 USD per month (base salary)[2] 40 hours per month (10 hours per week dedicated to editorial management)	People who fill the editing position can dedicate from 10 to 30 hours of their entire work schedule. Journals have an average of 20 hours per week dedicated to editorial management. Resources to hire editors come from the entities in charge of these journals (UNA, 2024a).
Student(s) salary	200 USD per month, 40 hours per month (10 hours per week dedicated to student support).	Each journal has a minimum of 10 hours of student assistance per week. Student assistants are also exempt from the cost of tuition and can be placed in three classifications that translate into an increase in the value of the hours that they work. A maximum of 20 hours per student can be assigned per week (UNA, 2024a). To be an assistant, a student must earn a minimum grade, not have pending hours with other entities, and meet the profile required by the journal.
IT staff salary (Journal Portal Administrator)	90 USD per month[3] 8 hours per month (2 hours per week dedicated to basic portal maintenance)	For portal maintenance, it was determined that 2 hours per week cover the basic needs of monitoring, updating, tracking, and responding to specific queries from editors. When processes such as migrations and updates are carried out, it is necessary to increase the weekly working hours (UNA, 2024a).
Academic Advisor/ specialist in scientific journal management salary	400 USD per month[4] 40 hours per month (10 hours per week dedicated to editorial management)	This person dedicates, on average, 10 hours per week to consulting on journal management. When attending training and interdepartmental coordination, it is necessary to increase weekly working hours (UNA, 2024a).
Equipment (computer)	1,000 USD per device	At least one computer per journal: monitor, central processing unit, keyboard, mouse (UNA, 2024b). Demand may increase depending on the entity that manages each journal.
350 words, on average, for translation of metadata into English and Portuguese	0.06 USD per reviewed word 0.08 USD per translated word 21 USD per standard abstract review (1 language) 28 USD per standard abstract translation (1 language)	The metadata reviewed or translated includes title, abstract, and keywords per article; 3 to 30 articles per issue (Costa Rican Association of Professional Translators and Interpreters [ACOTIP], 2024).
Style review in Spanish	2 USD per page 50 USD per article	An average article has 25 to 30 pages that include all the sections of the article.
Content layout (PDF, HTML, EPUB and XML)	448 USD per article	An average article has 25 to 30 pages. The indicated value includes the preparation or layout of interactive PDF, HTML, Audio, EPUB and XML, which represents 16 hours.
PID (Persistent Identifier) and DOI (Digital Object Identifiers) Membership	469 USD (activated DOIs) 275 USD annual Crossref membership	The price cited is for 2023 and covers all the journals in operation at the time (27).
Training (paid, as part of regular duties and ad honorem)	6,000 USD per year (available amount)	The available amount is approximately sufficient for travel expenses for the visits of 2 specialists per year. It is important to note that most of the training is provided by experts on an ad honorem basis. The quantity and diversity of training that an editor may request is considered difficult to quantify.

[1] Según el tipo de cambio del Banco Central de Costa Rica, con fecha: 25 de marzo del 2024, 505.68 colones equivale a USD 1. https://gee.bccr.fi.cr/indicadoreseconomicos/Cuadros/frmVerCatCuadro.aspx?idioma=1&CodCuadro=%20400

[2, 3, 4] Este salario base puede tener adicionalmente, ascensos o incentivos en régimen de carrera profesional y porcentajes anuales por trabajar en la institución.

Nota: Elaboración propia con datos de Vicerrectoría de Investigación, UNA-CR y Oficina de Publicaciones (ACOTIP, 2024; UNA, 2024a; 2024b).

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

> The *Institutional Plan for Strengthening Academic and Scientific Journals* is an instrument that allows the identification and development of strategic coordinated actions to address opportunities for improvement and challenges in the management of academic and scientific journals. Its main objective is the articulation of various institutional bodies to allow coordinated responses that facilitate efficient use of resources, formulation of responses, and continuing training (Universidad Nacional, 2023c, Art. 31).

In 2024, the first strengthening plan was formalized, which contained a projection of commitments for a five-year period and promoted implementation of actions in the following areas: visibility, Open Science, editorial management, technological improvements to Open Journal Systems (OJS) software, and design. These areas were determined by sub-workgroups of editors and agreed upon in a CIGR work session. This work plan reflects the spirit of the Model and proposes actions that will implement its premises in a prospective manner (Institutional Commission for Journal Management, Universidad Nacional, 2024).

Results: The management model

The objective of this policy report is to present the stages of construction of a structure that organizes the premises and good practices derived from the design of a management and sustainability model for Open Access scientific journals on a non-commercial diamond track at the Universidad Nacional de Costa Rica. The main results of this process are presented below.

It is worth noting that this exercise involves the formalization of the first normative and procedural model of non-commercial management for the dissemination of knowledge derived from academic production officially established at a public university in Costa Rica and Latin America. This journal management model also reflects the influence of international movements for Open Science and to the commitment of the UNA-CR to stay up to date with ways to promote the advancement of science.

The development of the model involved construction of a collaborative work methodology in each phase of the process, which allowed not only articulation between editors, but also exchanges and feedback from other university bodies that have or had links with journal management.

To create a journal management model, it is necessary to carry out an exercise in self-recognition of the vulnerabilities and gaps faced, making it possible to identify where to direct strategic actions to remedy these deficiencies.

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Likewise, the participation of the principal actors managing the process of construction of this model is essential; in this case they are represented by the community of scientific-academic editors of the institution – the people who best know the reality of the world of journal publication.

Given the disciplinary and organizational diversity of each journal, the ability to reach a consensus on those minimum common elements that reconcile a work base without harming the characteristics of each publication and its specific behavior, represents an essential contribution of this model.

Planning, monitoring and evaluation of the progress of each journal working within the institutional framework must be oriented to guarantee its sustainability, and must be executed with intra-institutional collaboration to optimize articulation and efficiency in the use of resources.

By aligning institutional and national policies in the model, the formulation of each journal must seek opportunities for linkage, and comply with its commitments at the national and international level related to human rights regulations, sustainable development goals (SDG), accreditations, national legislation, the role of public education, and institutional and disciplinary planning – all for the medium and long terms, revised by each faculty, and using good knowledge management practices.

The creation of an *Institutional Plan for Strengthening Academic and Scientific Journals* facilitates this process over time, provides necessary resources, and articulates the support of the bodies with which each journal is affiliated and the different departments that complement their management.

This model promotes substantive institutional action and guarantees that evidence of the transparent work of publications remains visible. It is supported by regulation that strengthens its stability over time and frees the journals from changes in institutional management. Its independent structure, constant evaluation and a formulation period that exceeds the change of administration (six-year periods vs. five-year periods) protects them from arbitrary decisions.

The management and sustainability model of the UNA-CR journals has contributed to positioning training processes as one of the axes that make it possible to update the group of editors in a programmatic manner, and to ensure that these editors maintain a collaborative vision of editorial management of and between the journals, which constitutes a valuable support network in implementing the proposed model.

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

The process of building the model has produced the following concrete results:

- This policy report, which systematizes the model and its derivatives.
- The Regulations for Management of Academic and Scientific Journals of the Universidad Nacional (UNA, 2023c)
- The Manual of Procedures for Management of Academic and Scientific Journals of the Universidad Nacional and instruments (UNA, 2023d)
- The Institutional Commission for Journal Management
- Simultaneous collaboration with the design of the Open Science Strategy of the UNA-CR (UNA, 2023b)

Conclusions and recommendations

The evolution of processes of journal management is a complex journey, and its participants should not lose sight of the fact that the transformation and self-reflection that it has stimulated are necessary for maintaining the effectiveness of efforts to manage knowledge and support progress, social good and the quality of peoples' lives.

This model reflects how the confluence of efforts, sometimes individual, can be grouped to consolidate an institutional work path based on Open Access.

The evidence documented in this policy report demonstrates the capacity that the UNA-CR has had to create a viable structure for the sustainability of journals. This in-depth analysis has made it possible to share with the national and international community the historical conception of our journals, their current dynamics in light of the diamond path, access and Open Science, and the organizational, regulatory and political structure adopted in this institution.

Likewise, it is clear that the UNA-CR has set its sights on compliance with the standards that the international context demands, leaving aside possible personal interests, control by groups that tend to look inward rather than outward, and other practices that have occurred in the past in publishing, to move to a more transparent model, focused on making scientific journals a decisive part of the machinery of science, consistent with the Latin American practices of Open Access via Diamond, Non-commercial OA.

The model presented allows for sustainable scientific publication in the scientific research ecosystem in the same institution, without the need to invest large sums in third parties, whose activities do not necessarily ensure quality in editorial management.

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

As was shown in Figure 1, many UNA-CR journals were created in a diamond-track context, in which academic and scientific interests prevail. Institutional investment in Non-commercial Open Access journals translates into a rate of return that transcends economic value and is reflected in more inclusive, collaborative and equitable access to knowledge for communities.

The model that has been developed is not static, and it must not be assumed a final product. The advantage of this structure is that it makes it possible to have a rational view of appropriate use of economic resources, infrastructure, academic and technical personnel to guide the accomplishment of objectives, and thus assess the progress of the journals.

It is also important to highlight that this model, with its many facets and actors, includes a novel and important element: the hiring of students from different careers and at different levels, who can provide accompaniment and support the substantive work of the editor or the editorial team in various ways. This practice offers a number of benefits for both editorial staff and the students themselves, such as:

- Diversity of skills: By hiring students from different programs of study, a wide range of skills and perspectives can be leveraged.
- Innovative perspectives: Students often have fresh and innovative perspectives on problems, challenges, and solutions (e.g., in social media, bibliometrics, design, XML markup, etc.), leading to new ideas and approaches to improve efficiency and quality in editorial management.
- Professional development: While becoming more familiar with the UNA-CR's scientific journals, students may learn more about recent developments in science, and future work opportunities.
- Future professional talent: Training students in editorial management tasks offers the possibility to today's students to become the editorial managers of scientific-academic journals in the future.

In addition, this model recognizes and encourages innovation, compliance with new and better standards, and adaptation to new policies, and responds to the realization that the world of publishing and editorial editing will always face challenges in the short, medium, and long terms. Having clear policies and regulations provides institutions' journals to have a sustainable vision, not one that changes with each new administration.

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

It will still be a challenge to create and sustain a culture in the institution about the benefits and relevance of Open Science, as well as the implications of publishing and management on the diamond track, which integrates other institutional actors and addresses the debate between commercial and non-commercial publishing. This requires an effort to identify all actors and define their roles and actions, and to involve them in creating collaborative strategies for the adoption of Open Science that go beyond traditional evaluation models and commonly used metrics such as the *impact factor* or the *H index* that promote citation counting as an indicator of quality.

Regarding the future, being a public higher education institution, the University depends on the allocation of state resources. It is therefore imperative to strengthen dissemination of the achievements of the use of this model, so that decision-makers can better understand that scientific publication is a vital element in the value chain that a university offers to the society which provides it with resources, and is therefore deserving of stable funding.

As part of a larger community of public organizations, such as the Open Science Subcommittee of CONARE, it is important to contribute and share the routes, implementation mechanisms, and lines of action that allow the analysis of the enormous opportunity offered by this orderly, consensual, responsible and visionary structure; an institutional management and development plan, in this case, of scientific publications. The more communities and institutions join in similar actions, the more opportunity there will be to improve peoples' quality of life and protect the knowledge generated through the use of public funds.

On the international stage, the creation of this model has had two outstanding results: the first is concretizing the principles established in the T*oluca Manifesto on Science as a Public Good: Non-Commercial Open Access* (Global Summit on Diamond Open Access, 2023) –in other words, the UNA-CR scientific journal management and sustainability model implements the vision contained in this document. The second is that, from the perspective of the development of the Global South, it is a clear rejection of models that seek to support Article Processing Charges (APCs) as a basis for financing publications.

Our recommendations are structured in terms of the different sectors and actors that manage scientific communication:

> With respect to the institutions or people who design national and international public policies, recommendations include the promotion of Non-commercial Open Access as part of the policies for scientific communication; providing support for initiatives that promote transparency, quality and sustainability in the editorial management of scientific journals; encouraging international collaboration to share

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

best practices and promote standards of excellence in this area; and promotion of the quantification of investment involved in non-commercial scientific communication, to encourage reflection on the real costs and investments involved.

For decision-makers, such as those in universities, research institutes or funding agencies, it is recommended to recognize the strategic importance of financing scientific communication as a public good and guarantee an adequate and stable allocation of resources for this purpose; to support initiatives that promote Open Science and transparency and traceability in research, which include institutional policies that promote Open Access and Diamond publication, Non-commercial OA; and to encourage efficient participation of the academic community and stakeholders in the design and implementation of policies related to scientific communication. It is essential to generate mechanisms to recognize the work of editorial teams and reviewers, who generally perform these tasks ad honorem, and make a significant contribution to the communication of knowledge.

In the case of editors, efforts must be made to maintain high quality standards in different aspects of editorial management; promote ethical and transparent editorial practices to protect the integrity of this process; and collaborate with the academic community and other interested parties to identify and address emerging challenges. It is important that these people are working in environments where management is guided by advances and innovations in the field of knowledge publishing, and have the ability to transfer them, on the one hand, to their medium and long-term management, and on the other, to authors and editorial support teams, such as scientific or arbitration committees.

When considering the role of indexers in this process, it is recommended that they be made fully aware of the utility and value of editorial management models, specifically those that prioritize Non-commercial OA and long-term sustainability. They should also work to incorporate evaluation criteria that recognize and promote Open Access publishing practices via diamond or non-commercial approaches, and provide both guidance and resources to support scientific journals that operate under this model. Finally, regarding scientific evaluation regimes, we join the international call to recognize the diversity of scientific production, identify more significant ways of evaluating the impact and scope of knowledge, and find ways to collaborate in the generation of comprehensive evaluation models, as proposed by DORA (2012) and FOLEC (2024).

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Contributions

A. M. C. contributed to the writing of the article; the management of the investigative process, and the execution of the research. **L. P. C.** contributed to the writing of the model; the management of the investigative process; the execution of the research and the design and visualization of the figures. **M. A. P. C.** contributed to the writing of the model; the management of the investigative process; the execution of the research and the design and visualization of the figures. **M. F. V. S.** contributed to the writing of the model; the execution of the research and the design and visualization of the figures. **M. M. C. S.** contributed to the writing of the model and the execution of the research. **N. N. B.** contributed to the writing of the model and the execution of the research. **M. U. S.** contributed to the writing of the model and the execution of the research. **A. M. S.** contributed to the writing of the model and the execution of the research. **Y. M. L.** contributed to the writing of the model and the execution of the research. **G. C. V.** contributed to the writing of the model and the execution of the research.

Data and supplementary material

This article has supplementary material available:

Preprint (Spanish) at: https://repositorio.una.ac.cr/items/12dc76c7-a91a-40fa-8233-ec13df8e9378

Funding

The translation of the Model into English was financed by the Universidad Nacional, Costa Rica.

Guest Associate Editor

Arianna Becerril García

Executive Director of RedALyC, Universidad Autónoma del Estado de México

https://orcid.org/0000-0003-0278-8295

Peer Review

Gala García Reátegui

Managing Editor, Directory of Open Access Journals, DOAJ

Denmark

https://orcid.org/0009-0005-7141-5355

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Saray Córdoba González

Retired professor of the University of Costa Rica, honorary member of Latindex and collaborator of CLACSO and RedALyC

Costa Rica

https://orcid.org/0000-0003-2906-8431

References

Armengou, C., Bargheer, M., Gingold, A., Holsinger, S., Laakso, M., Mitchell, D., Mounier, P., Pölönen, J., Rooryck, J., Ševkušić, M., Souyioultzoglou, I., & Varachkina, H. (2024). *Operational Diamond OA Criteria for Journals*. Zenodo. https://doi.org/10.5281/zenodo.12721408

Becerril García, A. (2022). Favorecer los canales de publicación y distribución inclusivos de manera que nunca se excluya a los autores por motivos económicos: el Acceso Abierto "verde" y "diamante" en América Latina en el marco de BOAI20 [Promoting inclusive publishing and distribution channels so that authors are never excluded for economic reasons: "green" and "iamond" Open Access in Latin America within the framework of BOAI20]. *Tramas y Redes*, (3), 327-337. https://www.clacso.org/favorecer-los-canales-de-publicacion-y-distribucion-inclusivos-de-manera-que-nunca-se-excluya-a-los-autores-por-motivos-economicos/

Brown, P. O., Cabell, D., Chakravarti, A., Cohen, B., Delamothe, T., Eisen, M., Grivell, L., Guédon, J. C., Hawley, R. S., Johnson, R. K., Kirschner, M. W., Lipman, D., Lutzker, A. P., Marincola, E., Roberts, R. J., Rubin, G. M., Schloegl, R. Siegel, V., … &, Watson, L. (June 20, 2023). *Bethesda Statement on Open Access Publishing*. https://archive.org/details/jlis_it-8628

Budapest Open Access Initiative [BOAI]. (February 14, 2002). *Budapest Open Access Initiative Declaration*. https://www.budapestopenaccessinitiative.org /read/

Budapest Open Access Initiative [BOAI]. (September 12, 2012). *BOAI 10, Ten years on from the Budapest Open Access Initative: Setting the default to open*. https://www.budapestopenaccessinitiative.org/boai-10-recommendations

Budapest Open Access Initiative [BOAI]. (February 14, 2017). *BOAI 15, Towards the Internet of the Mind*. https://www.budapestopenaccessinitiative.org/boai15-1ttps://www.budapestopenaccessinitiative.org/

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Budapest Open Access Initiative [BOAI]. (February 14, 2022). *Budapest Open Access Initiative: Recomendaciones en su 20º aniversario* [Recommendations for its 20th anniversary]. https://www. budapestopenaccessinitiative.org/boai20/boai20-spanish-translation/

Central American University Council [CSUCA]. (2023). *Declaratoria de ciencia abierta del CSUCA* [CSUCA Open Science Declaration]. https://vinv.ucr.ac.cr/sites/default/files/premios/archivos/ declaratoria_ciencia_abierta_csuca_0.pdf

Confederation of Open Access Repositories [COAR]. (December 12, 2024). R*esource Types 3.2*. https://vocabularies.coar-repositories.org/resource_types/

Costa Rican Association of Professional Translators and Interpreters [ACOTIP]. (2024). *Tarifas orientativas* [Fee Guidelines]. https://www.acotip.org/tarifas.php

DOAJ Open Global Trusted. (n.d.a). *About DOAJ*. https://doaj.org/about/

DOAJ Open Global Trusted. (n.d.b). *Transparency & best practice*. https://doaj.org/apply/transparency/

DORA. (December 16, 2012). *Declaración de San Francisco sobre la Evaluación de la Investigación* [San Francisco Declaration on Research Evaluation]. https://sfdora.org/read/read-the-declaration-espanol/

Flores Abogabir, M. & Restrepo Salazar, M. E. (2015). *Divulgación del conocimiento: Las revistas académicas de la Universidad Nacional de Costa Rica* [Dissemination of Knowledge: Academic Journals of the Universidad Nacional de Costa Rica]. Unpublished report.

Foro Latinoamericano sobre Evaluación Científica [FOLEC-CLACSO]. (2024). *¿Qué es FOLEC?* [What is FOLEC?] https://www.clacso.org/folec/

Global Summit on Diamond Open Access. (October 27, 2023). *Manifiesto sobre la Ciencia como Bien Público Global: Acceso Abierto No Comercial* [Manifesto on Science as a Global Public Good: Non-Commercial Open Access]. https:// globaldiamantoa.org/manifiesto/#/

Initiatives of the Max Planck Society. (October 22, 2003). *Declaración de Berlín sobre Acceso Abierto al Conocimiento en Ciencias y Humanidades* [Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities]. https://openaccess. mpg.de/Berlin-Declaration

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Institutional Commission for Journal Management, Universidad Nacional. (2024). *Plan de trabajo [Work plan] Revistas científico-académicas 2024-2028, Universidad Nacional, Costa Rica*. Unpublished work.

Latindex. (n.d). *Antecedentes* [Background]. https://latindex.org/latindex/nosotros/antecedentes

LA Referencia. (2023). *Declaración 10 Años de LA Referencia: hacia un Ecosistema de Ciencia Abierta No Comercial* [Declaration: 10 Years of LA Reference: Towards a Non-Commercial Open Science Ecosystem]. https://www.lareferencia.info/es/component/k2/item/307- declaracion-10-lareferencia

Ministry of Science, Innovation, Technology and Telecommunicationss. (2022). *Indicadores Nacionales de Ciencia, Tecnología e Innovación, Costa Rica 2022* [National Science, Technology, and Innovation Indicators, Costa Rica 2022]. https://www.micitt. go.cr/sites/default/files/publicaciones/Indicadores/Indicadores Nacionales_ CTI_2022.pdf

National Council of Rectors [CONARE]. (2024). *Declaración de Ciencia Abierta del CONARE* [CONARE Open Science Declaration]. https://biblioteca.conare.ac.cr/images/docs/normativa_legislacion/coordinacion/Declaratoria_ciencia_abierta_CONARE_2024.pdf

National Council of Rectors [CONARE], Oficina de Planificación de la Educación Superior. (2020). *Plan Nacional de la Educación Superior Universitaria Estatal 2021-2025* [National Plan for Public University Education 2021-2025]. No 43- 2020. https://repositorio.conare.ac.cr/handle/20.500.12337/8034

National Council of Rectors [CONARE], Oficina de Planificación de la Educación Superior. (2015). *Plan Nacional de la Educación Superior Universitaria Estatal 2016-2020. No 37-2015* [National Plan for Public University Education 2016-2020]. https://repositorio.conare.ac.cr/handle/20.500.12337/2244

National Council of Rectors [CONARE]. (n.d.). *Kímuk. Repositorio Nacional de Costa Rica* [National Repository of Costa Rica]. https://kimuk.conare.ac.cr/

Nosek, B. A., Alter, G., Banks, G. C., Borsboom, D., Bowman, S. D., Breckler, S. J., Buck, S., Chambers, C., Chin, G., Christensen, G., Contestabile, M., Dafoe, M., Eich, E., Freese, J., Glennerster, R., Goroff, D., Green, D., Hesse, B., Humphreys, M., Ishiyama, J. Boycan, E. (2014). *Transparency and Openness Promotion (TOP) Guidelines*. Center for Open Science. https://osf.io/9f6gx/

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Packer, A. (2021). *O Programa SciELO e o Acesso Aberto via Dourada* [The SciELO Program and Open Access Gold Access]. In C. Krohling, M. de Lemos & R. Gabrioti. (Coords.). Revistas Científicas de Comunicação Ibero-Americanas na Política de Divulgação do Conhecimento: Tendências, Limitações e os Desafios de Novas Estratégias [Ibero-American Scientific Journals in the Knowledge Dissemination Policy: Trends, Limitations and the Challenges of New Strategies] (pp. 30-58). https://wp.scielo.org/wp-content/uploads/PACKER-A.L.-O-Programa.pdf

Public Knowledge Project. (n.d.). *Open Journal Systems.* https://pkp.sfu.ca/software/ojs/

Redalyc (n.d.). *Acerca de Redalyc.org* [About Redalyc.org]. https://www.redalyc.org/redalyc/acerca-de/mision.html

Republic of Costa Rica. (1949). *Constitución política de la República de Costa Rica* [Political Constitution of the Republic of Costa Rica]. https://www.pgrweb.go.cr/scij/Busqueda/Normativa/Normas/nrm_texto_completo

Restrepo Salazar, M. E. & Flores Abogabir, M. (2015). *Estrategias de acción de la Vicerrectoría de Extensión en el proceso de revistas institucionales. Informe (2005-2015)* [Action strategies of the Vice-Rectory for Outreach in the institutional journal process. Report (2005-2015)]. Vicerrectoría de Extensión, Universidad Nacional. Unpublished report.

Simard, M.-A., Butler, L.-A., Alperin, J. A., & Haustein, S. (2024). We need to rethink the way we identify diamond open access journals in quantitative science studies. *Quantitative Science Studies, 5*(4), 1042–1046. https://doi.org/10.1162/qss_c_00331

United Nations Educational, Scientific and Cultural Organization [UNESCO]. (2021). *Recomendación de la UNESCO sobre la Ciencia Abierta* [UNESCO Recommendation on Open Science]. https://doi.org/10.54677/ YDOG4702

Universidad Nacional. (2024a). *Índice salarial 2024* [Salary Index 2024]. https://documentos.una.ac.cr/handle/ unadocs/9381

Universidad Nacional. (2024b). *Estándares de equipo tecnológico* [Technological Equipment Standards]. https://documentos. una.ac.cr/handle/unadocs/13376

Universidad Nacional. (2024c). *Reglamento de gestión de programas, proyectos y actividades académicas* [Regulations for the Management of Academic Programs, Projects, and Activities]. Alcance N° 06 a la Gaceta N° 05-2024. https://documentos.una.ac.cr/handle/unadocs/15463

https://doi.org/10.15359/ree.28-S.21151
https://www.revistas.una.ac.cr/index.php/educare
educare@una.ac.cr
[Cierre de edición: 31 diciembre 2024]

Universidad Nacional. (2024d). *Reglamento de becas, beneficios y servicios a estudiantes de la Universidad Nacional* [Regulations for Scholarships, Benefits, and Services for Students of the Universidad Nacional]. Alcance N° 07 a la Gaceta N° 05-2024. https://documentos.una.ac.cr/handle/unadocs/14859

Universidad Nacional. (2023a). *Escala Salario Global transitorio 2023* [Provisional Global Salary Scale 2023]. https://documentos. una.ac.cr/handle/unadocs/15047

Universidad Nacional. (2023b). *Estrategia de Ciencia Abierta de la Universidad Nacional* [Open Science Strategy of the Universidad Nacional]. https://repositorio.una.ac.cr/handle/11056/25932

Universidad Nacional. (2023c). *Reglamento para la Gestión de Revistas Académicas y Científicas de la Universidad Nacional* [Regulations for the Management of Academic and Scientific Journals of the Universidad Nacional]. http://documentos.una.ac.cr/handle/ unadocs/15463

Universidad Nacional. (2023d). *Manual de procedimientos para la gestión de las revistas académicas y científicas de la Universidad Nacional* [Manual of Procedures for the Management of Academic and Scientific Journals of the Universidad Nacional]. Alcance Nº9 a la Gaceta Nº8- 2023. https://documentos.una.ac.cr/handle/unadocs/15784

Universidad Nacional. (2023e). *Reglamento general del proceso de enseñanza y aprendizaje de la Universidad Nacional* [General Regulations for the Teaching and Learning Process of the Universidad Nacional]. Alcance Nº3 a la Gaceta Nº4-2023. https://documentos.una.ac.cr/handle/unadocs/14997

Universidad Nacional. (2016). *Estatuto Orgánico de la Universidad Nacional* [Organic Statute of the Universidad Nacional]. https://documentos.una.ac.cr/bitstream/handle/unadocs/6693/ESTATUTO-ORG%C3%81NICO-UNA-digital.pdf