

UDC [027.7:[021:001.1]](477.54):004.77

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Changes in the Activities of the Library of the Yaroslav Mudryi National Law University in the Framework of Open Science

Objective. The article examines the role of modifications in the activities of the Scientific Library of the Yaroslav Mudryi National Law University (Yaroslav Mudryi NLU) as a basis for using its innovative potential in promoting the benefits of open science among the academic community, and facilitating the consolidation (unification) of research achievements on topical issues of law. **Methods.** The general scientific methods (analytical, comparative, analysis and synthesis, etc.) were applied, which made it possible to determine the features of structural and functional, reorganizational, resource and service modernization of the library's activities in the implementation of the latest open science technologies. **Results.** The article shows the role of the library as a reliable assistant of the University in the processes of research data exchange, a guarantor of the formation and adaptation of the online environment, resources, bibliometric tools to provide systematic support for research and strengthen communication interaction during remote work in wartime. **Conclusions.** Attention is focused on the need for strategic use of modifications in the library's activities, which allow achieving a balanced combination of open science goals with the modification of the library system and obtaining a synergistic effect within the research infrastructure of the University.

Keywords: open science; open access; open data; library resources; scientific research; scientometrics; Scientific Library of the Yaroslav Mudryi NLU; modifications

Introduction

Almost every scientific work devoted to modern processes, whether in a single country or around the world, in one way or another touches upon the topic of globalization, evolution, leveling of borders (we are talking about science and education without borders), as well as the urgent need to unite the efforts of representatives of not only different fields, but also states to develop open science practices. Of course, this requires, first and foremost, systematic interaction, which consists of a constant exchange of innovative experience and discussion of proposals. In the age of computer technology, digital transformation of universities, this is easy to organize, and most importantly, as recent events have shown (COVID-19, Russia's full-scale invasion of the territory of sovereign Ukraine), it is possible thanks to technological transformation in modern scientific communication. We are talking about using the global opportunities of Open science, Open access in conducting research and disseminating knowledge, based on the principles of transparency, community, inclusiveness, reproducibility, etc.

Of course, our country has become an active participant in these processes. For example, Ukraine, which is currently on the path of implementing open science and the Open Science for Ukrainian Higher Education System (Open4UA) project, aims to reform the higher education system, prioritizing open science to promote the dissemination of knowledge, the growth of the knowledge economy for the post-war recovery of the country (Lviv Polytechnic National University, 2023), as well

as the introduction of innovative systems in Ukraine for the intellectual and professional development of those involved in the legal field (Hlibko, 2019). It is in the implementation of the outlined strategic tasks for the introduction of open science technologies that the library can be a reliable assistant and guarantor at the University, which is in constant search, resorting to modifications (modification) of its activities, characterized by the emergence of new properties while maintaining the essence. At different levels of implementation of the ideas and practices of open science - from university-wide to individual - the library undergoes transformations in structural and functional reorganization, resource and service modernization. And as T. Yaroshenko rightly notes, it is the librarian who must master new practices and "become truly 'embedded' in the research process" (Yaroshenko, 2021, p. 22). The library and its staff also have a significant role to play in promoting the principle of openness, which "will be the norm for the research information" (*Barcelona Declaration on Open Research Information*, 2024).

The objective of the article is to substantiate and summarize the essence of changes in the activities of the Scientific Library of the Yaroslav Mudryi NLU and their significance in utilizing its innovative potential, engaging in promoting the benefits of open science within the academic community and integrating research achievements on topical issues of law.

Review of the literature. The analysis of the research and publications allowed us to identify theoretical, methodological and practical problems related to such global initiatives as Open Access, Open Education and Open Science, which are still in the focus of attention of the world scientific community (DeSanto, 2023; L. Liu & W. Liu, 2023; Tzanova, 2020; van Gend & Zuiderwijk, 2023, etc.) The works of Ukrainian researchers (Drach, 2022; Lobuzina, Harahulia, Konoval, & Lobuzin, 2020; Pasmor, 2020; Yaroshenko, Serbin, & Yaroshenko, 2022, etc.) substantiate the advantages and prospects of open science and innovation in Ukraine, the importance of their integration into European research infrastructures. Practitioners, in turn, emphasize the need for productive use of the main components of open science in research, such as open data; open access; open peer review; open sources; open educational resources; and citizen science. In particular, experts emphasize that in order to accelerate scientific and economic progress, it is necessary to "participate in open scientific practices, open scientific data and results, and make them available to the scientific community and the general public" (Yaroshenko, Serbin, & Yaroshenko, 2022). Scientists confirm the need to revise approaches to the fair exchange of research data, the use of available tools for working with metadata to accelerate and deepen it. It should be added that library professionals will play an important role in the processes of organizing, storing, protecting, and maintaining data throughout their life cycle (Kulyk, 2023).

This is confirmed, in our opinion, by the fact that most scholars in the fields of document science, library science, informatics, and social communications, when considering the development of library information systems (LIS) at universities, emphasize the leading role of libraries in digital projects. Moreover, the purpose of libraries is to create an adaptive online environment and consolidate information, including legal information, to provide systematic support for research (Lobuzina, Harahulia, Konoval, & Lobuzin, 2020; Pasmor, 2020). However, in this case, the researchers also point to an obvious change in the traditional perception of the library of a modern university through the transformation of its functions and information image, emphasizing the strengthening of communication interaction during distance work in wartime (Pasmor & Samofal, 2021). The authors prove the need to achieve a balance and combination of the goals of quality education, multidimensional information support (IS) of the research and educational process at the University and the resulting synergistic effect within the interests of the whole society, since only in this case open science and knowledge will contribute to the development of the sectors of the Ukrainian economy.

Methods

This study provides an informational analysis of experience and innovations in the activities of the Scientific Library of the Yaroslav Mudryi NLU in the context of today's global challenges. In the course of the work, such methods of scientific cognition as analytical, comparative, focus group, analysis and synthesis were useful. Their comprehensive application made it possible to identify the main opportunities for taking diversification measures to modify the work of the library and to analyze the obstacles that arise or will arise in the use of networked information and communication technologies (ICT), the formation of the knowledge bases (KB), the introduction of new services, which will allow to direct resources to the interaction of the academic community in scientific discourse. Strengthening research initiatives will allow library managers to intensify expert information and bibliometric activities, which will ensure the integration of ideas and practices of open science into researchers' work processes.

Results and Discussion

The Library, as the main subject of the University's educational and scientific activities, actively supports the University on its way to open science, is an effective participant in creating a modern research environment, introducing digital innovations and providing information support to young researchers. In order to respond in a timely manner to the risks and challenges of our time, the library develops and adapts information/meta-resources to the practices of hybrid, flexible work in the field of university science, conducts consulting, methodological and informational activities to support the semantic deepening of scientific communication and the needs of scientists. Taking into account the complexity and responsibility of fulfilling the tasks of open science at the university, we consider a modern library as a system, a conceptual component of a purposeful information environment, a fundamental stabilizing factor for the development of law schools at the university and the expansion of digital accessibility of research topics in the field of law. For example, in the educational and scientific environment of our University, the following are available: a centralized repository of scientific publications in Open Access (<https://dspace.nlu.edu.ua/>); Scientometrics. Bibliometrics is an online resource for displaying the analysis and statistical collection of indicators of scientific activity and productivity of scientists in Scopus, Web of Science (<https://sites.google.com/nlu.edu.ua/science>); E-card "Publications of Scientists of Yaroslav Mudryi NLU in Scopus" (https://ek.nlu.edu.ua/cgi-bin/irbis64r_01/cgiirbis_64.exe?C21COM=F&I21DBN=METRIC&P21DBN=METRIC&S21FMT=&S21ALL=&Z21ID=&S21CNR=20), etc.

Since research results and data are stored in databases (DB) located on server-based storage media, one cannot ignore the leading role of the library in creating and managing open problem-oriented DB and KB, the digital landscape of higher education institutions (HEI), and innovative workspace for research information. The timely formation and adaptation of resources and KB to the information needs of legal scholars, the development of a web bibliography of scholars who founded legal science allows accumulating and enriching the source research digital potential of the online research environment, and achieving greater accessibility of empirical research as examples of national communication culture, education, law schools, etc.

Being at the epicenter of events, the library monitors the dynamics and trends in the law school, takes into account the prevalence of "reset", modernization of open education, and open science. Therefore, together with the academic community, we strive to find innovative solutions, conceptualize activities in the field of open science, and consolidate efforts to achieve effective interoperability in the organization of the information policy of HEI, accelerating progress towards

the implementation of innovative open science practices. The relevance and significance of the processes is confirmed by the fact that since the beginning of the introduction of the legal regime of martial law due to the unjustified aggression of the Russian Federation against the sovereign state of Ukraine and constant shelling, the problem of providing access to the resources of HEI, preservation of funds, web portals, repository and DB of the scientific library is now urgent and important. In this regard, in order to move towards transparency and accessibility of educational and scientific activities, the effectiveness of scientific communications, the university community has taken some positive steps to bring the individual and collective activities of the University, the research library and higher education students in line with the realities of today. The achievements of open science in terms of free movement of knowledge through the effective use of ICT, channels of external and internal communications between participants in the educational and scientific process have been useful.

The consolidated work of the university community and the use of new ways of disseminating knowledge through digital technologies, *Automated Library Information System*, organization and use of information resources, electronic libraries, open platforms, cognitive databases have made it possible to interact and work in a coordinated and efficient manner in a multitasking mode, but with a new, higher quality level of IS. According to a focus group survey on the information needs of postgraduate students, most young researchers note that timely receipt of the necessary information from various fields of legal science and education through library channels and services greatly facilitates their research activities (Pasmor, 2020). In particular, the optimization of workspace tools for collaborative and fruitful work at all stages made it possible to modernize bibliometric tools, create a more attractive atmosphere and information environment to increase scientometric citation indices of scientists, which should be considered a clear confirmation of the movement towards Open Innovation at the University.

At the same time, the constant monitoring of statistical indicators and data on scientific, scientific, technical, and innovative activities of the Yaroslav Mudryi NLU for 2019-2023 indicates the need to involve library specialists, authors themselves, and relevant services in joint cooperation. In particular, this should include guaranteeing the openness of publishing research projects (monographs, scientific articles, etc.); deepening the work with the FAIR data set, metadata to ensure the searchability, accessibility, compatibility, and reusability of research data and relevant information; simplifying the publication of open access scientific articles indexed by Scopus and/or Web of Science. This is made possible by achieving a balanced combination of research accessibility goals, expanding the library's functional interaction with representatives of departments and authors to more actively fill the institutional repository of the Yaroslav Mudryi NLU (eNULAUIR) with scientific works, which is intended to be one of the effective channels for disseminating the results of scientific research, a resource hub for open science in the field (18,900 units of full-text materials). Thus, in 2022, the University's scientists published 2,542 titles of scientific works, including 61 monographs, 1,032 scientific articles, and 346 were transferred to the institutional repository, which is only 13.6% of the total number of published documents.

Despite these figures, we believe that in order to succeed and achieve the desired results, it is important to take into account best practices. As the analysis shows, TU Delft's efforts to promote research data sharing and reuse have had an impact on research practice, and changing the mindset of researchers and communicating the benefits of data sharing is fundamental. According to Thijmen van Gend and Anneke Zuiderwijk, researchers should feel supported by universities and libraries when conducting searches. The authors note that measures to support researchers should be implemented at the level of institutional and infrastructural mechanisms to encourage open science, and should be ongoing, diverse, and cover legal, financial, administrative, and practical issues of research data management, which should be used as a "carrot" rather than a "stick" (van Gend & Zuiderwijk, 2023). It is no coincidence that Jane Belger, a librarian at the

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University of the West of England in the UK who researches open access, emphasizes that libraries need to collaborate with research offices to better support researcher mobility. She notes that she and her colleagues are "building" a bridge between the library and the research department of the university, using their expertise to inform the capacity of the university's research community (Jenkins & Belger, 2023). In turn, Li Liu and Wenyun Liu emphasize that in the era of Open Science, academic libraries are forced not only to expand traditional library processes, including digital curation, but also to take on new roles and responsibilities, which requires advanced training of library staff and the accumulation of new experience and knowledge, and the systematic development of new practices of working with researchers (L. Liu & W. Liu, 2023).

The Library of the Yaroslav Mudryi NLU studies foreign practices, accumulates its own experience, modifies processes for comprehensive information support of researchers' requests, and, of course, makes certain changes to the functional and targeted solution of the problems of forming, adapting, structuring, and expanding the legal DB, and produces scientometric knowledge to ensure the integration of research results into the global scientific space. Indeed, innovations and modifications in the activities of the University Library are a responsible and lengthy process that affects many functional components of the library system. We are talking about: a) reorganization of structural, functional, and personnel changes during martial law; b) updating the virtual space of digital resources on law; c) software and technological measures to improve the position of the institutional repository eNULAUIR in world rankings; d) support of the scientific reputation and promotion of the University in the global network of scientometric and bibliometric indicators; e) popularization of the principles of open science and academic integrity; f) promotion of the visibility and influence of scientists and the University as a whole in the world scientific space, etc.

Conclusions

A certain modification of library activities becomes a navigational sign, an impetus for a communicative "reset," which, in our opinion, can be achieved by increasing the weight of the library's human resources and modifying approaches to updating service tools for disseminating research results and providing open access to them. It is obvious that the University Library at the institutional level is called upon to meet high standards of professionalism, scholarship, digitalization, and innovation in supporting the open science movement in order to make legal research accessible to anyone who is interested in it. At the same time, of course, the weight of the cognitive aspect of the functioning of library specialists is increasing, which requires further adjustment of work with large amounts of information and data through the modernization of the subject-activity direction of the university library's transformation capabilities. Thanks to this, the library now acts as an operational provider of information and bibliographic services and resources, actively supporting complex research requests of representatives of the academic community, as well as the University's movement towards open science. At the same time, a new level of library and information support for the needs of the University's researchers is an imperative for the quality of the library's modification on the way to achieving openness of research information.

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Видозміни в діяльності бібліотеки Національного юридичного університету імені Ярослава Мудрого в контексті відкритої науки

Мета. У статті розглянута роль видозмін у діяльності Наукової бібліотеки Національного юридичного університету імені Ярослава Мудрого (НЮУ імені Ярослава Мудрого) як основи для використання її інноваційного потенціалу в залученні до просування переваг відкритої науки серед академічної спільноти, сприяння консолідації (об'єднання) дослідницьких здобутків з актуальних питань права. **Методика.** Застосовано загальнонаукові методи (аналітичний, порівняльний, метод аналізу й синтезу тощо), що дало змогу визначити особливості структурно-функціонального, реорганізаційного, ресурсного й сервісного осучаснення діяльності бібліотеки у впровадженні новітніх технологій відкритої науки. **Результати.** Показано роль бібліотеки як надійного помічника університету у процесах обміну науково-дослідними даними, гаранта формування й адаптування онлайн-середовища, ресурсів, бібліометричних інструментів для забезпечення системної підтримки наукових досліджень і посилення комунікаційної взаємодії під час дистанційної роботи в період воєнного часу. **Висновки.** Акцентовано увагу на необхідності стратегічного використання видозмін у діяльності бібліотеки, що дають змогу досягати збалансованого поєднання цілей відкритої науки з модифікацією бібліотечної системи й отримувати синергійний ефект у межах дослідної інфраструктури університету.

Ключові слова: відкрита наука; відкритий доступ; відкриті дані; ресурси бібліотеки; наукові дослідження; наукометрія; Наукова бібліотека НЮУ ім. Ярослава Мудрого; видозміни

Received: 26.08.2024

Accepted: 20.12.2024