

# Academic Institutional Repositories for Studies, Research and Preservation of Scientific Heritage in Latvia

Daina Valeine<sup>[0009-0002-4191-9438]</sup>

Latvian College of Culture at Latvian Academy of Culture, Riga, Latvia  
daina.valeine@lkk.gov.lv

**Abstract.** Institutional repositories enable the storage and sharing of scholarly information and are an essential element of open science. The study assesses the current status of institutional repositories in Latvian higher education institutions and provides an overview of the development, design and management of repositories, resource provision and access.

**Keywords:** Open Science, Institutional Repositories, Scholarly Information, Digital Preservation, Higher Education Institutions.

## 1 Introduction

Access to digital resources, sharing of scientific information and innovations, as well as collaboration between researchers, are essential components of open science. One way to implement open access to scientific and research information is to preserve and share research results in *academic institutional repositories*.

The aim of the exploratory study is to provide insight into the development of institutional repositories in Latvia, to identify the purpose, performance and use of repositories, with a focus on the digitisation and sharing of scientific heritage. The following research questions are proposed:

1. to what extent have the higher education institutions of Latvia established institutional repositories;
2. what are the management principles and conditions of access to information of the established institutional repositories;
3. what resources are made available by the Latvian institutional repositories and whether they include digitised historical materials of the scientific heritage.

The study investigated the development and operation of institutional repositories in Latvian universities and colleges. An analysis of publicly available information and data was carried out to gather information on the content of academic repositories and the conditions of public and institutional access. An overview of three major institutional repositories of Latvian universities (University of Latvia, Riga Technical university, Rīga Stradiņš University) was conducted.

The paper is organized as follows. The definition and conceptual framework of an institutional repository is presented in Section 2. Section 3 gives an insight into higher education system in Latvia. Section 4 provides an overview of academic institutional repositories in Latvia, analyses the major academic institutional repositories in Latvia, and assesses the trends in the preservation and sharing of historical scientific and cultural heritage in academic repositories. Finally, Section 5 concludes and presents plans for future work.

## **2 Institutional Repository: Definition and Conceptual Framework**

*Institutional repositories* can be defined as digital databases or, more broadly, as a set of services managed by academic institutions to collect, preserve and provide access to publications produced in the course of research and study at those institutions (e.g. conference proceedings, technical reports, dissertations, theses and dissertations, research data, study materials) (Asadi, Abdullah, Yah, & Nazir, 2019); (Lynch, 2003). Institutional repositories are linked to a specific institution and aim to:

- disseminate and promote the institution's scholarly output by making it freely available online worldwide;
- collect and preserve all of the institution's published and unpublished digital documents in one place;
- support in the monitoring, evaluation and management of the institution's scientific research activities;
- provide permanent and sustainable access to digital documents (Ranka, 2013).

Institutional repositories have the following key characteristics: they are scholarly, cumulative and perpetual, open access, visible and shared (Crow, 2002). Importantly, they ensure long-term preservation and further dissemination of an academic institution's scholarly heritage by providing open access or, under copyright, semi-open access to digital documents and datasets (Joo, Hofman, & Kim, 2019). Thus, institutional repositories become an important part of the academic research ecosystem, regarding both scholarly communication and accessing information and research data (Barrueco & Termens, 2022).

Researchers have developed a *conceptual framework for institutional repositories* that illustrates the key elements and their interactions (Ogenga, 2015). The proposed model defines a number of dependent variables such as visibility and public value, management support, quality of teaching and scholarship, advocacy, open access, intellectual property rights, open archiving, internet self-efficacy and users perceptions, which are influenced by the adoption and use of institutional repository strategies. Effective dissemination and communication of research information is an outcome variable of the conceptual framework of an institutional repository.

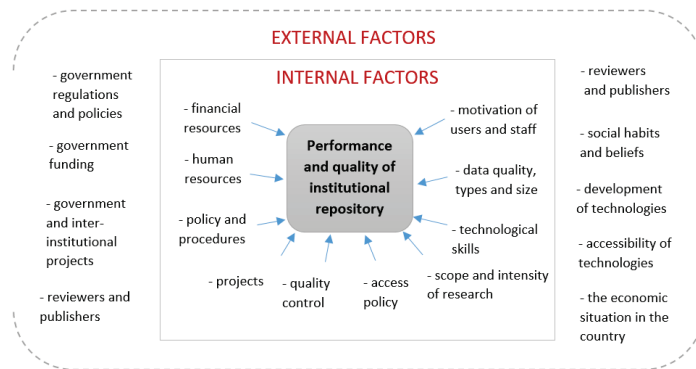
One of the most important prerequisites for a successful institutional repository is the establishment of an appropriate management policies and procedures at the institutional level. Institutions need to manage repository collection, material selection,

metadata creation, access, maintenance and technology development and other aspects of repository operations (Joo, Hofman, & Kim, 2019).

The management policy must be able to ensure the sustainable and uninterrupted operation of the repository. (Ukwoma, Osadebe, & Dim, 2019) presented a model for effective management of information repositories, including elements such as archiving, content acquisition strategies, content submission and growth of institutional repositories. They also highlighted the need for strategies for continuous improvement of repository management, such as advocacy and awareness, staff motivation/rewards, research funding, staff sponsorship, organization digital literacy workshops, emphasis on growth and sustainability.

There are also *challenges and difficulties* in developing, operating and promoting an institutional repository. According to the research by (Joo, Hofman, & Kim, 2019), institutional repositories face challenges in six main dimensions: data, metadata, technology, patrons, ethical issues and governance. In terms of data-related difficulties, researchers emphasize the huge quantity and varying quality of data, the need for additional resources required for metadata entry, while technology requires additional resources for acquisition, maintenance and technical staff. The main challenge related to patrons is the lack of motivation of users to share their materials. In terms to data ethics, three main issues were identified: the volume of sensitive data, security issues and copyright policy, while in the area of administration, insufficient budget and human resources are likely to be the most serious problems.

In summary, the internal and external factors, influencing the performance and development of institutional repositories can be schematically illustrated as follows (Fig.1.).



**Fig. 1.** Factors influencing institutional repositories (Joo, Hofman, & Kim, 2019); (Ukwoma, Osadebe, & Dim, 2019), (Ogenga, 2015)

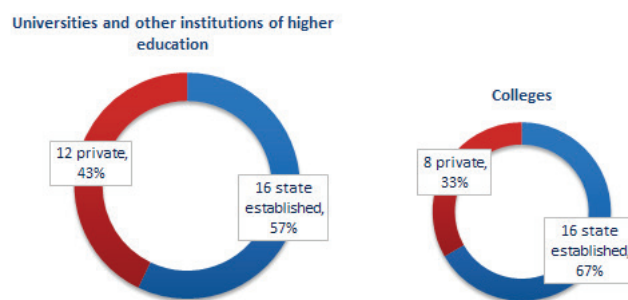
Despite the difficulties and challenges faced, institutional repositories are evolving rapidly around the world, improving their technical capabilities and the number of resources available, and providing many benefits to organizations, such as, enhancing the reputation of organizations, preserving intellectual capital, tracking research performance, and helping to centralise and preserve all types of institutional output (Asadi, Abdullah, Yah, & Nazir, 2019).

There are ongoing discussions about what digital repositories should look like in the future and what requirements they should meet. The need for repositories to be technologically upgraded to meet modern requirements is highlighted, along with the need for centralised and integrated repositories to allow users to access information in one place, such as a single European repository. Repositories need to innovate for new services and functionalities of technological trends, to avoid obsolescence and to ensure the satisfaction of academic communities (González-Pérez, Ramírez-Montoya, & García-Peñalvo, 2020). The international organization COAR (Confederation of Open Access Repositories) has provided a *global framework of good practices* for different types of digital repositories, which also applies to institutional repositories. The purpose of the framework is to help repositories to evaluate and improve their current performance. The framework proposes guidelines to assist repositories in assessing certain aspects of their operations and their capacity to meet their objectives, such as discoverability, access, reuse, integrity and authenticity, quality assurance, preservation, sustainability and governance, and others (Confederation of Open Access Repositories, 2020).

### 3 Higher Education Institutions in Latvia

Colleges, universities and other higher education institutions provide higher education in Latvia. Colleges are established as independent educational institutions or as units of higher education institutions and offer short-cycle higher education programs (ISCED-P-2011 level 5). Universities and other higher education institutions provide second-cycle programs of vocational and academic higher education (ISCED-P-2011 levels 6 to 8), which include scientific, research and creative activities (Ministry of education and science of Republic of Latvia, 2020).

There are 28 universities and other higher education institutions in Latvia, as well as 24 colleges (2022). The distribution of higher education institutions by legal status is as follows (Fig.2)



**Fig. 2.** The distribution of higher education institutions by legal status (Central Statistical Bureau of Latvia, 2022)

The ten largest higher education institutions ranked by number of students together account for 65% of the total number of students in Latvia in 2022 (Fig. 3). The three largest universities educate around 50% of Latvia's students, while the remaining institutions have relatively smaller student populations.

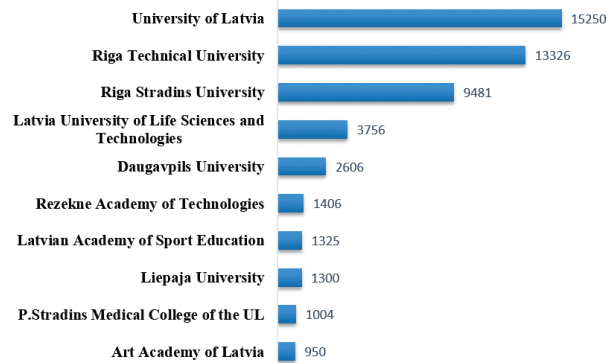


Fig. 3. Enrolment in top higher education institutions and colleges in 2022 (Central Statistical Bureau of Latvia, 2022)

## 4 Academic Institutional Repositories in Latvia: An Overview

### 4.1 Academic Institution Repositories in Latvia

Research on institutional repositories in Latvian higher education institutions shows that slightly more than half (51%) of institutions have established and are currently using institutional repositories of some size.

Universities are more likely to have repositories than colleges - 68% of universities use them, compared with only 29% of colleges. It should also be noted that publicly funded universities and colleges are more likely to have repositories than private universities.

**Types of academic institutional repositories in Latvia.** Approaches to setting up institutional repositories vary widely in Latvia. There is no single approach or solution to the design of institutional repositories. They range from large, stand-alone repositories (in the largest universities) to small databases integrated into the university's website. Several universities and colleges have chosen to set up repositories as databases embedded in library e-catalogues, using the capabilities of integrated library systems (Fig. 4).

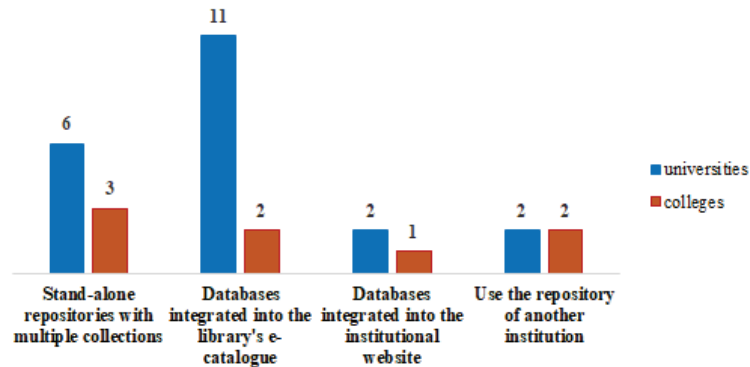


Fig.4. Latvian academic institutional repositories

**Resources provided by the academic institutional repositories.** Repositories contain a variety of information resources, depending on the scope of the university or college and its policies on accessibility and openness. The most common resources included in repositories are faculty publications and student theses, institutional proceedings and scholarly articles. However, the terms of access to resources vary between institutional repositories (Table 1).

Table 1. Latvian academic institutional repository resources by level of access

A number of repositories, providing:	Open Access	Restricted Access	Closed Access
students final papers	6	9	8
lecturers' publications	8		15
institutional articles, proceedings	30	2	
study materials, textbooks	8		1
research data	3		
historical materials	1	3	

94% of universities include their own published research reports and scholarly articles in their repositories, making them the most openly accessible repository resource. Academic staff publications published in other resources are most commonly offered on a semi-open or closed access basis. 65% of repositories only provide links to faculty publications or describe the metadata of publications, but do not provide access to the full text. Two universities are currently developing a separate institutional repository for faculty publications.

One of the most requested and used repository materials is student theses. When analysing the repositories of Latvian higher education institutions, we can conclude that there is no common approach to the conditions of access to the publication of these

materials. In higher education institutions, public access to students' academic work is legally negotiated with students, either in a study agreement or in another document. However, the largest Latvian universities provide only limited access to student theses, thus restricting their use within the institution. 35% of repositories provide only closed access, with no digital access to the resources. At the same time, several universities allow free access to student theses in their repositories (26% of repositories).

Repositories also hold lecturers' textbooks and methodological materials (33% of repositories), most of which are freely available. Four repositories contain valuable historical materials collected by universities and their museums, such as historical dissertations and scientific materials. Restricted access (within the institution only) is most commonly applied to historical resources.

#### **4.2. An Overview of the Largest Academic Institutional Repositories in Latvia**

There are four major stand-alone academic institutional repositories in Latvia, providing access to various research and scholarly outputs and resources of higher education institutions.

**E-resource repository of the University of Latvia** (<https://dspace.lu.lv/dspace/>) was created in 2011 and contains publicly available publications (articles published by LU faculty members, researchers and LU departments, conference proceedings, journals and other electronic documents) and student theses (Rampāne, 2020).

The process of uploading and managing resources is determined by the by the University of Latvia's e-resource repository policy, approved in 2017. Electronic versions of publications are uploaded to the repository by the author or by the university departments. When uploading a document, the author of the work is responsible for respecting the copyright. The University Library of Latvia is responsible for the day-to-day management and maintenance of the repository, its structure, content and metadata quality, as well as for training and advising users of the repository.

The structure of the repository is designed to reflect the structure of the faculty's units of research outputs, publications and digitised resources of the university. The repository has the following collections:

- Scientific and conference papers, doctoral theses, journals and magazines published by university;
- Libraries of the university, Botanical garden, Museum other administrative units and faculties, institutes, study center;
- Project documentation;
- Student theses.

Articles and publications, monographs and other documents are available with open or restricted access, depending on copyright. Student theses are only available with restricted access (full access within the institution). Separate collections for the preservation and access of research data have also recently been created and storage in the repository has just begun.

The total number of resources deposited in the repository reaches almost 58 000 items in May 2023. Of these, 46202 are bachelor's, master's and qualification theses, 1631 are doctoral theses, 2379 are digitised library resources.

**Riga Technical university's institutional repository “Research outputs & resources”** (<https://ortus.rtu.lv/science/>) has been established since 2011. The repository is part of RTU research information system, based on CERIF. It is governed by the University's "Open Access Policy" approved in 2016 (Rīgas Tehniskā universitāte, 2016).

Riga Technical university's repository has the following collections:

- Publications;
- Research data;
- Doctoral theses;
- Scientific journals of Riga Technical university;
- Patents;
- Technology offers.

Depending on the terms of copyright, access to academic staff publications, conference proceedings and project reports is either open access or restricted access. Scientific journals of the Technical University of Latvia are open access, as are doctoral theses. The repository also contains the research data collection, which provides a wide range of datasets, spreadsheets and other research data.

The Riga Technical university repository is the only repository in Latvia that provide structured information on patents and new technologies developed by academic staff.

Student theses are collected in a separate database "Student graduate papers" (<https://nda.rtu.lv/en/#>), which contains almost 27 000 theses with restricted access in May 2023. The full text of the theses is accessible only to the author, the supervisor, referees and faculty members. The student has the option of granting access to the full text of his/her thesis to all authorised users of the university.

The resources available in the repository are well structured and easy to retrieve, and the ability to select resources according to specific fields of study is very useful. In total, the repository contains more than 900 resources (excluding the institution's scientific journals) in 2023.

**Riga Stradiņš university's E-resource repository DSpace** (<https://dspace.rsu.lv/jspui/>) is the youngest of the largest academic repositories in Latvia - it was founded in 2022. Its functionalities are determined by the “Guidelines for institutional open access e-resource repository” of Riga Stradiņš university 2021 (Rīgas Stradiņa universitāte, 2021).

The repository is characterised by the wide range of resources it contains: faculty publications, project results, conference proceedings, university publications, textbooks and methodological materials, museum and historical materials, student theses and dissertations. The repository has established a collection and intends to preserve the university's publicity materials, which is currently not the case in other Latvian academic repositories (Fig.5). The repository is thus designed to be a universal storage base for



the university's digital materials and a communication tool for both faculty and students. One of the aims of the repository is to provide a clear overview of the different types of study materials - presentations, video lectures, teaching videos, infographics, digital interactive scenarios, digital books and other types of information.

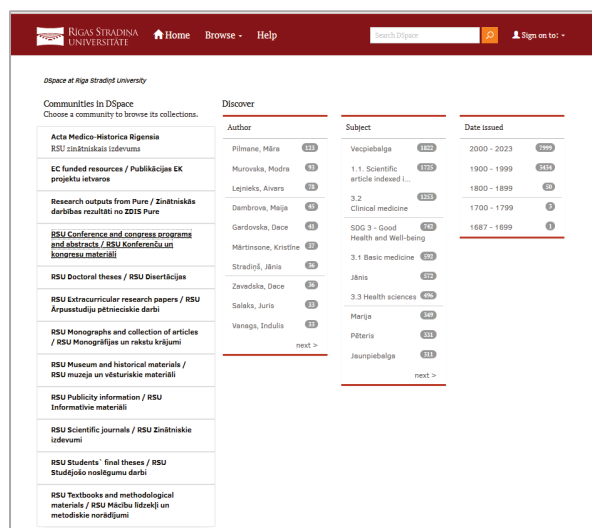


Fig. 5. The insight into Riga Stradiņš university's E-resource repository DSpace (Homepage)

Authors are encouraged to make the results of their intellectual work openly accessible, as long as this does not interfere with copyright restrictions. The level of access to study material is determined by the author according to the information contained in the material or the purposes for which it is used. Access to the university museum collection is "restricted" or "closed", with the exception of some resources.

Student final theses are held in a repository with either unrestricted or restricted access. If the student has given permission, the full text of the thesis in the repository is available to all users including those not authorised by the university. The student indicates the permission or restriction when submitting the electronic version of the thesis. However, the most student theses are not available in full text in the repository, although it is possible to request a copy.

As of May 2023, the repository already has more than 11 000 resources, of which 4343 are student theses.

Riga Stradiņš university research data are stored in a another university's repository – *RSU Dataverse*. It is an institutional research data repository based on open source software provided by Harvard Dataverse. Datasets stored in the repository can be open access, restricted access or closed access. Authors or co-authors have free access to the datasets. Researchers outside the Riga Stradiņš university can register and the repository administrators will assess and provide the level of access allowed.

It should be noted that this data repository has been created as part of the "DataverseLV" network of research data repositories, where every research institution

in Latvia is invited to create its own research data repository on the Dataverse platform (LR Izglītības un zinātnes ministrija, 2021).

**The ACADEMIA - academic repository of the National Library of Latvia** (<https://academia.lndb.lv>) was launched in 2017 as part of the National Digital Library of Latvia. It is an academic repository for researchers and institutions, primarily aimed at those Latvian academic institutions that do not have their own repository; participation is open to Latvian educational and scientific institutions (Bite, et al., 2020). The content of the repository consists of works produced by Latvian universities and scientific institutions: doctoral theses, master's theses, monographs, collections of scientific articles, conference abstracts and other types of scientific works. Each institution is responsible for deciding on the content to be included, its access rights and respect for copyright.

In total ACADEMIA includes collections from seven universities and research institutions, and in total contains slightly more than 300 resources by May 2023.

#### 4.3. Historical Materials in the Institutional Repositories of Latvia

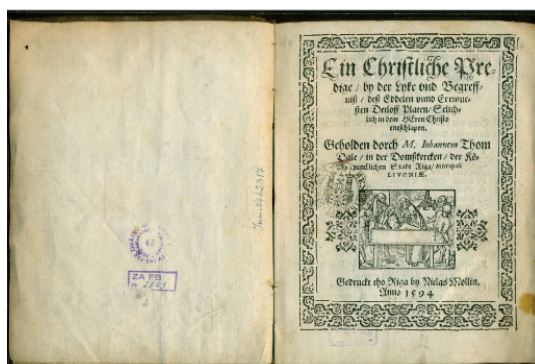
Four of Latvia's academic institutional repositories contain historical collections, holding many valuable and rare historical publications, documents and images.

**Repository of the University of Latvia** has a collection curated by the Museum of the University of Latvia. The collection consists of 190 digitised resources, including historical research papers, botanical and mycological collections, herbaria, drawings, maps, posters and photographs. For example, there are several wall posters from the University of Latvia's Institute of Geology for Palaeontological Studies from the late 19th and early 20th centuries (Fig. 6).



**Fig. 6.** Karl A. von Zittel. (1879). Palaeontologische Wandtafeln XIX. (Available at: <https://dspace.lu.lv/>)

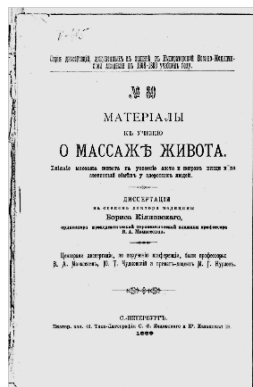
The repository also includes the digital collections of the Academic Library of the University of Latvia and the Library of the University of Latvia - historical collections of rare books and manuscripts, such as the collection of the Baltic historian Johann Christoph Brotze, the collection of the first Riga printer N. Mollin (Fig.7) and other rare and old publications (Rampāne, Latvijas Universitātes Raksti LU e-resursu repozitorijā: pieejamība un izmantošana, 2019).



**Fig. 7.** One of the books in the collection of the printer N. Mollin - T. Dale (1594) “Ein Christliche Predigt..” (Available at <https://dspace.lu.lv/>)

**Repository of Riga Stradiņš university** also holds digitised museum and historical materials: monographs on the history of medicine (the oldest of which were published in the 17th century, 3 in the 18th century, 40 in the 19th century and 488 in the early 20th century), historical anthropological surveys (1877-1913), historical doctoral theses (1860-1920). Some collections are under development, in the process of development, such as the anatomical collection of the RSU Museum or the Ex Libris collection of Professor Pauls Stradiņš.

Most of the historical sources have restricted access, but some are publicly available, for example historical doctoral thesis of B. Kiyanovski “Materials for the teaching of abdominal massage”, published in St.Petersburg in 1889 (Fig.8).



**Fig.8.** B. Kiyanovski (1889). Materials for the teaching of abdominal massage. (Available at: <https://dspace.rsu.lv/>)

**Jāzeps Vītols Latvian Academy of Music's Visual Materials database** contains valuable photographs and historical documents from the history of Latvian music to the present day. It was created in 2005 with the aim of preserving historical evidence in digital form and making it freely available. The database contains collections of photographs of composer Jāzeps Vītols and other Academy staff and students, photographs of events, examinations, programmes and posters, music manuscripts, as well as other documents. The Academy also has a Digital library, containing a valuable collection of 351 manuscripts by Latvian composers. The documents date from the late 19th century to the present day and are freely accessible, such as a photograph of the Latvian Conservatory String Quartet in 1922 (Fig. 9).



**Fig. 9.** Latvian Conservatoire String Quartet in 1922. (Available at: <https://dom.lndb.lv/data/obj/1060063.html>)

## 5 Conclusions

The study examined the development and use of institutional repositories in Latvian higher education institutions. The research shows that just over half of them have established and are currently using institutional repositories or databases. Far more repositories have been established in universities than in colleges, of which only a third have repositories in use. This may be due to the financial investment and additional staff required to set up and maintain a repository, which can often be burdensome for small colleges. The study recommends that smaller universities and colleges should collaborate more with larger institutions, for example by using the academic repository set up by the National Library of Latvia.

The types of institutional repositories in Latvia vary widely. The three largest universities have developed large databases with multiple collections and different types of resources. Smaller universities and colleges, on the other hand, often have modest databases available on their websites. A number of universities have used library e-catalogues to set up repositories.

An analysis of the content of repositories shows that the most common resources included in repositories are faculty publications and student theses, university journals, and academic and conference papers. Resources are made freely available where copyright conditions permit. However, almost all universities allow limited access to student theses and dissertations, only within the institution.

By collecting and providing digital access to the results of the scholarly and research activities of university staff and students, repositories serve as custodians of the institutional scholarly and cultural heritage. The four Latvian academic institutional repositories have historical collections of publications, documents and images that are valuable as scientific heritage in their respective fields (e.g. medicine, books, music) or as historical evidence of the institution. These are often unique resources that are not available in any other repository in Latvia.

In most cases, Latvian academic repositories are of good quality and well structured, and information is not difficult to find and retrieve. More problematic is their disjointed nature, sometimes even within the same institution there are several unconnected databases holding different resources. A possible solution could be the development of a single website or repository that would bring together the information that is available in the local repositories.

Further research and case studies would be needed to explore and identify in more depth the experiences of Latvian universities in setting up repositories and the factors, opportunities and challenges that hinder or facilitate repository development. Research exploring the perspectives of students and researchers would also be relevant to identify their views on what a repository should look like in order to best meet their needs.

## References

Asadi, S., Abdullah, R., Yah, Y., & Nazir, S. (2019). Understanding institutional repository in higher learning institutions: a systematic literature review and

- directions for future research. *EEE Access*, 7, 35242.-35263. <https://doi.org/10.1109/ACCESS.2019.2897729>
- Barrueco, J. M., & Termens, M. (2022). Digital preservation in institutional repositories: a systematic literature review. *Digital Library Perspectives*, 38(2), 161-174. <https://doi.org/10.1108/DLP-02-2021-0011>
- Bite, K., Daugavietis, J., Kampars, J., Kreichbergs, J., Kučma, I., Ločmele, E., . . . Želve, M. (2020, June 4). "Pētījuma par atvērto zinātni un rīcībpolitikas ceļa kartes izstrādi" noslēguma ziņojums. <https://www.izm.gov.lv/lv/media/4681/download>
- Central Statistical Bureau of Latvia. (2022). *Higher education institutions and colleges by legal status*. [https://data.stat.gov.lv/pxweb/en/OSP\\_PUB/START\\_IZG\\_%20IG\\_IGA/IGA060/](https://data.stat.gov.lv/pxweb/en/OSP_PUB/START_IZG_%20IG_IGA/IGA060/)
- Confederation of Open Access Repositories. (2020, October 8). *COAR Community Framework for Best Practices in Repositories*. <https://doi.org/10.5281/zenodo.4110828>
- Crow, R. (2002). The case for institutional repositories: a SPARC position paper. *Scholarly Publishing & Academic Resources Coalition*, 223, 1-37. [https://ils.unc.edu/courses/2014\\_fall/inls690\\_109/Readings/Crow2002-CaseforInstitutionalRepositoriesSPARCPaper.pdf](https://ils.unc.edu/courses/2014_fall/inls690_109/Readings/Crow2002-CaseforInstitutionalRepositoriesSPARCPaper.pdf)
- González-Pérez, L. I., Ramírez-Montoya, M.-S., & García-Peñalvo, F. J. (2020). User Experience in Institutional Repositories: A Systematic Literature Review. In I. R. Association, *Digital Libraries and Institutional Repositories: Breakthroughs in Research and Practice* (pp. 70.-86.). IGI Global. <https://doi.org/10.4018/978-1-7998-2463-3.ch026>
- Joo, S., Hofman, D., & Kim, Y. (2019). Investigation of challenges in academic institutional repositories. A survey of academic librarians. *Library Hi Tech*, 37(3), 525-548. <https://doi.org/10.1108/LHT-12-2017-0266>
- Lynch, C. A. (2003). Institutional repositories: Essential infrastructure for scholarship in the digital age. *portal: Libraries and the Academy*, 3(2), 327-336. <https://doi.org/10.1353/pla.2003.0039>
- LR Izglītības un zinātnes ministrija. (2021). *Informatīvais ziņojums "Latvijas atvērtās zinātnes stratēģija 2021.-2027. gadam"*. [https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKewigvP78v47\\_AhUTRfEDHXI2D8UQFnoECBcQAQ&url=https%3A%2F%2Ftapportals.mk.gov.lv%2Fattachments%2Flegal\\_acts%2Fdocument\\_versions%2Fd54df548-d73d-4255-9557-8bbbe4b27850%2Fdownload&usg=AOvV](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKewigvP78v47_AhUTRfEDHXI2D8UQFnoECBcQAQ&url=https%3A%2F%2Ftapportals.mk.gov.lv%2Fattachments%2Flegal_acts%2Fdocument_versions%2Fd54df548-d73d-4255-9557-8bbbe4b27850%2Fdownload&usg=AOvV)
- Ministry of education and science of Republic of Latvia. (2020, September 30). *Higher Education*. <https://www.izm.gov.lv/en/higher-education>
- Ogenga, D. O. (2015). *Adoption of institutional repositories in dissemination of scholarly information in universities in Kenya with reference to United States International University Africa*. Nairobi: University of Nairobi. [http://erepository.uonbi.ac.ke/bitstream/handle/11295/93088/Ogenga\\_Adoption%20of%20institutional%20repositories.pdf?sequence=3&isAllowed=y](http://erepository.uonbi.ac.ke/bitstream/handle/11295/93088/Ogenga_Adoption%20of%20institutional%20repositories.pdf?sequence=3&isAllowed=y)
- Rampāne, I. (2019). Latvijas Universitātes Raksti LU e-resursu repozitorijā: pieejamība un izmantošana. In *Acta Universitatis Latviensis - pie gadsimta sliekšņa* (pp. 6.-15.). Rīga: LU Akadēmiskais apgāds. <http://doi.org/10.22364/aul.100.pgs.01>

- Rampāne, I. (2020). *LU e-resursu repozitorija izmantošana*.  
<https://dspace.lu.lv/dspace/handle/7/52826>
- Ranka, S. (2013). Brīvpieejas informācijas (Open Access) resursu nozīme zinātnes attīstībā. *Informācija un sabiedrība*, 3, 160.-175.  
<https://dspace.lu.lv/dspace/handle/7/2343>
- Rīgas Stradiņa universitāte. (2021). *RSU institucionālā atvērtās piekļuves e-resursu repozitorija vadlīnijas*.  
<https://www.rsu.lv/sites/default/files/imce/Bibliot%C4%93ka/Dokumenti/rsu-institucionala-repozitorija-vadlinijas.pdf>
- Rīgas Tehniskā universitāte. (2016). *RTU Senāta 2016. gada 27.jūnija sēde (protokols Nr. 601). Par Rīgas Tehniskās universitātes Atvērtās piekļuves politikas apstiprināšanu*.  
[https://www.rtu.lv/writable/public\\_files/RTU\\_rtu\\_atvrts\\_piekuves\\_politika.pdf](https://www.rtu.lv/writable/public_files/RTU_rtu_atvrts_piekuves_politika.pdf)
- Ukwoma, S. C., Osadebe, N. E., & Dim, C. L. (2019). Management of institutional repositories (IR) in higher education perspective. *Library Management*, 40 (8/9), 543-557. <https://doi.org/10.1108/LM-12-2018-0094>

Received: April 10, 2023

Reviewed: May 25, 2023

Finally Accepted: June 15, 2023

