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From *pay to read* to *pay to publish*: a new beginning for *open access* in Romania

Ivona Olariu¹

ABSTRACT: “Anelis Plus” Romanian consortium has conducted four nationally and European funded projects and assumed the responsibility of promoting the principles and necessity of open access (OA) publishing. This initiative meant the beginning of training of all parties involved: authors from the academic community, university libraries professionals, master and doctoral students – who have been shown what the advantages of OA are, the pitfalls of predatory journals, as well as notions of research data management. The results obtained in past projects have been evaluated through performance indicators (PIs), which measure to what degree access to tens of databases influenced Romanian scientific performance. The current publishing European trends brought the consortium to a new beginning: transformative agreements (TA). The paper highlights the steps taken to maximize the effectiveness of the transition. The consortium has already initiated, for the first time in Romania, such measures (training for authors and library staff on relevant OA publishing topics) and evaluating their results will influence the next ones. The visibility of Romanian researchers is favored by the opportunity to publish in OA, and the lack of concern about paying article processing charges (APCs) allows them to focus on the actual scientific work and supports them in promoting it.

KEYWORDS: transformative agreements, scientific electronic resources, open access, national consortium

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INTRODUCTION

The realities of the new information environment brought about by the development of digital scientific communication required, at the end of 2011, the aggregation of the academic and research community in Romania into a consortium-like structure, to improve the scientific research capabilities of the national research and development system and to keep the pace with international research. With as many as 100 members (public and private universities, research & development institutes, the Romanian Academy and central university libraries), the “*Anelis Plus*” Association of Universities, Research & Development Institutes and Central University Libraries of Romania was set up relying on successful European models: the Bavarian Library Consortium, the Serbian Library Consortium (KOBSON), the Electronic Information Service National Programme (EISZ) in Hungary, the Swedish Consortium (BIBSAM), etc.

Beyond the European tradition in the organization and functioning of such structures as consortia, with a similar mission, the necessity to create Anelis Plus became evident from the analysis of the statistics of the Romanian universities and the supplementary financial investments in electronic resources between 2009-2011.

Professional and scientific Association, the mission of Anelis Plus (www.anelisplus.ro) is to fulfil its members’ information and documentation (I&D) needs; to undertake research and development activities; to subscribe to electronic resources (ER) of scientific I&D for education and research; to undertake promotion and study activities necessary for the implementation of the educational and research national policies, so as to answer to the growing information needs of the Romanian users; to encourage the scientific research and education in national and international projects with the purpose to increase cooperation and coordination of research activities on national and/or regional level; and to promote open access principles among the Romanian authors.

THEORETICAL FRAMEWORK

The meetings of the representatives of the regional consortia organized in 2018, 2019 and 2023 in Budapest brought together the experience of countries such as Hungary, Austria, Poland, Slovakia, Czech Republic, Slovenia, Croatia, Lithuania, Turkey and Romania in an exchange of good practices regarding the projects implemented by each of them. These events enabled easier decision-making regarding subscription criteria, choosing the methods to promote open access and users' training framework. Several common issues were analyzed comparatively: the working methods, the sources of financing, the problems that differentiate the activity depending on the national specificity, the specific legislation, and especially the common problems, for which common solutions can be found.

The scientific literature includes papers on the evolution of the open access phenomenon in European countries such as Spain, France, Italy, Portugal, Greece, Turkey (i.e. Anglada & Abadal, 2010), Germany and UK (Oberlander & Reimer, 2019) and in USA (Finnie, Moulton, 2022). Specific problems of the consortia have also been a topic tackled in literature (i.e. Elguindi & Schmidt, 2012; Lewin & Passonneau, 2012; Poll, 2012; Conghui, 2013; Horton & Pronevitz, 2015; Herold, 2021; Wissenschaftsrat German Science and Humanities Council, 2022), and a recent study about consortia assessment (Gonda & Papatheodorou, 2023) conducted research on the suitability of ISO 11620: 2014 library performance indicators to measure the performance of a consortium. The authors established a correlation between consortia services and the appropriate indicators included in the standard and how they can be implemented for collective assessment.

RESEARCH METHODS AND OBJECTIVES

The aim of this paper is to analyse the objectives and the results of the 4 projects carried out between 2013 and 2023 and to emphasize the novelties at each stage. The study highlights how the consortium has supported the research activities by providing access to quality scientific

literature, *open access* publishing and the transition from *pay to read* to *pay to publish*.

The projects *Anelis Plus*, *Anelis Plus 2020*, *Anelis Plus 2022* and *Anelis Plus 2023-2025* were assessed in the lights of their funding sources, the need to develop institutional repositories and continuous access to scientific literature, or the rapid changes in the way of publishing due to the European Commission's calls for support of *open access*, with undeniable advantages in terms of scientific visibility, of users' behavior and education, who are offered publication fees by including them in the cost of subscriptions.

The findings are supported by statistical data, the evaluation of some performance indicators and the identification of causes for delays in the consortium activity, constituting lessons learnt to be taken into account in the future work.

The usage statistics have been extracted at the national level, for the analyzed period. Using the standard ISO 11620: 2014, several performance indicators related to the electronic resources have been selected and the costs involved have been calculated. The results are detailed in the Findings section.

The analysis of Romanian scientific output and the experiments to waive article processing charges in 2022 and 2023 were the starting point in determining the number of APCs foreseen in the transformative agreements from 2024 onwards.

For this purpose, the number and the type of articles published by Romanian authors in recent years in the scientific journals of some collaborating publishers have been evaluated.

FINDINGS

The goal of the Project *Anelis Plus - Assuring national electronic access to scientific literature for supporting and promoting the research and education system in Romania* (May 2013 – December 2016) was to develop the research capacities and to integrate the Romanian research-development-

innovation (RDI) system to the international scientific environment by ensuring the continuity of access for the scientific and academic community to electronic scientific resources of information & documentation and developing specific methods for sustaining the research and promotional activities of researchers' work.

Funded from public budget (Ministry of National Education - Major Investments in the R&D infrastructure) - 80% and the own budget of the consortium members – 20%, its long term objective was setting a development and promotional model for additional specialized services which may support research, development and innovation (virtual campus, national repository, open access).

Anelis Plus met the specific project objectives by assuring national electronic access to scientific literature (*current subscriptions - IP-based access, mobile access, scientific archives hosted in the national repository and promoting open access*) and by creating hardware and software infrastructure for supporting and promoting the research and education (developing an integrated system for access services and scientific information storage - the implementation of a *virtual campus* (<https://portal.anelisplus.ro/acasa>) - a one-stop sign-in portal allowing the community to access scientific ER and also facilitating the collaboration between scientists and create a *national repository* (<https://dspace.anelisplus.ro/xmlui/>) to host documentation scientific resources).

The main objective of the 2nd project, (*National Electronic Access to Scientific Literature for Supporting the Research and Education System in Romania ANELIS PLUS 2020* Project 2017 - 2022, co-funded by the European Regional Development Fund through Competitiveness Operational Program 2014-2020) was to increase Romania's Research, Development and Innovation (RDI) capacity by providing researchers with access to scientific publications and international databases. This increased the involvement of the Romanian research environment in specialized international research networks, a major step for the future development of science and technology. The success of the projects consists of continuing development of a national repository, through the acquisition of electronic archives of electronic journals and books,

to create an exhaustive documentation framework and ensuring the scientific community's access to resources (*full text* and bibliographic & bibliometric databases/ platforms of scientific journals), in order to support research, innovation and stimulation of scientific production at national level.

The national repository hosts now historical archives (journals - 2,239 titles Elsevier/ Science Direct Backfiles, 1,033 titles Springer-Nature/ Springer Online Journal Archives, 952 titles Wiley Journal Backfiles), current archives (387 titles Science Direct Journals 2016-2020) and more than 8,800 e-book titles published by Elsevier, Wiley, Springer, De Gruyter, CABI, Sage, IEEE, CUP, ALA). When assessing the e-resources investment, national PIs were calculated for the consortium as a whole and also for each of its members, according to ISO 11620 - Library performance indicators: 2014, and the conclusions reached influenced the procurement decision in subsequent projects. The aim was to subscribe to both multidisciplinary and specialized databases covering the scientific profile of all institutions involved in the project. The results of the assessment of three of these indicators are shown below.

The PIs in the ISO 11620 follows the Balanced Scorecard approach, creating an indicator framework with four major areas of measurement. The second area is (*collection*) *use* (i.e. number of content units downloaded per capita - to assess whether users find items of interest in an electronic resource fig. 1), the third one is *efficiency* (*collection efficiency* - i.e. cost per download - to assess the cost of a electronic resource related to the number of downloads from this resource, fig. 2), and *general efficiency* – i.e. cost per user - to assess the cost of the library's service related to the number of users, fig.3).

The most commonly used databases were bibliometric databases for research evaluation (Web of Science, Scopus), specialized databases for a highly specialized audience (i.e. IOP, AIP, Ovid), with a lower number of downloads per user. At the same time, the values for the *cost per download* indicator are low for the most accessed databases, for which the first mentioned indicator has the highest values. As for the *cost per user*, representing the ratio between the cost paid for the resource and

the number of foreseen users for that resource, high values are calculated for very high-priced electronic resources, although the number of users is also high.

These indicators have also been reported as appropriate for consortia in the study, being correlated with services for consortia (Gonda et al., 2023). The service *needs of the audience and general impact of the consortium/* needs of the audience: e-resources is reflected in the PI number of content units downloaded per capita, the service *collaborative collection development/* e-resources cooperative purchasing is connected with the PI cost per download, and the service *consortium management/* consortium efficiency is assessed by the PI as cost per user.

Fig.1: Number of content units downloaded per capita (user)

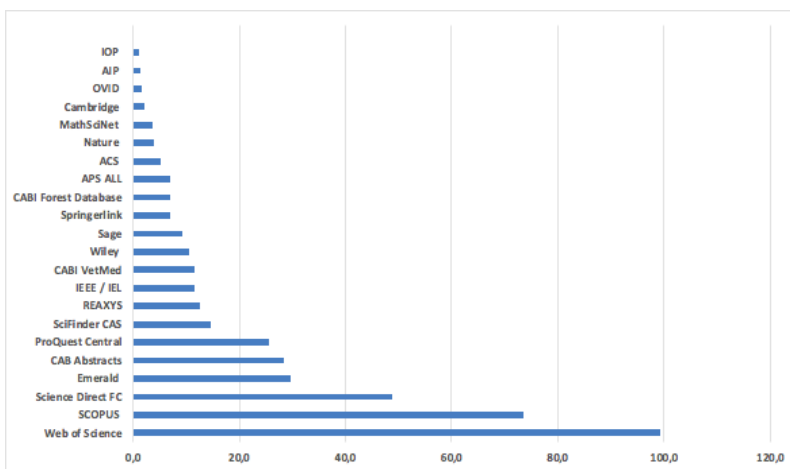


Fig. 2: Cost per download (lei - Romanian currency)

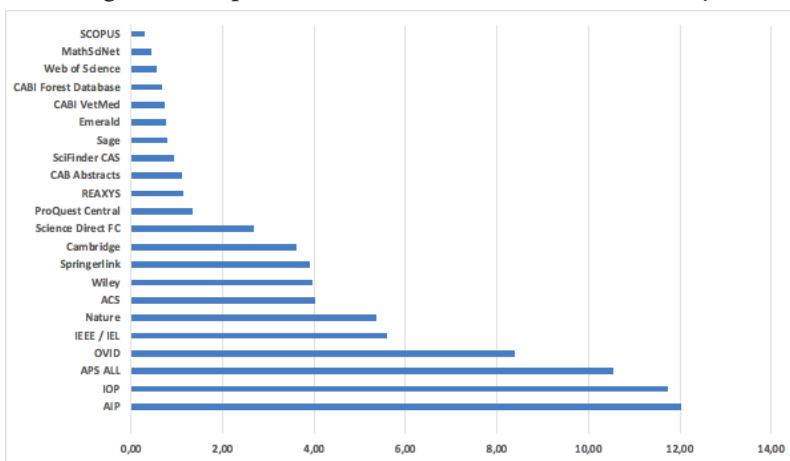
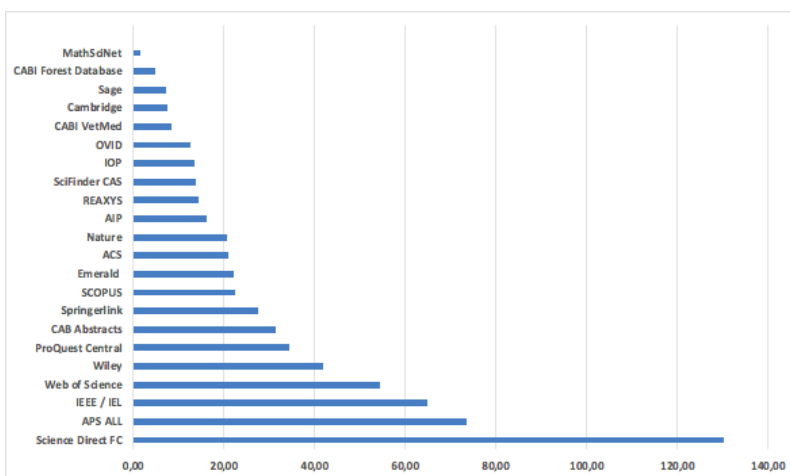


Fig. 3: Cost per user (lei - Romanian currency)



The years 2018-2022 were marked by a number of problems that had to be solved in order to continue the work, by setting up multidisciplinary work teams:

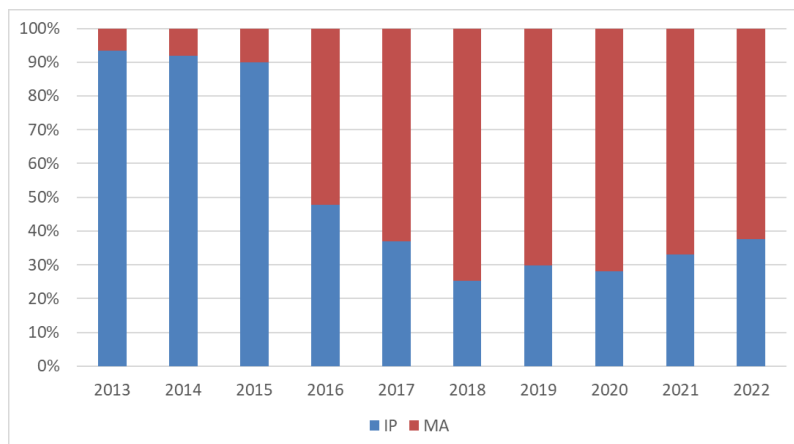
- Organizational and communication-related causes (delays in members' submission of subscription options, changes in the

selection of e-resources after national data centralization and/or need to include new institutions, need for repeated simulations of co funding due to successive changes)

- Financial causes (difficulties in obtaining financial offers from publishers, especially for those databases not previously subscribed, need to negotiate lower prices after receipt of offers due to financial constraints, delays by institutions in paying co-funding, budgetary changes from one year to the next).
- Technical causes (changes in institutional IP domains, delays in reporting lack of access from subscribing institutions); managing a database with over 150,000 users is a difficult task and therefore the solution identified was the federative authentication system based IDP (Identity Provider) of the member institutions. Also, providing mobile access through a single access point was necessary due to the exponential growth of this access mode.

In 2013, the ratio IP/MA was IP – 93,4%, MA- 6,6% and in 2014: IP- 92%, MA – 8%. IP access was predominant in 2015, but the MA increased exponentially in 2016, when those 2 were roughly equal, the ratio being in favor of MA since 2017 (fig.4).

Fig. 4: Mobile access vs IP access



The third project, “Access to scientific and technical literature” (2022 June-December) was a transition period, in addition to access to databases for 90 institutions, the 18 institutions subscribed to Cambridge Journals receiving 10 APCs as a gift to stimulate OA publishing. Unfortunately, only 3/10 were used by transforming articles already published in hybrid journals in OA.

The situation repeated itself in 2023 in the fourth project, “Access to scientific literature and publishing in OA (2023-2025)”, when the 85 participants selected access services from 42 nationally subscribed databases and were offered 15 vouchers for OA publishing in Cambridge Core Journals by the Cambridge University Press (CUP); of these, only one was used; the Royal Society of Chemistry (RSC) also offered the 9 subscribing institutions 25 APCs for publication in hybrid & gold OA subscribed titles, of which 10 were used.

DISCUSSION

2024 is the first year when the first seven transformative agreements between Anelis Plus and international publishers have been signed. Past experience has shown there is a clear need to promote OA publishing further and find ways to maximize the use of available APCs.

The low number of requests of the APCs in 2022 and 2023 led the consortium to identify Romanian authors who have traditionally published in Cambridge and RSC journals, in order to propose OA for their articles (with the advantage of increased visibility). To avoid this issue in the future, Anelis Plus designed a series of actions:

- more active promotion of the advantages – publishing OA means research is available to everyone around the world to read, cite, share and build upon;
- authors’ training (driving the process using the publisher’s platform & uploading the article; choosing the way of publishing - hybrid, gold OA journals; choosing the right journal; predatory journals – how to avoid being prey);

- library professionals' training – to correctly understand the new way of publishing and guide potential authors.

Anticipating the signing of the transformative agreements, Anelis Plus was concerned with raising awareness about the benefits of OA publishing and the facilities offered by the consortium projects. To this end communications and training for its members were organized, in 2023:

- *OA at Wiley – understanding Transformative Agreements*, hosted by the Polytechnic University of Bucharest;
- *Romanian perspectives on the future of open access publishing – transformative agreements*, at West University of Timisoara, within the International Colloquium Communication and Culture in European Romania;
- *Transformative agreements as a way of supporting scientific research and increasing the visibility of Romanian universities*, hosted by the Polytechnic University of Timisoara, within the Association of Romanian Libraries National Conference;
- *Anelis Plus & Wiley Transformational Open Access Agreement – Introduction to the new*
- *agreement and how to publish open access with Wiley, Opportunities to publish in OA Cambridge University Press journals, OA publishing with Royal Society of Chemistry – Anelis Plus experience in 2023*), hosted by the Academy of Economic Studies Bucharest;
- *Anelis Plus Consortium - 2013-2023 experiences*, Budapest, Regional Consortium Meeting
- *OA publishing: 2022-2023 experiences, 2024-2025 future plans*, hosted by Babes-Bolyai University Cluj Napoca.

Evaluating the Romanian scientific output in the previous years was important in setting the stipulations in the TA. For example, the analysis of publishing with Wiley indicated 451 papers published between 2020-

2022 (61 in gold open access journals, 46 Hindawi, 344 in hybrid journals) having corresponding authors from 23 research institutions. Taking into account the performance indicators calculated above for Wiley, the publication results and the publisher's offer, an increasing number of APCs from Wiley was estimated for the next three years: 105, 107, 109 (tab.1).

In the case of Springer Nature, the number of published scientific papers in hybrid journals is 855 hybrid (open choice), and 15 subscription; the number of fully OA papers was 257 (in 2020-2022).

The TA will include 283, 293, 303 APCs available to corresponding authors affiliated with one of 47 institutions in the next period (tab.1).

A similar evaluation of papers published with Science Direct Journals shows 648 in 2022 (core hybrid - 537, gold – 111).

Table 1 shows the number of Anelis Plus members which can benefit from TA, the number of APCs provided for the next 3 years and the type of journals where they can publish.

Tab. 1: 2024-2026 OA publishing matrix

No.	Publisher	No. of institutions	No. of APCs 2024	No. of APCs 2025	No. of APCs 2026
1.	Wiley	39	105**	107**	109**
2.	SpringerNature	50	283*	293*	303*
3.	Cambridge University Press	69	Unlimited**	Unlimited**	Unlimited**
4.	Elsevier – Science Direct	59	537*	537*	537*
5.	Royal Society of Chemistry	9	10*+10**	Unlimited**	Unlimited**
6.	IEEE	22	30**	50**	50**
7.	Institute of Physics	11	Unlimited**	Unlimited**	Unlimited**
8.	Sage	7	-	Unlimited*	Not decided
9.	Taylor & Francis	18	-	45*	Not decided

Limited/ unlimited

*Hybrid | **Hybrid/ gold open access

CONCLUSIONS

Anelis Plus Projects proved the advantage of an electronic integrated system of access to the scientific information and it has proven the *shared purchase, expanded for the whole Romanian academic scientific community, as the only way to continue national electronic access to the scientific literature in the future.*

The success of this initiative depended on the involvement of all the responsible factors – financers, co-financers and an expertise offered by the specialists from the Association in LIS. The bibliometric studies performed by *Anelis Plus* proved that continuing to offer access and diversification of subscriptions stimulates the quantity and quality of Romanian scientific output and facilitates permanent contact with the news in the field. The performance of the Romanian research is distributed unequally across the scientific community: the majority of the results comes from a low number of institutions.

Using the new ISO 11620: 2023 Performance indicators for libraries standard, PIs will be selected to characterize the consortium activity according to various criteria, the extent of use of the e-resources provided, the level of user training, the efficiency of the financial resources invested, etc. Transformative agreements are considered not only a way to support scientific research and increase the visibility of Romanian universities but also a chance to publish for small universities and research institutes.

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