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EVALUATING OPEN-ACCESS INSTITUTIONAL REPOSITORIES IN UKRAINE: INSIGHTS FROM THE OPENDOAR

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ABSTRACT

Purpose: This study aims to evaluate the status of Open Access Institutional Repositories (OAIRs) in Ukraine as listed in the Directory of Open Access Repositories (OpenDOAR), focusing on key repository characteristics including year-wise growth, type, subject coverage, content types, languages, and software used.

Design/Methodology/Approach: The study adopts a descriptive research approach. Data were collected from the OpenDOAR website as of September 23, 2024. The collected data were analysed and presented through tables and charts to identify trends and patterns across multiple parameters such as repository type, year of registration, subject discipline, software usage, and language interface.

Findings: A total of 98 institutional repositories from Ukraine were examined. Institutional repositories dominated the landscape (96.94%), with the highest number registered in 2019. English was the most used interface language (79.2%), followed by Ukrainian and Russian. Science, technology, and social sciences emerged as the most represented subjects. Journal articles and theses constituted the majority of repository content. DSpace was the predominant software used (88.78%).

Practical Implications: The findings offer valuable insights for repository developers, policymakers, and academic institutions in Ukraine, guiding them toward strengthening open access infrastructure and enhancing research visibility.

Originality/Value: This study provides a focused assessment of Ukraine's contribution to global open access through institutional repositories, helping to benchmark its progress and identify areas for strategic development.

Keywords: Open Access, Institutional Repositories, Ukraine, Open DOAR, DSpace, Repository Software, Scholarly Communication

1. INTRODUCTION

Today, institutional repositories are essential for advancing higher education and fostering research and development. An “institutional repository” refers to a digital collection that is carefully curated and managed, showcasing the work of an institution’s faculty, staff, and students (Velmurugan, 2010). Institutional repositories are advanced technologies that enable knowledge sharing and management in academic and research institutions (Doctor, 2008; Nayak & Parhi, 2021). Institutional repositories are digital collections of intellectual production that are captured and preserved within single or multi-university communities (Crow, 2002; Hockx-Yu, 2006). The establishment of open institutional archive repositories offers a promising strategy for disseminating analysis findings across many developed countries (Ezema, 2011). Institutional repositories will help academic institutions and repository administrators to bring about improved investment decisions (Wirba et al., 2013).

The Directory of Open Access Repositories (Open DOAR) is administered by SHERPA Services, which is based at the Centre for Research Communications at the University of Nottingham, United Kingdom (Vyas, 2013). Open DOAR is a directory that has been freely available since its launch in 2005. It facilitates the search, identification, and retrieval of repositories organized by country, thereby enhancing accessibility to various academic and institutional resources (Singh et al, 2020). DOAR is an initiative focused on the development and maintenance of a comprehensive metadata harvesting service for all resources governed by the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) globally.

2. LITERATURE REVIEW

Pradhan and Mohapatra (2024) investigated the status and impact of Open Access Institutional Repositories (OAIRs) in Australia using data from the Directory of Open Access Repositories (OpenDOAR). Their analysis covered parameters such as growth trends, repository type, disciplines, content, age of repositories, and software used. Findings revealed that out of 84 repositories, peak registrations occurred in 2006 (30.95%) and 2019 (16.67%). Most repositories were institutional (86.90%), with DSpace being the most commonly used software (23.81%). The study highlights the role of OAIRs in advancing scholarly communication in Australia.

Parray et al. (2023) explored the status and characteristics of Open Access Repositories (OARs) in India and China using data from Open DOAR. The study analyzed repository type, software, interface language, year of development, subject and content coverage, and Web 2.0 tool usage. Findings revealed that India ranks 4th and China 5th among Asian countries by repository count, with institutional repositories being predominant in both. DSpace and English were commonly used, and Web 2.0 tools like RSS and Atom were moderately adopted. The study emphasizes the need for more diverse repository types and suggests policy-level improvements to strengthen green open access initiatives.

Nayak et al. (2021) analyzed the status of open-access institutional repositories in Shanghai Cooperation Organisation (SCO) countries. Among 214 repositories studied, the highest registrations occurred in 2011 (16.82%) and 2019 (15.89%). DSpace was the most commonly used software (61.21%), followed by EPrints (16.36%). English was the dominant interface language (52.15%), with Russian as the next preferred (18.48%).

Nayak and Mohapatra (2021) analyzed Open Access Institutional Repositories (OAIRs) in BIMSTEC countries using OpenDOAR data. They examined repository type, content, discipline, language, and software. Most repositories were registered in 2013 and 2019 (12% each), with English as the

primary interface language (71.14%). DSpace (67.33%) was the most used software. India led with 65.33% of the repositories. Journal articles (23.27%) and theses (17.40%) dominated the content, while multidisciplinary subjects were most common (22.60%). The study highlights India's key role in BIMSTEC's OA growth.

Kuri and Singh (2020) analyzed the prominence of Indian Open Access Institutional Repositories (OAIRs) listed in the Directory of Open Access Repositories (OpenDOAR). Out of 5,414 global repositories, 96 were from India. The study examined repository software, content type, item size, language, and policy framework. It highlighted India's contributions across repository types and disciplines, emphasizing the role of OAIRs in supporting academic visibility and collaboration. The authors also discussed the opportunities and challenges facing OAIR development in the Indian academic landscape.

Das and Singh (2017) examined the status of Open Access Institutional Repositories (OAIRs) in China through a case study approach. Using data from the Directory of Open Access Repositories (OpenDOAR), they analyzed repositories based on number, type, subject coverage, content, and software used. The study provides insights into China's contribution to open access and its role in the global scholarly communication landscape.

3. OBJECTIVES

- To analyze the year-wise distribution of institutional repositories in Ukraine.
- To examine the distribution of Ukrainian repositories in the Directory of Open Access Repositories (DOAR) based on type, subject, and language.
- To identify the types of repositories and software platforms used for institutional repositories in Ukraine.
- To assess the extent of Ukraine's institutional repository enrollment in DOAR.

4. SCOPE AND LIMITATIONS OF THE STUDY

This study focuses on open-access institutional repositories registered in the Directory of Open Access Repositories (DOAR). To assess Ukraine's research contributions, the scope is limited to repositories registered by Ukrainian institutions. Only those repositories listed in Open DOAR as of 23rd September 2024 have been included and analyzed for this study.

5. METHODOLOGY

The study aims to evaluate Ukraine's contribution to open-access institutional repositories. Data were sourced from the Directory of Open Access Repositories (DOAR) available at <https://v2.sherpa.ac.uk/opendoar>, accessed on September 23, 2024. Relevant information was collected from the website and systematically analyzed. The data were presented using tables and graphical charts under various sub-headings, including year-wise distribution, repository types, software and language used, subject-wise categorization, and Ukraine's repository registration trends in comparison to other countries.

6. RESULT AND DISCUSSION

According to the data collected, the authors conducted the analysis across various segments, including the necessary tables, figures, and graphical representations, which are outlined below.

6.1 NATURE OF INSTITUTIONAL REPOSITORY

Institutional repositories (IRs) are categorized into three major categories: disciplinary, governmental, and institutional. Table 1. The largest number of record repositories were institutional,

96.94% (95), and disciplinary, followed by 2.04 % (2), and governmental, followed by only 1.02 % (1). The study revealed that institutional repositories for educational institutions were tracked more than the various types of IRs.

Table - 1: Types of Institutional Repository

Repository Type	Number	Percentage
Disciplinary	2	2.04%
Government	1	1.02%
Institutional	95	96.94%
Total	98	100.00%

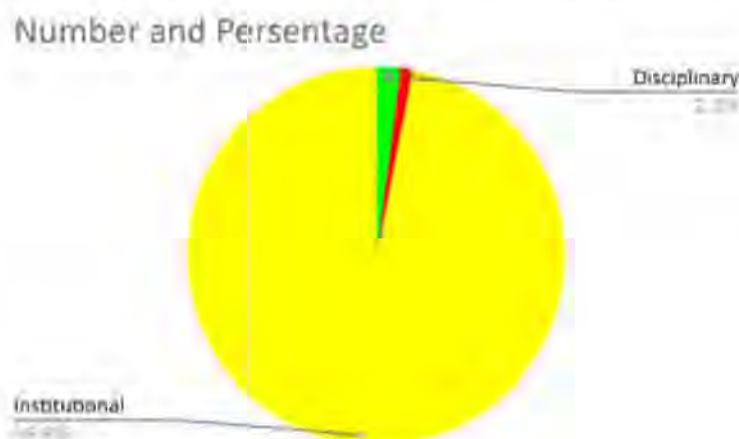


Figure1: Types of Institutional Repository

6.2 The Year-wise Growth Pattern

Table 2 and Figure 2 show the cumulative annual growth rate of institutional repository registrations in DOAR. It was found to be the highest among the 98 institutional repositories. That is, 21 (21.65 %) institutional repositories were registered in 2019, followed by 11 (11.34%) repositories in 2013, 8 (8.25%) repositories in 2011 and 2012 each, 6 (6.19%) in 2017, 5 (5.15%), 2010, 2014 and 2016, respectively. The analysis clearly shows an inconsistent growth in institutional repository registrations in DOAR.

Table - 2: Year-wise Growth pattern of Institutional Repository

Year	COUNTA of Years	%	Year	COUNTA of Years	%
2007	1	1.03%	2016	5	5.15%
2008	4	4.12%	2017	6	6.19%
2009	2	2.06%	2018	1	1.03%
2010	5	5.15%	2019	21	21.65%
2011	8	8.25%	2020	1	1.03%

2012	8	8.25%	2021	3	3.09%
2013	11	11.34%	2022	3	3.09%
2014	5	5.15%	2023	2	2.06%
2015	9	9.28%	2024	3	3.09%
			Grand Total	98	100%

COUNTA of Years vs. Years

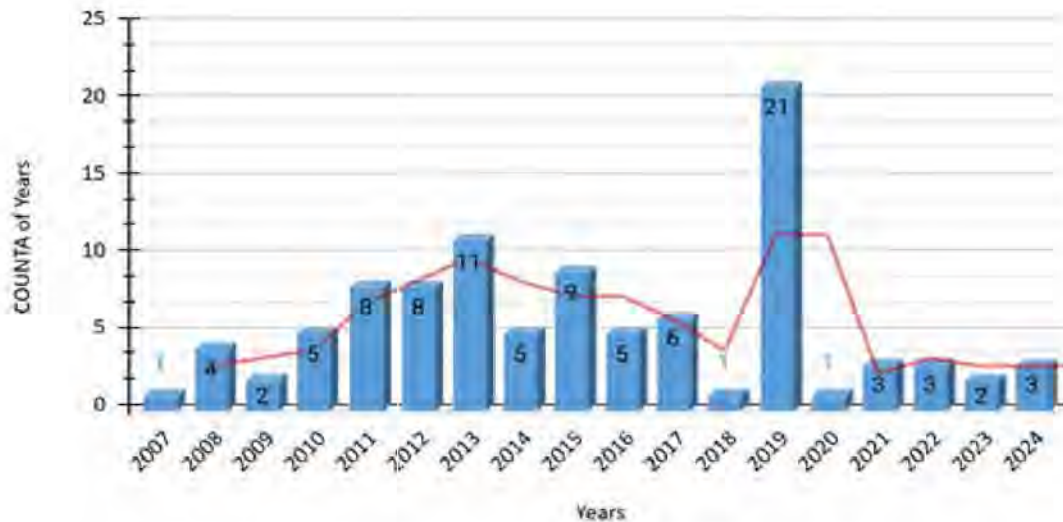


Figure 2: Year-wise Growth pattern of Institutional Repository

6.3 Language Use in Institutional Repository

Table 3 and Figure 3 illustrate the distribution of interface languages used in 125 open-access institutional repositories. The data reveals that English is the dominant language, utilized in 79.2% of the repositories. This underscores its widespread acceptance and importance as a global medium for scholarly communication. Ukrainian is the second most used language, representing 19.2% of the repositories, indicating a strong regional engagement with open access initiatives. In contrast, Russian is used in only 1.6% of the repositories, suggesting a relatively limited presence. Overall, the chart highlights the continued prominence of English in enhancing international accessibility and visibility of academic content, while also showcasing notable regional contributions, particularly from Ukrainian-language repositories.

Table - 3: Language use in Institutional Repository

language	COUNTA of language
English	99
Russian	2
Ukrainian	24
Grand Total	125



Figure 3: Language use in Institutional Repository

6.4 Discipline-wise Distribution of IR

Table 4, Figure 4 shows the distribution of institutional repositories by subject in DOAR. The majority, i.e. 78 (15.35%) of institutional repositories are in science, followed by 74 (14.57%) technology, 66 (12.99%) Social Sciences, 60 (11.81%) Engineering, 59 (11.61%) Health and Medicine, Humanities, 57 (11.22%) Mathematics, and 55 (10.83 %) are Arts.

Table - 4: Subject-wise distributions

<i>Subject</i>	COUNTA of Subject	%
Arts	55	10.83%
Engineering	60	11.81%
Health and Medicine	59	11.61%
Humanities	59	11.61%
Mathematics	57	11.22%
Science	78	15.35%
Social Sciences	66	12.99%
Technology	74	14.57%
Grand Total	508	100.00%



Figure 4: Subject-wise distributions

6.5 Content Types

Table 5 and Figure 5 present the distribution of content types found in institutional repositories registered by Ukraine in DOAR. The content categories are shown along with their frequencies and cumulative percentages. Journal articles emerged as the most common content type, accounting for 87 entries (24.8%). The analysis indicates that authors were primarily inclined toward contributing journal articles over other types of content, as reflected in the data.

Table - 5: Content wise Distributions

<i>Content Type</i>	Number	<i>Content Type</i>	Number
Journal Articles	1	Journal Articles	87
Chapters and Sections	1	Learning Objects	25
Bibliographic References	21	Other Special Item Types	23
Books	2	Journal Articles	1
Books, Chapters and Sections	40	Patents	12
Chapters and Sections Learning Objects	1	Reports and Working Papers	24
Conference and Workshop Papers	56	Theses and Dissertations	53
Datasets	4	Grand Total	351

COUNTA of Content Type

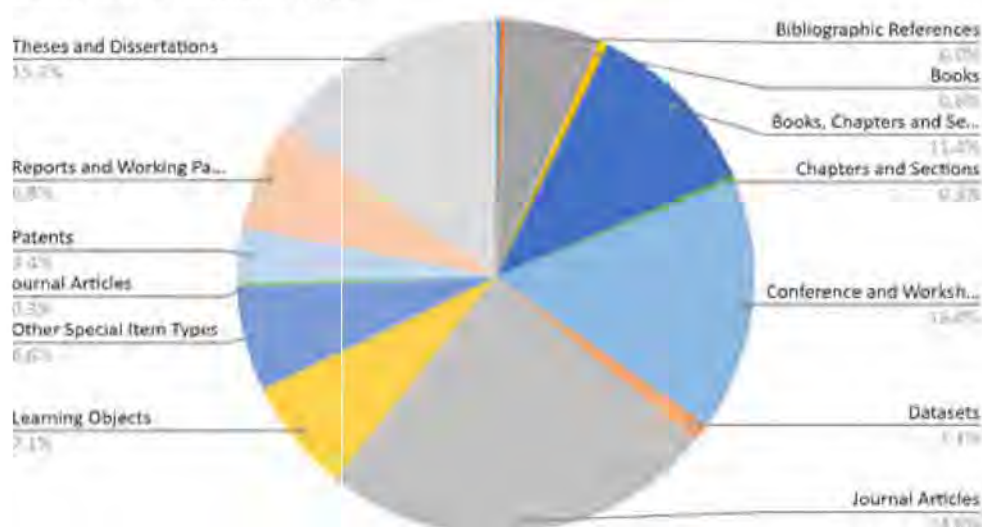


Figure 5: Content wise distributions

6.6 Software Usage of Repositories

Table 6 and Figure 6 shows the distribution of the software used for the deployment of Institutional repositories in Ukraine. The most widely used software is the open-source application DSpace 87

(88.78%), E print with 8 (8.16%), Taina can and VNAU use 1(1.02%) each and 1(1.02%) is unspecified. It is evident that more than 90% of IRs registered with DOAR were using open-source software.

Table - 6: Software-wise distribution of IRs

Software Name	use	%
DSpace	87	88.78%
E Prints	8	8.16%
Taina can	1	1.02%
VNAU*	1	1.02%
UNSPECIFIED	1	1.02%
Grand Total	98	100.00%

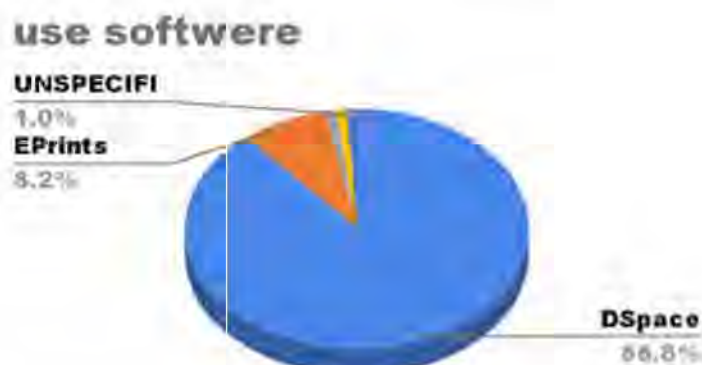


Figure 6: Software-wise distribution of IRs

7. FINDINGS

The analysis of Ukraine's Open Access Institutional Repositories (OAIRs), based on data from the Open DOAR directory, and yielded the following key findings:

- **Repository Type:** Out of 98 repositories, the vast majority (96.94%) were institutional in nature, while disciplinary (2.04%) and governmental (1.02%) repositories were minimal. This highlights a strong focus on institution-driven repository initiatives in Ukraine.
- **Year-wise Growth Pattern:** The highest number of repository registrations occurred in 2019 (21.65%), followed by 2013 (11.34%). However, the growth pattern over the years has been inconsistent, reflecting sporadic development rather than a continuous upward trend.
- **Language of Interface:** English was the dominant language used in 79.2% of the repositories, followed by Ukrainian (19.2%) and Russian (1.6%). This reflects Ukraine's alignment with global scholarly communication standards while also supporting national language usage.
- **Subject-wise Distribution:** Repositories were multidisciplinary, with Science (15.35%) and Technology (14.57%) being the most represented subjects. Social Sciences (12.99%),

Engineering (11.81%), Health and Medicine (11.61%), Humanities (11.61%), Mathematics (11.22%), and Arts (10.83%) also showed significant presence.

- **Content Types:** Journal articles were the most frequently included content type (24.8%), followed by conference papers, theses and dissertations, reports, and other academic outputs. This suggests that Ukrainian repositories primarily focus on disseminating peer-reviewed research and academic theses.
- **Software Used:** DSpace was the most widely used repository software (88.78%), indicating a strong preference for this open-source platform. Other software like E Prints (8.16%) and Taina can or VNAU were used marginally.

8. CONCLUSION

The study provides a comprehensive assessment of the current state of Open Access Institutional Repositories (OAIRs) in Ukraine, based on data from the Open DOAR directory. The findings reveal that Ukrainian repositories are predominantly institutional in nature, with English being the leading interface language, highlighting an emphasis on global academic communication. Science, technology, and social sciences emerged as the most represented disciplines, and journal articles were the most commonly archived content type. DSpace was identified as the most preferred software platform for repository development.

Despite the notable progress in repository infrastructure, the study also underscores certain gaps, such as limited representation of disciplinary and governmental repositories, underutilization of regional languages, and uneven growth trends. Addressing these issues could strengthen Ukraine's contribution to global open access initiatives. Moving forward, targeted policy support, institutional collaboration, and technological upgrades are essential for enhancing the visibility, accessibility, and impact of scholarly outputs through open repositories in Ukraine.

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