

THE ROLE OF THE NATIONAL CONSORTIUM ORCID UKRAINE IN ADVANCING OPEN SCIENCE POLICY

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Abstract. *This article explores the pivotal role played by the National Consortium ORCID Ukraine in effectively implementing the Open Science Policy within the Ukrainian research landscape. The article delves into the strategies employed by the consortium to promote ORCID iDs (Open Researcher and Contributor IDs) and their integration into various research processes to enhance research transparency, streamline collaboration, and establish a robust foundation for open science practices. Emphasizing the significance of ORCID iDs in uniquely identifying researchers, the discussion also highlights their impact on reducing authorship ambiguity and ensuring accurate attribution of scholarly contributions. Furthermore, the article explores the broader implications of promoting open science in Ukraine, emphasizing the positive correlation between research transparency and economic development. It is shown that by facilitating a more transparent and collaborative research environment, the National Consortium ORCID Ukraine generates high-quality research outputs, fosters innovation, and attracts investment. The experiences and successes of the consortium in advocating for open science principles, along with the challenges encountered and lessons learned, are detailed. Particularly, it highlighted the challenges and the technical complexity associated with using the ORCID Affiliation Manager tool by Ukrainian research institutes and ensuring compatibility and seamless data transfer between the digital repository system DSpace and the editorial workflows of the publishing platform OJS. The article concludes by underscoring the critical role that initiatives like the National Consortium ORCID Ukraine play in shaping a research ecosystem that not only adheres to open science principles but also stimulates economic growth through knowledge dissemination and collaboration.*

Keywords: ORCID; open science; ORCID National Consortium; open access; economic development.

INTRODUCTION

Open Science has emerged as a transformative force in the global research landscape, fostering transparency, collaboration, and innovation. In pursuing these ideals, implementing Open Science Policy has become a priority for nations seeking to unlock the full potential of their research ecosystems (Burgelman et al., 2019). In this context, the potential of the Open Researcher and Contributor Identifier (ORCID) for open research was highlighted by Brown et

al. (2016). While Haak et al. (2012) described ORCID's tools and resources after its launch in 2012, Teixeira da Silva (2020) paid attention to issues and concerns about its use for academic purposes and research integrity more recently.

Like many countries, Ukraine faces challenges in achieving transparency and collaboration in its research endeavors. Ambiguities in authorship attribution, lack of standardized identification systems, and barriers to efficient collaboration hinder the country's ability to capitalize on its research potential fully. Recognizing the

need for a comprehensive solution, the National Consortium ORCID Ukraine has emerged as a driving force in advocating for adopting ORCID iDs — unique identifiers that promise to alleviate these challenges.

Until 2016, the concept of open science in Ukraine was only beginning to be discussed by scientists and was not on the agenda of the relevant agency or the Ukrainian government. An important milestone in changing the state policy in the field of science and technology was the new edition of the *Law of Ukraine On Scientific and Scientific-Technical Activity*. Article 66 enshrines the obligation of the state to ensure the integration of the national research space into the European research space by implementing its priorities and providing the corresponding powers to the authorities (Law of Ukraine On Scientific and Scientific-Technical Activities, 2015). These changes have brought Ukraine closer to the ERA (European Research Area), and the signing of the Agreement on “Horizon 2020” has allowed Ukraine to become an associated country in the ERA.

Since 2016, Ukraine has come a long way from ideas to concrete legislative provisions for implementing open science measures, and by 2022, significant progress has been made. The National Plan for Open Science was approved by the Government of Ukraine in 2022 (The Order of the Cabinet of Ministers of Ukraine, 2022). This step became possible, particularly due to the implementation of international cooperation programs, which require adherence to the FAIR principles as a mandatory requirement for conducting scientific research.

Among the mandatory stages of implementing open access provisions are the creation of a unified database of scientific and scientific-technical activity results, ensuring the sharing of data with EU countries, including integration into European data spaces, as well as ensuring the standardization and certification of data repositories in international data storage systems.

Given the above, this article explores the integral role played by the National Consortium ORCID Ukraine in advancing Open Sci-

ence Policy within the Ukrainian research community.

NATIONAL CONSORTIUM ORCID UKRAINE CREATION AND THE FIRST CHALLENGES

The ORCID service is widely used by researchers worldwide, including in Ukraine (Gomez et al., 2020). Moreover, there is even a demand for obligatory usage of this service in the national legislation, particularly in laws related to the PhD qualification and the list of professional publications. An ORCID researcher profile serves as an integrated source of information about a scientist’s research activities, and the unique identifier ensures accuracy in the use of research works, citations, and affiliations (Haak et al., 2012). That is why the possibility of establishing a national ORCID consortium in Ukraine has been discussed for several years. The Ukrainian government understood that the national consortium would involve collaboration among universities, research institutions, and other relevant stakeholders to promote the adoption and use of ORCID identifiers within the country’s research community. The consortium should work towards integrating ORCID into various research workflows, such as manuscript submission, grant applications, and institutional repositories.

In March 2021, the Ministry of Education and Science of Ukraine and the international non-profit organization ORCID signed a memorandum of cooperation, which entails improving the use of unique open researcher identifiers (ORCID IDs) among Ukrainian researchers.

At the end of 2022, during the First international conference “Open Science and Innovation” dedicated to Open Access Week, the creation of the Ukrainian ORCID Consortium was officially announced.

The implementation of the project in Ukraine is being carried out by the State Scientific and Technical Library (SSTL) of Ukraine with the support of the Ministry of Education and Science of Ukraine (Marín-Arraiza, 2023).

For Ukrainian science, this step became a big opportunity for development using best

practices. ORCID provides a persistent digital identifier that distinguishes researchers and ensures their work is properly attributed. By creating a national consortium, Ukraine is centralizing the management and dissemination of research information, making it easier for institutions, funding agencies, and publishers to access and verify research outputs. Besides, the Ministry of Education and Science of Ukraine expected that a national consortium could facilitate the integration of ORCID identifiers with existing national research systems and databases: nation CRIS — URIS and Open Ukrainian Citation Index. Prior to the formation of the ORCID Consortium, SSTL of Ukraine introduced the Current Research Information System (CRIS) to track the research activities of the institution, including research projects, grants, individuals, organizations, outcomes, as well as research objects and equipment (Kaliuzhna & Auhunas, 2022). ORCID integration with URIS through the API will enhance the visibility of Ukrainian research and researchers worldwide. This integration allows for more efficient and accurate reporting, evaluation, and tracking of research activities, funding, and collaborations within Ukraine. The availability of comprehensive data through ORCID can enhance research analytics and impact assessment at the national level. By analyzing aggregated data from ORCID profiles, a national consortium can generate insights into research trends, productivity, interdisciplinary collaborations, and societal impact, aiding in evidence-based policy decisions and resource allocation.

At the same time, the Ministry and SSTL of Ukraine understand that a national consortium can encourage researchers within a country to register for ORCID identifiers, thereby fostering networking opportunities, interdisciplinary collaborations, and knowledge sharing among researchers and institutions within the country. In this regard, creating a national consortium for ORCID aims to improve research infrastructure, collaboration, and visibility at the national level while facilitating interoperability with international research communities. ORCID provides some support to the Ukrainian research community

during a period of significant difficulties and uncertainty for the country. Furthermore, in light of the challenging situation in Ukraine, the ORCID organization has waived the annual membership fees for participants of the future Ukrainian consortium for the years 2022-2024.

The National consortium's activities were started with 17 members at the end of 2022. The SSTL of Ukraine, under the supervision of the ORCID team, is providing regular consultations regarding integration options and general issues. Systematically communication with consortium members shows that integrating ORCID affiliation manager into existing systems or workflows can present some challenges:

1. Integrating ORCID affiliation manager into existing systems or platforms requires resources. Depending on the complexity of the organization's infrastructure, it may involve different units and divisions. Organizations need to map and align their internal data structures with ORCID's affiliation manager schema. This involves mapping fields such as organization names, addresses, roles, start and end dates, and other relevant information to ensure accurate and consistent data representation within ORCID profiles.
2. Keeping the ORCID affiliation data synchronized with the organization's internal systems can be challenging. Changes in personnel, positions, affiliations, or research activities need to be promptly reflected in ORCID profiles to maintain accuracy. Implementing a robust synchronization mechanism and defining update workflows are essential to ensure data consistency.
3. Encouraging researchers and staff to use ORCID and update their affiliation information actively can be a hurdle. Some individuals may be unfamiliar with ORCID or reluctant to invest time and effort in managing their profiles. Organizational efforts to educate and promote the benefits of ORCID, as well as providing support and guidance, can help drive user adoption.
4. The Consortium leaders should provide training and support to users on how to effectively use the ORCID affiliation manager.

This includes educating researchers, administrators, and support staff on the benefits, functionalities, and best practices of ORCID, as well as addressing any questions or concerns they may have.

However, there is no doubt that despite these challenges, integrating ORCID affiliation manager can bring significant benefits to organizations, such as improved data accuracy, enhanced visibility and recognition for researchers, streamlined workflows, and increased interoperability with other research systems and platforms. With proper planning, resources, and support, organizations can overcome these difficulties and leverage the full potential of ORCID integration.

Also, integrating a repository system (in most cases it is a DSpace; in the case of Sumy State University, its own repository system) with ORCID can bring both challenges and advantages. Speaking about challenges, we should mention that this process involves customizing the repository's software to communicate with ORCID's APIs, ensuring data exchange and synchronization between the two systems.

Aligning the data structures of the repository system with ORCID can be a challenge. The repository needs to map its metadata fields, such as author names, publications, identifiers, and affiliations, to the corresponding ORCID fields to ensure accurate and consistent data transfer. At the same time, ensuring a seamless user experience during the integration is crucial. Researchers should be able to easily link their repository content to their ORCID profiles, either during the submission process or retrospectively. The integration should be intuitive and straightforward for users to encourage adoption.

However, integration of repository has more advantages than problems. First of all, integrating a repository with ORCID allows researchers to link their scholarly outputs, such as publications, datasets, and other research artifacts, directly to their ORCID profiles. This enhances visibility and facilitates proper attribution of their work, making it more discoverable and increasing their research impact. When researchers deposit their work in the repository, the integration can automatically populate relevant metadata

fields in their ORCID profiles. This saves time and effort for researchers and reduces the likelihood of errors or inconsistencies in data entry.

During interaction with consortium members, the SSTL of Ukraine also emphasized that linking repository content to ORCID profiles provides a standardized and persistent identifier for researchers and their work. It helps establish a comprehensive and trustworthy research identity, enhancing recognition and improving the accuracy of author disambiguation in scholarly communication. Researchers' ORCID identifiers enable a seamless exchange of information and content across different systems, improving discoverability and facilitating collaborations.

Also, based on the experience of project proposal applications (Horizon Europe, Interreg program), many funders and publishers require ORCID identifiers during submission and publication processes. Repository integration with ORCID ensures compliance with these requirements, enabling researchers to easily link their repository content to their ORCID profiles and meet funder and publisher mandates. So, integrating a repository system like DSpace with ORCID can bring significant advantages for researchers in terms of visibility, attribution, and data management. While technical integration and data alignment exist, addressing these challenges can lead to a more efficient and seamless research ecosystem.

Another important remark: Ukrainian research society fears the additional administrative burden regarding ORCID integration. That is why consortium leaders spend most of the time explaining the importance of the usage of persistent identifiers generally.

THE STATE OF PLAY

December 2023 National Consortium ORCID Ukraine has 46 members, including the SSTL of Ukraine as a Consortium Leader.

The Tab. 1 represents the situation with ORCID integration using the Affiliation Manager instrument. The experience of ORCID Affiliation Manager usage shows that this instrument serves as a crucial tool designed to simplify and enhance the management of researchers'

affiliations within the ORCID ecosystem. One of its notable advantages lies in its capacity to streamline the often complex and time-consuming process of managing and updating affiliation

information. Doing so it contributes significantly to maintaining accurate and up-to-date data, ensuring researchers' affiliations align seamlessly with their professional trajectories.

Table 1

Consortia Member Affiliations

Member Name	Affiliated records
Admiral Makarov National University of Shipbuilding	353
Bila Tserkva National Agrarian University	197
Bukovinian State Medical University	735
Central Ukrainian National Technical University	108
Dragomanov Ukrainian State University	1146
H. S. Skovoroda Kharkiv National Pedagogical University	484
Izmail University of Humanities	82
Kharkiv National University of Internal Affairs	457
Kharkiv National University of Radio Electronics	1041
Kharkiv State Academy of Culture	193
Kherson State University	562
Khmelnyskyi National University	458
Kyiv National Economic University named after Vadym Hetman	929
Kyiv National University of Construction and Architecture	596
Mukachevo State University	30
National Antarctic Scientific Center of Ukraine	14
National Aviation University	489
National Scientific Center «Institute for Soil Science and Agrochemistry Research named after O.N. Sokolovsky»	34
National Technical University "Kharkiv Polytechnic Institute"	1060
National University "Odesa Law Academy"	372
National University of Food Technologies	351
National University of Pharmacy	325
Odesa State Uni of Internal Affairs	125
Oles Honchar Dnipro National University	1220
Poltava State Agrarian University	341
Poltava State Medical University	173
Poltava V.G. Korolenko National Pedagogical University (PNPU)	404
State Institution Luhansk Taras Shevchenko National University	104
State Scientific and Technical Library of Ukraine	15
State Scientific Institution "Ukrainian Institute of Scientific and Technical Expertise and Information"	4
State University of Economics and Technology	105
Sumy State University	830
Taras Shevchenko National University of Kyiv	5941
Vasyl Stefanyk Precarpathian National University	940
Vinnytsia National Agrarian University	678
Volodymyr Dahl East Ukrainian National University	286
West Ukrainian National University	371
Zhytomyr Ivan Franko State University	386

Moreover, the Affiliation Manager seamlessly integrates with ORCID iDs, recognizing the pivotal role of unified identification and affiliation information in constructing comprehensive scholarly profiles. This integration enhances the visibility and discoverability of researchers, facilitating a more efficient and coherent representation of their academic contributions.

Despite these advantages, using the ORCID Affiliation Manager poses certain challenges. Chief among them is the ongoing concern related to data quality and consistency. Ensuring that

the information maintained through the instrument is consistently accurate and high-quality remains challenging, requiring ongoing vigilance and efforts to address potential discrepancies.

User adoption is another challenge, with the need to encourage researchers and institutions to embrace and actively utilize the Affiliation Manager. Overcoming resistance and promoting widespread adoption are essential components in maximizing the tool's effectiveness.

The Tab. 2 illustrates the state with the Consortia members' repositories integrations.

Table 2

Consortia member integrations

Display Name	Member Name	Connected Users	SP Name	Uses Member Portal
Taras Shevchenko National University of Kyiv – Affiliation Manager	Taras Shevchenko National University of Kyiv	1 454		True
Bukovinian State Medical University	Bukovinian State Medical University	542		True
Kharkiv National University of Radio Electronics	Kharkiv National University of Radio Electronics	370		True
Sumy State University	Sumy State University	368		True
Vinnitsia National Agrarian University – Affiliation Manager	Vinnitsia National Agrarian University	315		True
Poltava State Agrarian University	Poltava State Agrarian University	194		True
Kherson State University – Affiliation Manager	Kherson State University	120		True
Scientific publications of Sumy State University	Sumy State University	99		
Kyiv National Economic University	Kyiv National Economic University named after Vadym Hetman	98		True
West Ukrainian National University – Affiliation Manager	West Ukrainian National University	86		True
National University of Kyiv-Mohyla Academy – DSpace	National University of Kyiv-Mohyla Academy	84	DSpace	
Electronic Kharkiv National Pedagogical University Institutional Repository	H. S. Skovoroda Kharkiv National Pedagogical University	45	DSpace	
Izmail University of Humanities – Affiliation Manager	Izmail University of Humanities	42		True
Bulletin of Taras Shevchenko National University of Kyiv. Series: Physics and Mathematics	Taras Shevchenko National University of Kyiv	38	Open Journal Systems (OJS)	
Electronic Archive of Kharkov National University of Radio Electronics	Kharkiv National University of Radio Electronics	35	DSpace	
Grigoriev Ins Med Radiology and Oncology	State Organization "Grigoriev Institute for Medical Radiology and Oncology of the National Academy of Medical Sciences of Ukraine"	27		True

End of the table 2

Display Name	Member Name	Connected Users	SP Name	Uses Member Portal
KHMNU DSpace System	Khmelnitskyi National University	21	DSpace	
State Scientific and Technical Library of Ukraine	State Scientific and Technical Library of Ukraine	12		True
National Technical University "Kharkiv Polytechnic Institute"	National Technical University "Kharkiv Polytechnic Institute"	5		True
OJS at Oles Honchar Dnipro National University	Oles Honchar Dnipro National University	2	Open Journal Systems (OJS)	
National University of Food Technologies	National University of Food Technologies	1		True
Central Ukrainian National Technical University	Central Ukrainian National Technical University	1		True
EIR DSPACE	Admiral Makarov National University of Shipbuilding		DSpace	
Volodymyr Dahl East Ukrainian National University	Volodymyr Dahl East Ukrainian National University			True
Ukrainian Antarctic Journal (UAJ)	National Antarctic Scientific Center of Ukraine		Open Journal Systems (OJS)	
Kharkiv State Academy of Culture – Affiliation Manager	Kharkiv State Academy of Culture			True
KhNUIAIR	Kharkiv National University of Internal Affairs		DSpace	
Kyiv National University of Construction and Architecture – Affiliation Manager	Kyiv National University of Construction and Architecture			True
Kyiv Institute of Forensic Expertise – Affiliation Manager	Kyiv Scientific Research Institute of Forensic Expertise of the Ministry of Justice			True
Uzhorod National University – Affiliation Manager	Uzhorod National University			True
Electronic National Technical University "Kharkiv Polytechnic Institute" Institutional Repository	National Technical University "Kharkiv Polytechnic Institute"		DSpace	
National University of Kyiv-Mohyla Academy	National University of Kyiv-Mohyla Academy			True
National Aviation University	National Aviation University			True
Advanced Information Systems	National Technical University "Kharkiv Polytechnic Institute"		Open Journal Systems (OJS)	
Repository of Kyiv National University of Construction and Architecture	Kyiv National University of Construction and Architecture		DSpace	

The Ukrainian research institutions are using the DSpace system for repositories and OJS in case of journal publishing. In addition, Sumy State University used its own repository system for integration.

The integration of DSpace and OJS brings forth a range of advantages, enhancing the

overall scholarly publishing and repository management experience. DSpace, as a digital repository system, excels in its ability to effectively organizing and managing diverse digital content. Meanwhile, the benefits become more pronounced when seamlessly integrated with OJS, a robust scholarly publishing platform.

The integration ensures consistency in metadata standards, maintaining accurate and standardized information across both platforms. This is particularly crucial for maintaining the integrity of scholarly data and facilitating efficient search and retrieval processes.

While the benefits are significant, integrating DSpace and OJS poses challenges that need careful consideration. One of the primary challenges is the technical complexity associated with integrating these two systems. Ensuring compatibility and seamless data transfer between the robust repository structure of DSpace and the editorial workflows of OJS can be intricate and requires careful planning.

Synchronization of data, particularly metadata and content, between the two platforms can be challenging. Changes made in either system must be accurately reflected in the other to avoid inconsistencies, necessitating a meticulous approach to data management.

User training and adoption present another set of challenges. Authors and editors may require training on depositing content into the repository effectively. At the same time, journal teams may need guidance on utilizing DSpace features seamlessly within the OJS editorial workflow.

Customization and configuration complexities also arise, especially in adapting DSpace to meet specific journal requirements and configuring OJS workflows to accommodate DSpace integration seamlessly. This requires technical expertise and a thorough understanding of both systems.

Maintenance and support are ongoing challenges, as regular updates and changes in either DSpace or OJS may necessitate adjustments to maintain smooth integration. Dedicated support is essential for addressing potential issues and ensuring the continued effectiveness of the integrated system.

STRATEGIES FOR THE NATIONAL CONSORTIUM ORCID IN UKRAINE

Nevertheless, for Ukraine, the development of an ORCID consortium holds several promising perspectives for the research community and open science implementation.

Firstly, as an ORCID consortium expands, it attracts more institutions, organizations, and individuals to join. The consortium's collaborative nature encourages participation and engagement from various stakeholders in the research ecosystem, fostering a stronger network and community.

The second one, taking into account projects regarding URIS and OUCI, an ORCID consortium contributes to the development and enhancement of the national research infrastructure. By integrating ORCID identifiers into existing systems, repositories, and research databases, the consortium enables streamlined data exchange, interoperability, and improved research information management at the national level.

Also, with an ORCID consortium, national research assessment and evaluation processes can be enhanced. The availability of comprehensive and accurate data through ORCID profiles allows for a more informed evaluation of researchers, institutions, and research outputs, enabling evidence-based decision-making and resource allocation. At the same time the researchers could provide for the Ministry of Education and Science only identifier and become free from complicated papers application procedure.

The next important output is that membership in an ORCID consortium increases the visibility and recognition of researchers and institutions on the global stage. Consortium members gain broader exposure through integration with international research networks and platforms, leading to increased collaboration opportunities, international partnerships, and research impact. For instance, mentioning the Vinnitsia Agrarian University in the ORCID blog will provide visibility and increase the research image. At the same time, by adopting ORCID identifiers as a common identifier across the consortium, data interoperability is enhanced, ensuring consistency and accuracy in research information exchange and reducing duplication of effort.

So, developing an ORCID consortium holds significant potential to strengthen research infrastructure, foster collaboration, improve research assessment, and enhance the visibility and recognition of researchers and institutions national-

ly and globally. An ORCID consortium can collectively advocate for open research practices, data sharing, and the use of persistent identifiers. The consortium's influence can extend to shaping national policies and practices related to research funding, evaluation, and data management, promoting openness, transparency, and the responsible use of research outputs.

Nevertheless, effective implementation of the ORCID Consortium in Ukraine involves a strategic approach to promote the widespread adoption of ORCID iDs within the research community. To promote the adoption of ORCID iDs within the Ukrainian research community, the National Consortium ORCID employs a multifaceted strategy. Educational campaigns serve as a cornerstone, disseminating information about the merits and functionalities of ORCID iDs. Workshops and materials are tailored to diverse stakeholders, including researchers, academic institutions, publishers, and funding agencies, to elucidate the advantages of integrating ORCID iDs.

Collaboration with universities and research institutions is actively fostered to ensure the seamless integration of ORCID iDs into institutional systems and processes. The consortium engages with academic administrators to embed ORCID iDs as a standard element in research and publication workflows, emphasizing the institutional benefits of such integration.

Advocacy efforts are directed towards national funding agencies, urging the mandatory inclusion of ORCID iDs in grant applications and reporting mechanisms. The goal is to position ORCID iDs as a foundational component of funding agency policies, contributing to enhanced research tracking and impact assessment at the national level.

Partnerships with academic publishers are cultivated to facilitate the integration of ORCID iDs into manuscript submission and publication processes. The consortium encourages publishers to prominently display ORCID iDs alongside author information, reinforcing the credibility and visibility of researchers' contributions.

Technical support and resources assist institutions in seamlessly integrating ORCID iDs

into their information systems. Guidelines and best practices for technical implementation are developed and disseminated, ensuring compatibility with existing research infrastructure.

Strategic outreach programs, including workshops, webinars, and information sessions, actively engage the research community. These initiatives are designed to address specific concerns and needs of researchers, emphasizing the practical advantages of adopting and utilizing ORCID iDs in their scholarly activities.

Recognition programs and incentives are established to acknowledge and reward researchers who actively use and promote ORCID iDs. Collaborations with academic and research institutions are forged to implement schemes highlighting the contributions of researchers employing ORCID iDs.

International collaboration is actively pursued, with the consortium engaging with international ORCID initiatives and organizations. Participation in global discussions, sharing of best practices, and contributing insights to the international community ensure alignment with global standards and advancements.

Monitoring and evaluation mechanisms are implemented to assess the efficacy of ORCID adoption strategies. Data on registered ORCID iDs, integration levels across institutions, and the impact on research attribution are collected to inform ongoing improvements.

Through the implementation of these comprehensive strategies, the National ORCID Consortium Ukraine seeks to create an environment conducive to widespread ORCID iD adoption, fostering transparency and collaboration within the Ukrainian research landscape.

ECONOMIC IMPLICATIONS OF THE NATIONAL CONSORTIUM ORCID UKRAINE IN THE CONTEXT OF OPEN SCIENCE

Within the context of Open Science, the National Consortium ORCID Ukraine emerges as a strategic driver with profound economic implications, contributing to the nation's economic development through transparency, collaboration, and innovation.

The consortium fosters an innovation ecosystem by championing transparent research practices. This environment facilitates the seamless transfer of knowledge from academic research to practical industries. As findings become readily accessible and applicable, technological advancements are expedited, laying the foundation for a robust innovation landscape that positively impacts economic sectors. The commitment to Open Science, particularly the adoption of ORCID iDs, enhances the global visibility and credibility of Ukrainian researchers. This increased prominence attracts international collaborations and investments, injecting capital into the national research infrastructure. The consortium's initiatives position Ukraine as an attractive hub for global research partnerships and investments.

The collaborative ethos fostered by Open Science policies, under the guidance of the consortium, strengthens the bridge between academia and industry. This collaboration accelerates the translation of research findings into practical applications, addressing real-world challenges. As Ottonicar et al. (2020) highlighted in their research, the resulting synergy contributes to economic sectors by fostering innovation, creating solutions, and fortifying the relationship between academic institutions and industries.

Participation in the global Open Science movement positions Ukrainian researchers and institutions as key players on the international stage. The commitment to transparency and collaboration enhances global competitiveness, enabling researchers to engage in international collaborations, access global funding opportunities, and contribute meaningfully to global research endeavors. This, in turn, elevates Ukraine's standing in the global knowledge economy.

CONCLUSION

The period from the creation of the National Consortium ORCID Ukraine was marked by

initial challenges, a testament to the ambitious vision of fostering open science principles within the Ukrainian research landscape. Overcoming these challenges, the Consortium has evolved into a pivotal force, driving the adoption of ORCID iDs and promoting transparency in scholarly contributions.

Also, the Consortium has played a crucial role in establishing a standardized and unified identification system for researchers, thereby contributing to the reduction of authorship ambiguity and ensuring accurate attribution of scholarly contributions.

Strategies employed by the National Consortium ORCID Ukraine have been instrumental in promoting open science principles. The emphasis on integration with ORCID iDs and the seamless incorporation of these identifiers into the research workflow highlights the Consortium's commitment to enhancing research transparency and collaboration.

Regarding examining the economic implications, the positive correlation between the Consortium's efforts in promoting open science and the broader economic development of Ukraine could be underlined. By facilitating a transparent and collaborative research environment, the National Consortium ORCID Ukraine has become a catalyst for generating high-quality research outputs, fostering innovation, and attracting investment.

In conclusion, the National Consortium ORCID Ukraine emerges not only as a facilitator of open science practices but also as a significant contributor to the nation's economic growth. The experiences detailed in this article, from the initial challenges to the current strategies and economic implications, collectively highlight the critical role that initiatives like the National Consortium ORCID Ukraine play in shaping a research ecosystem that aligns with open science principles while driving economic development through knowledge dissemination and collaboration.

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РОЛЬ НАЦІОНАЛЬНОГО КОНСОРЦІУМУ ORCID УКРАЇНА У РОЗВИТКУ ПОЛІТИКИ ВІДКРИТОЇ НАУКИ

Анотація. Дана стаття присвячена дослідженню ключової ролі, яку відіграє Національний Консорціум ORCID Україна у ефективній реалізації політики відкритої науки в українському дослідницькому просторі. У роботі детально розглядаються стратегії, які використовує консорціум для просування ідентифікаторів ORCID (Open Researcher and Contributor IDs) та їхньої інтеграції в різноманітні дослідницькі процеси з метою підвищення прозорості досліджень, оптимізації співпраці та створення міцного фундаменту для практик відкритої науки. Зосереджуючи увагу на важливості ідентифікаторів ORCID для унікальної ідентифікації дослідників, обговорюється їхній вплив на зменшення неоднозначності авторства та забезпечення точного призначення вчених внесків. Крім того, у статті досліджуються наслідки просування відкритої науки в Україні, зокрема позитивна кореляція між прозорістю досліджень та економічним розвитком. Виявлено, що Національний Консорціум ORCID Україна, сприяючи створенню більш прозорого наукового середовища, генерує високоякісні наукові результати, стимулює інновації та повертає інвестиції. У роботі детально описуються досвід та успіхи консорціуму у просуванні

принципів відкритої науки. Особлива увага приділяється викликам та технічній складовій, пов'язаній із використанням інструменту ORCID Affiliation Manager українськими інститутами, а також забезпеченням сумісності та безперешкодного обміну даними між цифровою системою репозитаріїв DSpace та редакційними процесами платформи для публікацій OJS. У заключенні статті підкреслюється критична роль ініціатив, подібних Національному Консорціуму ORCID Україна, у формуванні наукової екосистеми.

Ключові слова: ORCID; відкрита наука; Національний Консорціум ORCID; відкритий доступ; економічний розвиток.

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