Slovenian Social Science Data Archives (ADP)

Notes Before Completing the Application

*We have read and understood the notes concerning our application submission.*

True

Reviewer Entry

Reviewer 1
Comments:

Reviewer 2
Comments:

CORE TRUSTWORTHY DATA REPOSITORIES REQUIREMENTS

Background & General Guidance

Glossary of Terms

BACKGROUND INFORMATION

Context

*R0. Please provide context for your repository.*

Repository Type. Select all relevant types from:
Domain or subject-based repository, Institutional repository

**Brief Description of Repository**

Slovenian Social Science Data Archives (ADP) (1) is a national research infrastructure for social sciences, whose main mission is to manage data and data services in order to support research, education, and general well-being. Digital curation of high-quality research data that are openly accessible (meaning ‘as open as possible, as close as necessary’) to researchers and other interested public is at the essence of the ADP activities. The ADP performs data-level curation by reviewing incoming data and documentation in detail, adding detailed metadata, creating new sustainable formats, improving documentation, and editing deposited data for accuracy.

ADP is an organizational unit of the Social Sciences Research Institute (2) (Inštitut za družbene vede - IDV) of the Faculty of Social Sciences of the University of Ljubljana (this status is officially confirmed in the Regulations on the Organization and Operation of the Faculty of Social Sciences of the University of Ljubljana (2017) (3) and in the Regulations on the Organization and Operation of the Research Activities of the Faculty of Social Sciences of the University of Ljubljana (2017)) (see diagram in supporting documentation (4) and its English version in Appendix 1). The Act on the Establishment of ADP (1997) defines the main activities of the archive as “collecting, documenting and disseminating original data from social science studies, as well as connecting with similar institutions in national and international merits”. Currently, the staff of the ADP consists of 8 full-time employees and 4 occasional staff members. The ADP Council is an external body that is formed to help ADP monitor and respond to developments in the Slovenian social science community. Members of the Council are distinguished members of the Slovenian scientific community from the leading research institutes.

ADP is appointed by the Ministry of Education, Science and Sport of the Republic of Slovenia as the national data service provider for the social sciences through its membership in CESSDA ERIC (Consortium of European Social Science Data Archives) (5). Since its formation onwards, the ADP has been funded by the Ministry (through the Slovenian Research Agency). Funding for ADP’s operations has been provided since 2004 under the infrastructure programme Network of Research and Infrastructural Centres at the University of Ljubljana (MRIC UL) (6). The current programme period of funding ADP is 2015 to 2020 (prolonged till the end of 2021 due to the Covid-19 pandemic).

**Reviewer Entry**

**Reviewer 1**
Comments: accept

**Reviewer 2**
Comments: Accept
Brief Description of the Repository’s Designated Community.

Our designated communities are on the one hand national and international researchers who take on the role of data providers and on the other hand national and international researchers, teachers, and students who act as end-users of our catalogue. Journalists, policy makers and ordinary citizens are considered part of the wider public if they express a desire to use data legitimately and accept the rules and limitations of working with secondary data. End-users need to be data and statistically literate to understand and analyse materials independently. This competence includes the ability to independently search for data for a specific research problem, evaluate the usability of data, according to the descriptions of ADP about the origin, methodology, process of data collection and detailed descriptions of each variable, the ability to conduct analyses of selected data, interpret results and form conclusions. The ADP adapts access to data, metadata and other data services to its various target users. Customized views and customized services are available to meet the needs of different user segments.

Target users are also librarians, acting as data stewards, and other support services with whom we regularly cooperate with, share knowledge and exchange best practices.

By delivering trainings for our designated communities and stimulating knowledge sharing through various activities (e.g. workshops, conferences, webinars, seminars, etc.), the ADP actively promotes data management, data curation, data sharing and secondary use of data within its designated communities. We actively promote new studies included in the catalogue through blog and social media posts and invite data depositors to present their work on webinars to other target groups.

The ADP occasionally conducts quality evaluations of its services (including user satisfaction surveys), considering internationally comparable service quality criteria (ADP User Satisfaction Survey 2016 (7)). Based on these evaluations, it shapes and adapts its services to the different needs of users (see Chapter 3.2.3 in (8)).

Level of Curation Performed. Select all relevant types from:

D. Data-level curation – as in C above; but with additional editing of deposited data for accuracy

Reviewer Entry
Reviewer 1
Comments: accept

Reviewer Entry
Reviewer 2
Comments: Accept
The ADP performs data-level curation by reviewing incoming data and documentation in detail, adding detailed metadata, creating new sustainable formats, improving documentation, and editing deposited data for accuracy.

Insource/Outsource Partners. If applicable, please list them.

ADP is an independent organisational unit of the Social Sciences Research Institute of the Faculty of Social Sciences of the University of Ljubljana. The servers hosting the data and services of ADP are physically located in the faculty’s server room maintained by the faculty's I.T. department. ADP is also located in the premises of the Faculty Social Sciences. There is no additional service level agreement with the Faculty of Social Sciences, as we are all part of the same organisation.

Since part of our network services use the services of The Academic and Research Network of Slovenia (ARNES) (hosting of webpage, backup services etc.) we cooperate actively with them on the level of management of the network infrastructure, used by the ADP. There is no additional service level agreement with the ARNES, as they provide their services according to our membership within the University of Ljubljana, Faculty of Social Sciences.

The ADP cooperates with various external service providers that are involved in our internal development projects (9). The ADP cooperates also with the National and University Library (NUK), CTK (Central Technical Library at the University of Ljubljana) and The University of Maribor library (UKM) amongst others and shares knowledge and experiences. We cooperate with several other external service providers who help us in the maintenance of servers and IT support, and offer us programming services. Written Service Level Agreements, which are regularly updated, determine the cooperation with individual external service partners (validity, scope, reporting, financial arrangements).
Summary of Significant Changes Since Last Application (if applicable).

Since the last application, a new document Regulations on the Organisation and Functioning of the Faculty of Social Sciences, University of Ljubljana (2017) has been adopted. This document defines the mission of ADP, elaborates its sustainability plan, and establishes the ADP Council, whose task is to promote ADP in its activities, to advise and evaluate the functioning of the services of ADP, considering the benefit of the wide range of users.

Since the last application, we have reviewed our entire workflow and revised several documents (e.g., deposit agreement, end-user registration form, prepared guidelines for data depositors on qualitative data, and anonymization procedures). We also revised the pre-ingest process and introduced DOIs as persistent identifiers for studies. There are still some developments underway. We are currently piloting the internally developed quality assessment tool that forms the basis for categorising incoming studies firstly into different regimes of archiving and access and secondly determining whether they qualify for scientific publication status, according to the criteria of the Slovenian Research Agency. The pilot test will show how this tool will need to be adapted to our collection development policy and technological developments.

The current access system does not allow users to access different versions of studies online. Only the most recent version is available to end users, while older versions are available upon request. The development of the new long-term digital archiving application "e-Storage" and the use of Dataverse to disseminate studies will make this possible. These more thorough procedures for long-term storage and handling of materials are underway and will be fully implemented by the next certification period.

Due to the ongoing work caused by these changes, we have indicated a compliance level of "3 - Repository is in the implementation phase" for requirements R14, R15 and R16.

Reviewer Entry

Reviewer 1
Comments: accept

Reviewer 2
Comments: Accept

Other Relevant Information.

ADP’s data holdings comprise 720 studies, and over 110 new studies have been archived from 2016 to 2020. In 2020, 348 users registered (298 new users and 50 password renewals), and the data was accessed by 1237 users. They accessed 1362 different study descriptions, of which 178 different datasets were downloaded to their computers. ADP’s descriptive metadata are machine-harvestable and available in multiple international data catalogues (e.g. CESSDA Data Catalogue (10), Open Data Slovenia Portal). ADP is indexed in the Re3data Registry of Research Data Repositories (11). ADP is Slovenia’s national service provider for CESSDA ERIC, the Consortium of European Social Science Data Archives (5). ADP participates in several CESSDA working groups and in a variety of CESSDA-funded projects. ADP also partners with several other national and international organisations in the field to promote and enhance open science and the reuse of scientific data (12). The national and international projects of the ADP are listed on the ADP’s website (13).
ORGANIZATIONAL INFRASTRUCTURE

1. Mission/Scope

*R1. The repository has an explicit mission to provide access to and preserve data in its domain.*
**Compliance Level:**

4 – The guideline has been fully implemented in the repository

**Reviewer Entry**

**Reviewer 1**
Comments:
4 – The guideline has been fully implemented in the repository
Accept

**Reviewer 2**
Comments:
4 – The guideline has been fully implemented in the repository
Accept

**Response:**

The mission of digital preservation of the ADP is to ensure and promote sustainable services to its designated communities for ingest, storage, and access to high quality and useful research data for a variety of purposes. The ADP contains research data of interest to social science researchers dealing with problems of Slovenian society or otherwise important to Slovenian society and social sciences, regardless of geographical boundaries. Materials are stored digitally and sometimes also physically. All accompanied materials are digitalized, whereas physical originals of research instruments are safely stored in folders.

The main functions of the disciplinary data service provider ADP are:
- Acquisition of important research data from a wide range of social sciences disciplines of interest for the study of Slovenian society.
- Evaluation of submitted research data and their selection for deposit. Priority is given to research data from scientifically important studies that achieve theoretical and methodological excellence, especially longitudinal data and internationally comparable data that include data from Slovenia. Investment in the handling of research data must be proportionate to its value and usefulness for further use.
- Ingesting and processing research data and other documentation, together with the creation of metadata with the aim of preparing a package for long-term digital preservation (AIP - Archival Information Package) and preparation for access and further use for scientific, educational and other purposes (DIP – Dissemination Information Package).
- Provide access to research data that allows easy and well-informed use for a variety of purposes.
- Training researchers in the planning, handling and preparation of data for ingest in open access.
- Actively promote secondary use of research data by training users and stimulating knowledge exchange between users.

ADP is an organizational unit of the Social Sciences Research Institute (Inštitut za družbene vede - IDV) (2) of the Faculty of Social Sciences of the University of Ljubljana (this status is officially confirmed in the Regulations on the Organization and Operation of the Faculty of Social Sciences of the University of Ljubljana (2017) and in the Regulations on the
Organization and Operation of the Research Activities of the Faculty of Social Sciences of the University of Ljubljana (2017) (3). The Act on the Establishment of ADP (1997) defines the main activities of the archive as "collecting, documenting and disseminating original data from social science studies, as well as connecting with similar institutions in national and international merits".

The mission of ADP, as defined in the Regulations on the Organisation and Functioning of the Faculty of Social Sciences of the University of Ljubljana (2017) (3), is "to preserve original data from social science studies conducted within the Faculty, which all researchers of the Faculty are obliged to deposit, including original materials, as well as all other social science studies relevant to the social sciences". Thus, the functioning of ADP is clearly aimed at securing access to and preserving data in the field of Slovenian social sciences.

The Ministry of Education, Science and Sport of the Republic of Slovenia has appointed, as part of its membership in CESSDA ERIC (4), ADP as its national data service provider for the social sciences. The long-term national importance of ADP is also reflected in the ongoing support of the Slovenian Research Agency (6), which has provided funding since the establishment of ADP.

For more on the context of the ADP, see the document Digital Preservation Policy (2020) Chapter 2 (5).

Links to supporting documentation:
(all visited 01/09/2021)
2. Social Sciences Research Institute of the Faculty of Social Sciences, University of Ljubljana - https://www.fdv.uni-lj.si/en/research/institute-of-social-science
3. Regulations on the Organization and Operation of the Faculty of Social Sciences of the University of Ljubljana, Regulations on the Organization and Operation of the Research Activities of the Faculty of Social Sciences of the University of Ljubljana (available only in Slovenian and for internal use!) - https://www.fdv.uni-lj.si/moj-fdv/prijava/o-fdv/register-predpisov-fdv/veljavni-predpisi-fakultete-za-drzavne-vede
4. CESSDA ERIC (Consortium of European Social Science Data Archives) - https://www.cessda.eu/

Reviewer Entry

Reviewer 1
Comments:
accept

Reviewer 2
Comments:
Accept

2. Licenses
R2. The repository maintains all applicable licenses covering data access and use and monitors compliance.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:
4 – The guideline has been fully implemented in the repository
accept

Reviewer 2

Comments:
4 – The guideline has been fully implemented in the repository
Accept

Response:

The functioning of ADP in the Slovenian research environment is subject to certain rules of exchange and use of knowledge and information. The functioning must be in accordance with the relevant national legal framework defining the area of access and use of digital objects. It is essential that the ADP informs its users about the content of the relevant legal framework and monitors compliance with the existing rules. For a list of relevant legislation that the ADP is monitoring and implementing in its licenses see the document Digital Preservation Policy, Chapter 2.2 (1) or see the section Legal, Ethical Norms on website (2)).

With respect to the rules of ingest and the rules of access to materials and research data, the ADP uses fixed standardized forms. Ingest of research data is accompanied by documentation of compliance with ethical standards, legal frameworks and good practices. The ingest agreement, in the form of a Deposit Agreement (3), signed by the data depositor and the disciplinary data provider (ADP), defines the relationship between the two parties: it gives the disciplinary data provider the right to process the study for the purpose of digital preservation and gives users the right to access the research data. By signing the agreement, the data depositor, on behalf or under the authority of the researcher, agrees that the disciplinary data provider will process, store, and distribute research data (see Digital Object Management (4)).

The main elements of the Deposit Agreement are:

1. The depositor deposits study materials in the archive for long-term storage and further dissemination.
2. The depositor ensures that he/she resolved all legal and ethical aspects concerning the storage and the distribution of the collected.
3. The depositor makes the materials available to users at Creative Commons Licenses (CC0, CCBY or CCBYNC) and defines additional access conditions for more sensitive data.
4. The ADP assures that the access to materials will be provided to end users directly (when the materials hold CC0 licence) or after prior registration. In both cases the end user commits to comply with ethical principles and general rules of conduct.

5. List of Deposited Materials

The Deposit Agreement gives the ADP rights under which it may first prepare materials for storage and distribution and second store and distribute materials. With such an agreement, the ADP obtains sufficient rights to handle information to ensure its long-term preservation.

The research data and accompanying documentation are available to users under Creative Commons 4.0 licenses (5). The ADP uses the following licenses: CC0 - no restrictions, CCBY - attribution only, CCBYNC - attribution + non-commercial (more on this in the section on Access on website (6)). The ultimate responsibility for careful use of research data that respects the ethical principles of confidentiality, copyright and academic probity rests with the user of the research data. When accessing research data, users are advised to carefully consider the principle of ethical reuse of data. Users can find out about the specific conditions of reuse in the study descriptions (7). By registering, the users agree to comply with the professional and disciplinary ethical standards (see General Provisions and Terms of Use (8)) as well as the ethical and legal restrictions on the reuse of data, in particular the clauses on confidentiality. Users may only use research data for the purposes specified during registration.

In case of detected violations, ADP will revoke the user's right to continue using research data to which he/she has been granted access and will deny any further request for access. The user may also be held liable under criminal law and for damages in the event of violations.

For more on the legal framework and responsibility of the ADP, see the document Digital Preservation Policy (1) (Chapters 2.2, 3.1, 3.2 and 3.5.1, 3.5.5).

Links to supporting documentation:
(all visited 01/09/2021)
2. Legal grounds, ethical norms, and responsibilities - https://www.adp.fdv.uni-lj.si/eng/spoznaj/politika/infrastruktura/
5. Creative Commons 4.0 licenses - https://creativecommons.org/licenses/by/4.0/

Reviewer Entry
Reviewer 1
3. Continuity of access

**R3. The repository has a continuity plan to ensure ongoing access to and preservation of its holdings.**

**Compliance Level:**
3 – The repository is in the implementation phase

**Reviewer Entry**

**Reviewer 1**
Comments:
3 – The repository is in the implementation phase
accept

**Reviewer 2**
Comments:
3 – The repository is in the implementation phase
Accept

**Response:**

ADP ensures continuity of access and preservation both in the moment and in the future. ADP is constantly improving its services to meet the needs of long-term access to and availability of data. ADP follows the latest developments and technological advances to stay informed about best practices for long-term preservation (see R6). ADP ensures the long-term preservation of all archived data in its collections. The ADP ensures that appropriate local storage devices and procedures are implemented for long-term digital storage of preserved materials. In addition, existing tools and services of a backup duplication in the national environment are used.

The Regulations on the Organization and Functioning of the Faculty of Social Sciences of the University of Ljubljana (2017) (1) establish the official commitment of the Faculty to "ensure the continuity of preservation and access to research data kept by ADP by creating appropriate organizational and financial conditions for its functioning. This is being done and will continue to be done by obtaining public funding from the Slovenian Research Agency to support the archival infrastructural research program. The Faculty is committed to maintaining these funding streams".

The new Scientific Research and Innovation Activity Act (ZZrID) (2) states that scientific research is based on the principles of open science, which includes, in particular, open access to all research results, including research data, in accordance with the FAIR principles. The Act also obliges in Article 12 to use scientific research funds for stable financing
of scientific research, in particular national research programs, and to co-finance the implementation of open science actions through public tenders or calls. Article 41 states that in the case of publicly co-funded research (at least 50%), funders must require open access to all peer-reviewed scientific publications, research data and other research outputs, and providers of scientific research activities must grant such access. Based on this new Scientific Research and Innovation Activity Act, the National Strategy of Open Access and its Action plan are currently being developed under the chapter of Open science in the context of national development for EOSC.

All these developments ensure the existence and long-term sustainable functioning of ADP as a national disciplinary data service provider. Furthermore, the status of ADP as a national member in CESSDA ERIC (3) is enshrined in the draft Resolution on the Research and Innovation Strategies of Slovenia 2021-2030 (RISS) (4). Currently, a renewal is under preparation and development in this area will continue with the involvement of CESSDA and ADP. The Roadmap for Research Infrastructure 2021 - 2030 (5) and the national membership status of ADP in CESSDA ERIC (3) serves as a strategic basis for long-term financial support from the Slovenian Research Agency within under the Network of Research and Institutional Centres MRIC UL, which includes ADP (6). The programme is renewed every 6 years and the current programme period runs from 2022 to 2027 (7).

In the unlikely event that funding and continuity of operations are compromised, ADP has a plan in place to map the necessary functions for safe transfer. ADP's curation workflows already generate stand-alone AIPs and DIPs with sufficient metadata to ensure comprehensibility in the long term. In the near future, ADP will appoint a working group to design a concrete succession plan with the necessary functions and workflows for a controlled transfer of data to another institution.

The Regulations on the Organization and Functioning of the Faculty of Social Sciences of the University of Ljubljana (2017) (1) also state that if “ADP cease to operate, the Faculty, together with ADP, will organize and prepare a plan for the transfer of the data to an external institution that will responsibly and adequately ensure the archiving of the data, or to another organizational unit on the condition that it has secured external funding.”

In developing a plan for possible transfer and succession of digital preservation services for research data from ADP (cases of situational uncertainty), there are opportunities for cooperation and use of infrastructural capacities in the National and University Library of Slovenia. The newly established Community of Open Science could potentially be a space to discuss national cooperation and the use of infrastructural capabilities in cases of situational uncertainty. We are continuously monitoring these national development projects and initiatives and are aware of the fact that in order to ensure this possibility, the technological requirements need to be harmonised and an agreement reached on a possible successor. The strategy of cooperation between the different national providers and discussions on support activities started in 2019-2020 under the RDA Node Slovenia project (10), coordinated by ADP, and will continue in the future. The ADP is committed to practising the open access policy, which provides that the open access service for research data is free to end users. In the extreme case, if ADP funding were cut, ADP could begin to charge users for some of the data publishing and data access services that are free under the current system.

For more information, see the Digital Preservation Policy document (Chapters 2.3 and 2.6.1) (11) and the Organizational Infrastructure section of the ADP website (12).

Links to supporting documentation:
(all visited 01/09/2021)
1. Regulations on the Organization and Operation of the Faculty of Social Sciences of the University of Ljubljana, Regulations on the Organization and Operation of the Research Activities of the Faculty of Social Sciences of the University of Ljubljana (available only in Slovenian, no public link available)

2. Scientific Research and Innovation Activity Act (ZZrID; language can be changed in the top-right corner) http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO7733#

3. CESSDA ERIC (Consortium of European Social Science Data Archives) - https://www.cessda.eu/

4. Network of research infrastructure centres at the University of Ljubljana (MRIC UL) - https://www.uni-lj.si/research_and_development/research_infrastructure/network_of_research_and_infrastructural_centres/


6. Results of the Public Call for Infrastructure Programs for the period 2022 – 2027 (available in Slovenian only; ADP is one of the successful recipients of funding) https://www.arrs.si/sl/infra/infraprog/rezultati/21/rezult-позива-infra-progr-21.asp


10. RDA Node Slovenia - https://www.rd-alliance.org/groups/rda-slovenia


12. Organizational Infrastructure - https://www.adp.fdv.uni-lj.si/eng/spoznaj/politika/infrastruktura/

**Reviewer Entry**

**Reviewer 1**

Comments: accept

**Reviewer 2**

Comments: Accept

4. Confidentiality/Ethics

**R4. The repository ensures, to the extent possible, that data are created, curated, accessed, and used in compliance with disciplinary and ethical norms.**
Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1
Comments:
4 – The guideline has been fully implemented in the repository
Accept

Reviewer 2
Comments:
4 – The guideline has been fully implemented in the repository
Accept

Response:

In the social sciences, it is often the case that researchers in the process of collecting data often collect personal or other sensitive data and therefore must be especially vigilant to protect the confidentiality of their research subjects. In addition to the rules set out in the General Data Protection Regulation (GDPR) (1) and Personal Data Protection Act (2), ADP considers relevant codes of ethics in the social science research community. Relevant (disciplinary) codes of ethics are:

- Code of Ethics of the University of Ljubljana, (3)
- European Code of Conduct of Research Integrity, (4)
- Code of Professional Ethics of the Slovene Sociological Society, (5)
- Declaration of Code of Professional Ethics of the Slovene Statistical Society. (6)

For each study that is considered for inclusion in the catalogue ADP, ADP checks whether it meets the above ethical standards or not before ingesting it. This means that the data depositor must follow the legal and ethical requirements regarding personal data protection during data collection and data handling. They must ensure that all research participants are protected from unnecessary harm, that they have been notified and have consented to collaborate in the study, while not objecting to data sharing, and that the study respects current disciplinary methodological standards.

A Confidentiality Protection Commission is an internal committee of ADP (more on this in Chapter 2.7.1 of the Digital Preservation Policy (7)). The Commission meets in cases where the initial inspection of the study identifies a need for further protection of the research data. The Commission has two main tasks: firstly, to make decisions on the protection of submitted data from disclosure, and secondly to deal with requests from researchers for access to less protected or unprotected microdata under special conditions. ADP may refuse to accept research data when e.g. consent forms are inadequate, as far as permission to share data is concerned.

Protection of research data is primarily the responsibility of the data provider, where ADP can only offer expert advice. Researchers can ask the ADP for assistance in the process of managing research data, including the area of protecting confidentiality and anonymising research data (upon request, there are internal guides available for data providers on
anonymising quantitative and qualitative data). We follow the guiding principles of the STEP Framework (8) in dealing with sensitive data. The STEP Framework helps guide curators through ethical inquiry when assessing ethically challenging data for the purpose of open archiving. We especially refer here to the principle of Responsibility here that states curator should be careful in dealing with ethically-complex data and cannot assume that researchers have considered the ethical implications specific to sharing data. When necessary, they should contact researchers to request better data documentation or de-identification of variables. Data curators cannot be expected to be ethics experts, it is ultimately the responsibility of researchers to ensure that their data is shared ethically. The responsibility for proper protection of confidentiality is therefore on the part of the data provider and does not pass to ADP, regardless of who performed the protection of the research data.

ADP staff are well trained to handle data with disclosure risk and have many internal policies and workflows to follow in these cases. Staff also regularly follow developments in confidentiality and ethics by attending workshops, seminars and webinars on these topics. With regard to the measures to be taken in the event of non-compliance with the conditions, see R8.

The ADP carries out the protection of confidentiality in two ways, by anonymising research data (see Chapter 3.2.2 of the Digital Preservation Policy (7)) and by managing access to different types of data for different types of users under specific conditions (see Chapter 3.5.2 of the Digital Preservation Policy (7)). Users are informed about the various access options via the website (see Types of Access (9)) and receive regular training on them through workshops, webinars and other events (see ADP Workshops (10)).

Links to supporting documentation:
(all visited 01/09/2021)
2. Personal Data Protection Act – currently being aligned with GDPR, expecting a new version!
   http://www.pisrs.si/Pis.web/pregledPredpisa?id=ZAKO3906
3. Code of Ethics of the University of Ljubljana (in Slovenian only) - https://www.uni-lj.si/raziskovalno_in Razvojno_delo/etika_v Raziskovanju/
10. ADP Workshops - https://www.adp.fdv.uni-lj.si/eng/usposobi/delavnice/
5. Organizational infrastructure

R5. The repository has adequate funding and sufficient numbers of qualified staff managed through a clear system of governance to effectively carry out the mission.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Response:

ADP is an organizational unit of the Social Sciences Research Institute (Inštitut za družbene vede - IDV) (1) of the Faculty of Social Sciences of the University of Ljubljana (this status is officially confirmed in the Regulations on the Organization and Operation of the Faculty of Social Sciences of the University of Ljubljana (2017) and in the Regulations on the Organization and Operation of the Research Activities of the Faculty of Social Sciences of the University of Ljubljana (2017) (2)). The Research Infrastructure Roadmap 2011 – 2020. Revision 2016 (3) and the status of ADP as a designated service provider for Slovenia in CESSDA ERIC national membership (4) serve as a strategic basis for long-term financial support from the Slovenian Research Agency under the Network of Research and Infrastructural Centres MRIC UL, in which ADP is included (5). The programme is renewed every 6 years, and the current programme period runs from 2015 to 2020 (with the extension of 1 year due to COVID).

Due to the small size of the organization, roles in ADP are shared among staff. When necessary, some of the tasks are
outsourced to external contractors. Currently, the staff of the ADP consists of 8 full-time employees and 4 occasional staff members (see section Contact on the website (6)). Occasionally we hire students to help with data archiving tasks. The responsibilities of individual staff members are the following:

- Head of Organization, full-time.
- Director of Administration, full-time.
- Head of Trainings and Promotion, Head of Acquisition and Ingest, full-time.
- Head of Access and Use, Data Archivist, full-time.
- Head of Digital Preservation, full-time.
- 2 Data Archivists, full-time.
- Technical and Security Manager, full-time.
- System Administrator, contract based occasional staff.
- Technical Support, contract based occasional staff.
- 2 Programmers, contract based occasional staff.

For a detailed description of each role, see Chapter 2.7 Roles and Responsibilities in the document Digital Preservation Policy (7).

Despite the relatively small size of the organization, ADP has enough staff to smoothly and efficiently carry out its mission and work responsibilities. The staff of the ADP is involved in ongoing training and projects at the national and international level (CESSDA) (see Current projects website (8)), ensuring appropriate knowledge and professional experience from the field of digital data storage and data management practices that follow current international standards and practices. Each year, ADP prepares an annual plan for the training of its staff, which includes a plan for professional training and development of staff as needed.

Employees of ADP must meet certain knowledge and qualification requirements to work in the archives. The defined knowledge and qualifications are the basis for acquiring new staff as well as the basis for organizing additional training for staff. Staff at ADP must meet the following qualifications:

- knowledge of digital preservation in general,
- expertise in handling specific data formats (see Chapter 3.1.2 of Digital Preservation Policy (7)),
- basic (or advanced) IT and statistical skills (depending on the work role),
- communication and organizational skills for collaboration between internal functional units and between external agencies and individuals from whom/from whom objects are preserved, users and external service providers,
- organizational and management skills for overall planning (strategy, resources) and coordination of the different functional units.

The staff of ADP regularly follow developments in the field of long-term preservation in similar organizations, e.g., among the members of CESSDA, within the professional association IASSIST and Research Data Alliance (see RDA in Slovenia), and actively participate in professional debates. At the national level, ADP cooperates with the National and University Library (NUK), the Archives of the Republic of Slovenia and other similar institutions from the field of protection of scientific and cultural heritage (conferences in the organization by NUK). The staff of ADP participate in regular
professional trainings and cooperate in the exchange of knowledge between archives and digital humanities on issues of
digital preservation and efficient development of data services (NUK, UKM - University of Maribor library, CTK - Central
Technical Library at the University of Ljubljana, Archives of the Republic of Slovenia, SURS – Statistical Office of the
Republic of Slovenia and other research libraries). CESSDA continues its tradition of expert seminars (CESSDA Expert
Seminar), in which ADP participates with expert contributions. The staff of ADP also participate in the international
association and international conferences of IASSIST (International Association for Social Science Information Service
and Technology), European DDI (EDDI) Conference, Research Data Alliance Plenaries, LIBER - Association of European
Research Libraries etc.

For more see the document Digital Preservation Policy (7) (Chapters 1.3, 2.3 and 2.7) and the section Internal
Development on the webpage (10).

Links to supporting documentation:
(all visited 01/09/2021)
1. Social Sciences Research Institute of the Faculty of Social Sciences, University of Ljubljana -
   https://www.fdv.uni-lj.si/en/research/institute-of-social-science
2. Regulations on the Organization and Operation of the Faculty of Social Sciences of the University of Ljubljana,
   Regulations on the Organization and Operation of the Research Activities of the Faculty of Social Sciences of the
   University of Ljubljana (available only in Slovenian and for internal use!) -
3. Network of research infrastructure centres at the University of Ljubljana (MRIC UL) - https://www.uni-lj.si/research_and _development/research_infrastructure/network_of_research_and_infrastructural_centres/
4. CESSDA ERIC – https://www.cessda.eu/
6. ADP Contact website – https://www.adp.fdv.uni-lj.si/eng/kontakt/

Reviewer Entry
Reviewer 1
Comments: accept

Reviewer 2
Comments: Accept

6. Expert guidance
R6. The repository adopts mechanism(s) to secure ongoing expert guidance and feedback (either inhouse or external, including scientific guidance, if relevant).

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1
Comments:
4 – The guideline has been fully implemented in the repository

Reviewer 2
Comments:
4 – The guideline has been fully implemented in the repository

Response:

The ADP Council (1) is an external body that is formed to help ADP monitor and respond to developments in the Slovenian social science community. Based on the Regulations on the Organisation and Functioning of the Faculty of Social Sciences of the University of Ljubljana (2017) (2), the FDV Senate appoints the ADP Council, considering the proportional representation of all basic disciplines. Members of the Council are distinguished members of the Slovenian scientific community from the leading research institutes.

The mission of the ADP Council is to promote ADP in its activities, to advise and evaluate the functioning of the services of ADP, considering the benefits of the wide range of users. The ADP Council follows the procedures set out in the document ADP Council Working Procedures Act. The Council meets at least once annually to discuss the proposed annual plan and the ADP annual report. The convener of the meeting is the Head of Organisation and all ADP staff are present at the meetings. On behalf of the ADP Council, Vice-Dean for Research reports annually to Scientific Council of FDV and FDV Senate.

ADP is actively involved in a broader national and international research infrastructure. As a data service provider, it actively follows international development initiatives from its field (OECD, academic associations, research policies from developed EU countries, USA and Australia) and promotes their implementation in the national setting. The staff of ADP are involved as external experts in various working groups, preparing drafts or advising on the creation of strategic documents and guidelines, such as the strategy of the Ministry of Education, Science and Sport (draft Resolution on Research and Innovation Strategies of Slovenia 2021-2030 (RISS) and its Action Plan), in Scientific Advisory Board of OPERAS, as well as participation in the GUILD – Research Universities Association, etc. ADP promotes the initiatives,
guidelines and demands from national and international organizations and science funders in the national research community through the organization of workshops, round tables and seminars intended for various participants in the scientific research community (researchers, heads of institutions, publishers, libraries, etc.).

At the national level, ADP networks with other national disciplinary infrastructures that deal with storing digital research data from social sciences, humanities and heritage science. ADP works most closely with the national representatives of the Digital Research Infrastructure for the Arts and Humanities - DARIAH (3) (Institute of Contemporary History and affiliated research infrastructure ZRC SAZU) and Common Language Resources and Technology Infrastructure - CLARIN (4) (Institute Jožef Stefan) to share experiences, good practices and interdisciplinary data exchange and to discuss opportunities to develop networked infrastructure services at national level. In 2019 and 2020, ADP coordinated RDA Node Slovenia (5) project and established a national Research Data Alliance node to act as a long-term central point of contact between the Research Data Alliance and data practitioners, funding organizations, research agencies and other relevant stakeholders in Slovenia. The objectives of the node were of a general nature, with some specific focus on the coordination of infrastructure development based on internationally recognized standards, e.g., CoreTrustSeal (CTS), and on the development of journal open data guidelines as one of the points in National Action Plan that can have an impact on the growth of data sharing culture. Even after the completion of the project the ADP still continues to coordinate the node.

The involvement of ADP in the activities of the Pan-European Research Infrastructure - CESSDA ERIC (Consortium of European Social Science Data Archives) (6) is at the forefront of international cooperation ADP. CESSDA’s Agenda 21-24 document contains the overall strategic objectives and priorities set for each CESSDA Pillar (Training, Tools, Trust and Widening and Outreach) in the period from 2021 till 2024. ADP actively participates in individual projects under each of the pillars and in two CESSDA Working Groups (Training and Trust). For more on this see (7).

ADP is also active in several international projects, for example Synergies for Europe's Research Infrastructures in the Social Sciences (SERISS), EOSC Future, COORDINATE - COhort cOmmunity Research and Development Infrastructure Network for Access Throughout Europe, TRIPLE, Social Science & Humanities Open Cloud, RDA Node Slovenia (see the list of past projects (8) and current projects (9) that ADP is involved in) through which we constantly expand and obtain our open science, digital preservation and technical expertise (for example see deliverables of selected projects (10) or (11)).

Groups with which the ADP forges professional links and organizes data sharing include Interuniversity Consortium for Political and Social Research (ICPSR) (10), Research Data Alliance (RDA) (11), International Federation of Data Organisations (IFDO) (12), Committee on Data for Science and Technology (CODATA) (13), World Data System (14), and others.

The ADP communicates with its designated communities (15) for regular feedback on its services (16). The ADP adapts access to data, metadata, and other services, connected to data, to its various target users, to separately display and conduct adjusted services that will fulfill the needs of different segments of users. ADP regularly performs quality evaluations of its services (especially through supporting data managements plans, with occasional surveys of users’ satisfaction (17), and creating regular reports on users’ statistics), considering internationally comparable criteria of the
quality of service. Based on these evaluations it forms and adapts its services to different users' needs.

ADP prepares different workshops (18) for its designated community. To approach the needs of users as tightly as possible, the ADP asks the users at the point of registration (19) for a workshop to provide information on their educational background, about their existing knowledge (on data, statistics etc.) and on intended data use. On this basis, the ADP adapts individual workshop to the group of participants (the theme and the degree of complexity).

After the workshops, the ADP invites participants to fill in a survey of their satisfaction with the workshop. Such feedback is important for plans of working with designated communities. Currently, the ADP is preparing a thematic manual on how to use data in teaching (20) together with teachers and professors to approach the needs of users even further.

For more see the document Digital Preservation Policy (Chapters 1.3, 1.2 and 2.7.4) (21).

Links to supporting documentation:
(all visited 01/09/2021)

1. Regulations on the Organization and Functioning of the Faculty of Social Sciences of the University of Ljubljana (available only in Slovenian and for internal use!) - https://www.fdv.uni-lj.si/moj-fdv/prijava/o-fdv/register-predpisov-fdv/veljavni-predpisi-fakultete-za-drzubene-vede
2. The ADP Council - https://www.adp.fdv.uni-lj.si/eng/spoznaj/advetadp/
5. RDA Node Slovenia – https://www.rd-alliance.org/groups/rd-node-slovenia
6. CESSDA ERIC (Consortium of European Social Science Data Archives) - https://www.cessda.eu/
12. Interuniversity Consortium for Political and Social Research - https://www.icpsr.umich.edu/web/pages/
13. Research Data Alliance (RDA) - https://www.rd-alliance.org/
15. Committee on Data for Science and Technology (CODATA) - https://codata.org/
17. ADP’s Designated Communities - https://www.adp.fdv.uni-lj.si/eng/spoznaj/advetadp/uporabniki/
18. Use and Importance of ADP’s data - https://www.adp.fdv.uni-lj.si/eng/spoznaj/advetadp/pomen/
20. ADP User Workshops - https://www.adp.fdv.uni-lj.si/eng/usposobi/delavnice/
DIGITAL OBJECT MANAGEMENT

7. Data integrity and authenticity

R7. The repository guarantees the integrity and authenticity of the data.

Compliance Level:

3 – The repository is in the implementation phase

Response:

As part of its long-term mission of digital preservation (1), ADP also follows the principles of preserving data integrity (ensuring that archived data is protected from unauthorized modification) and preserving authenticity (ensuring that digital objects come from a documented creator and that they are what they purport to be). Maintaining data integrity and authenticity is considered an organizational setting and is the responsibility of all repository staff (see the Preservation Strategy section on the website (2)).

Ingest (3) involves a thorough review of the materials received, focusing on the completeness of the documentation, the
substantive importance of the study, verification that the materials have been anonymized, and that the data formats submitted are consistent with the recommended formats (3). The entire study workflow is defined according to a set procedure. The internal documentation of ADP describes the ingest and processing of studies, as well as the type of data and metadata generated. For each dataset, an AIP (Archival Information Package) is created that contains data and metadata. In some cases, the AIP is also the DIP (Dissemination Information Package) (for example when we get documentation already in long-term preservation formats, such as pdfs), but sometimes (due to embargo or privacy issues) there can be multiple versions of both AIP and DIP, depending on access rights (ScUF, SUF and PUF files). To fulfill the sixth requirement of the OAIS (Open Archival Information System), namely, to ensure the independent intelligibility and usability of the data, the ADP follows detailed documentation of all transformations in the processing data, through which it ensures the preservation of the authenticity of the digital objects. All transformations related to the normalization of research data and interventions in data for the purpose of anonymization are carefully documented (see Digital Preservation Policy, Chapter 3.4.1 (4)). All the above information is accessible to end-users in the form of study metadata. The formats of data files used by the ADP will be chosen with consideration of the challenges of long-term preservation, avoiding proprietary, obsolete and infrequently used formats. Where possible, all textual documentation relating to the study will be stored in PDF/A format to preserve the appearance and textual status of the documents. Data files will be saved in ASCII format, including the DDI protocol on the structure and content of the data files, and accompanying syntax for reading the files will be added. In cases, when a file is obscure or proprietary and cannot be normalized, we inform the data depositor that we do not support such file formats and decline to include them in our catalogue. In rare cases, when we do store such files, we do not guarantee their long-term availability and usability.

All changes made by ADP to a SIP (Submission Information Package) to create an AIP (for all materials) are documented by ADP staff in the administrative tool JIRA (software used to note the status and changes of each study). Complete information about each record and metadata file, as well as changelogs and additional administrative metadata, will be stored in this application, while at the same time some information will also be stored with the AIP metadata (provenance metadata in Codebook). The data is assigned a version number, and the new changes that result in a different version are described in detail. Metadata files are also versioned. In addition, a history log is maintained in the application. The internal manual (5) contains step-by-step instructions on versioning. Versions and revisions are used depending on how big the change is in the file. The ADP has developed a change monitoring system that allows traceability of the transformation of digital objects. Two types of changes are possible: minor changes, which are executed as revisions, and major transformations of objects, which are executed as versions. The revision and version of the document are visible in the document name. DOIs are used to access the landing page of a study, however, our current system of access does not allow users to access different versions of studies online. Only the most recent version is available to end-users, whereas older versions are available on request. By developing the new digital preservation application “E-Storage” and using Dataverse for the dissemination of studies, this will be enabled.

All materials, regardless of their revisions or versions, are stored in a common directory, and their backup copies are kept in various locations (see the document Digital Preservation Policy - chapter 4.2 (4)). Changes are most carefully noted at the data file level so that it is possible to track them at each step and return to the original version of the data file. The changes in the study descriptions, data files and supplementary materials are noted with versioning in the naming of each file. Explanation of changes will be written down in the administrative tool JIRA. For
quantitative data files, all changes are also noted in SPSS syntax. Types of changes made to qualitative data are documented in the anonymisation plan of the dataset. By default, access is only available to the most recent version of the files. For earlier versions, users must contact ADP staff and request access.

Changes are also noted in internal documents. This is done by adding a version and revision to the name of the documents. For minor changes, a new revision of the document is created, for major changes, a new version of the document is created.

A Subversion SVN client is used to track changes to the ADP website. All changes to the website ADP are noted and at the same time, there is the possibility to restore the previous version of the website at each step.

To support internal processes and their automation, the ADP is currently piloting a self-developed archiving tool "e-Storage", based on repository software Fedora with certain extensions that consider the specificities of data, documentation, and metadata from the field of social sciences. This system will periodically check for checksums over copies stored in different locations. This will ensure the integrity of the data in the repository and will monitor the data formats used for data storage to detect potential preservation issues. Due to the incorporation of this tool in our workflow, we expect to be able to raise the compliance level of this requirement to 4 in the next certificate update.

Deposit instructions and deposit forms can be found on the website ADP (6). ADP has written down reasons for data changes in its internal documentation (5). Portions of this are distributed to depositors as instructions for creating a data file (7). Any remaining changes will be reviewed by the data depositor for approval. Data cleaning is mainly reduced to additional clarification of information about missing values and additional anonymization when needed, the original files are kept for future reference; changes are documented in SPSS syntax files (see sections on ingest and Archival Storage on the website (8)).

ADP is committed to preserving the authenticity of the intellectual content of the data and metadata. AIP consists of preserving the original digital files and "normalized" versions of the data in a non-proprietary format, stored in ASCII tab-delimited format, and documentation in PDF/A. Links between the original metadata and data and later versions are retained in the operational database. All changes are audited and documented in JIRA.

The ADP performs partial verification of depositor identity. Depositors in most cases have a researcher identifier and are listed on the SICRIS (Slovenian Current Research Information System) (9) website where the project ID and funding information is available. Depositors are contacted frequently during the pre-archiving and archiving phases, and problems with identity should be identified at one of these contact points.

For more information, see the document Digital Preservation Policy (Chapter 2.6 and 3) (4), the Procedure of Ingest and Digital Management sections of the website (8).

Links to supporting documentation:
(all visited 01/09/2021)
3. Recommended and other forms of formats of individual materials for ingest - https://www.adp.fdv.uni-lj.si/eng/deli/postopek/priprava/formati/
4. Ingest - https://www.adp.fdv.uni-lj.si/eng/spoznaj/politika/upravljanje/
8. Appraisal

R8. The repository accepts data and metadata based on defined criteria to ensure relevance and understandability for data users.

**Compliance Level:**

4 – The guideline has been fully implemented in the repository

**Reviewer Entry**

**Reviewer 1**

Comments: accept

**Reviewer 2**

Comments: Accept

**Response:**

The ADP has developed a collection development policy (1) that states that ADP contains research data of interest to social science researchers dealing with problems of Slovenian society. Priority is given to studies that achieve theoretical, conceptual, and methodological excellence, especially longitudinal data and internationally comparable data that include data from Slovenia. Exceptionally, studies that do not fall into the above categories may be included, e.g.:

1. studies that do not fall strictly into the social sciences but are structurally like data from this field and have no other curation option,
2. data from related disciplines, especially if relevant from an interdisciplinary use perspective (e.g., humanities, medicine), and
3. new types of data that are interesting for testing novel approaches.

Long-term preservation of research data requires additional effort and cost to prepare it in a format that allows for continued use. This cost and effort are justified by the savings that lie in the continued reuse of the data. The ADP joins other similar disciplines (humanities, medicine, etc.) when it comes to specific data types, classes, and formats, while on the other hand, it closely monitors the evolution of its collection and encourages representation of less represented disciplines (psychology, economics, etc.). The ADP consistently follows current trends towards Open Government Data, Big Data, Social media data, harmonisation, and interdisciplinary integration of research data by actively following the developments in the international community in these areas and through its inclusion in different international and national projects and initiatives.

In selecting research data for ingest, ADP considers the basic quality criteria as well as the content suitability and attractiveness of the study for secondary analysis. The following criteria will be used in selecting research data for ingest:
- the richness of the data in terms of relevance to the conceptualization and thematic complementarity to the ADP collection,
- the excellence of the methodology used, integrity and relevance of the research data, and additional documentation for secondary analyses,
- the intellectual property rights of the data provider over the research data and its willingness to deposit the data in the archive (The data depositor transfers distribution rights via the License Agreement to ADP. ADP checks if the data depositor is the copyright owner and has the right to distribute all materials. The data depositor needs to have all necessary permissions to distribute data, for example from funders or institutions.).

The ADP Promotion, Education and Training Working Group plans to develop the ADP collection on an annual basis and prepares a list of priority research areas and research institutions on which more promotion should be made to receive more studies in the catalogue. We are currently developing and testing technical capabilities for self-submissions (incorporating studies judged to be of limited significance), considering increasing demands for open access to research data from funders (for example, H2020, Horizon Europe, institutional and national open data policies), and also following the editorial guidelines of scientific journals to allow open access to research data associated with scientific publications. The new system will thus incorporate our existing active curation regime of high-quality social science research and the basic curation regime for less significant studies that are still of interest to social science researchers dealing with problems of Slovenian society.

On the website of ADP data producers and depositors can access all information regarding preparing the submission package (see Procedure of Ingest (2)) and detailed information on how to prepare data (together with the list of recommended formats for quantitative and qualitative data (3)). They are invited to prepare a study description in the publicly available form for metadata description of studies, based on the DDI 2.5 Study description structure (see Prepare the Study Description on website (4)). Incoming materials will first undergo a thorough review, focusing on copyright,
completeness of documentation, suitability of study content, verification that materials have been anonymized, and compliance of submitted data formats with recommended formats for ingest (see Recommended and other forms of formats of individual materials for ingest (3)). The submitted materials are inspected by the Data Archivist and all the possible questions concerning content and formats are discussed with the data provider. If needed, the Data Archivist calls upon the data provider to complete the submitted materials to assure the completeness of the study documentation. Publications describing the study are part of the submission. They remain attached to the study description.

Each study that enters the ADP system is assessed for quality (5). This process is described in detail in the internal manual "Pre-ingest: description of the workflow". The purpose of evaluating studies with research data is to assess the importance and justification of archiving and storing research data, consistent with the mission of ADP. There are two types of assessment:
1. the first assessment is conducted for the purpose of adding the study to the collection ADP,
2. the reassessment is conducted for the purpose of re-evaluating the justification of keeping the study that is already part of the collection.

The evaluation will consider the following aspects: 1) consistency with collection development policy of the ADP, 2) scientific value of the data, 3) consistency with open data access principles, 4) research ethics, 5) reuse potential, 6) evaluation of significance in terms of long-term storage costs.

We are currently piloting the internally developed quality assessment tool that forms the basis for categorising incoming studies into different regimes of archiving and access. In the new quality assessment system, the Head of Acquisition and Ingest and the Data Archivist will assess the study in terms of its relevance for the ADP Catalogue. In cases of high-quality scientific and methodological studies there is a possibility to also include domain experts to assess the study based on a predefined assessment tool. These assessments become part of study documentation. The pilot test will show how this tool needs to be adapted in the next period to our collection development policy and wider technological developments.

The result of the assessment is a report that is considered by the Commission for the Acquisition and Evaluation of Studies. The Commissions decides on the type of archiving and access to the study:
1. the data with the highest quality will be classified in the active curatorial regime (data-level curation),
2. data with limited significance will be included in the self-submission regime (basic curation, involving only brief checking and addition of basic metadata and documentation). Please note that this option is not yet active, since we are currently piloting a system that will allow such functionality by using the application Dataverse. The system will be in trial use by the end of 2021.
3. data that do not meet the criteria will not be included in the ADP collection.

The Data Archivist prepares all necessary metadata to register individual units of materials, connected in the ingest package. He/she also imports descriptive metadata for study description, according to DDI, and structural metadata that enables understandability and maximal usability for future users. A subset of The European Language Social Science Thesaurus (ELLST) for topic classification and DDI recommended vocabulary is used for specific elements when applicable. Study description is checked against study related documentation contained in publications. Bibliographic part
of metadata description is converted also in COMARC format (a dialect of MARC standard used in a region) and is available in the COBISS national bibliographic system (7). The materials are then transformed to recommended formats for long-term storage and access. At the ingest of research data and other materials the ADP examines the submission formats and if needed, transforms them into formats, appropriate for digital preservation and access. In cases where there is no software available for the transformation of the formats, the data provider is informed and asked to submit materials in other formats. The accessible materials, intended for final users, are saved separately from archival materials.

Metadata prepared in XML are offered to users in different formats and length: from basic to detailed view, from metadata presented on the web to downloadable HTML and XML (see Catalogue of ADP (8), Catalogue of ADP on Nesstar (9), Study Description Example (10)). Browsing and searching (11) by using many categories (Study ID, Series ID, Content field, Depositors etc.) are made possible via the website and the Nesstar catalogue.

Some studies, and materials whose lifespan is ending may need to be disposed of (e.g., a poorly recorded study (studies that have poor metadata), missing copyrights, missing data files, author deletion requests, etc.). The procedure for dealing with such cases is set out in the “Policy of Disposal of Materials”. Destruction must be carried out by a Commission decision, which means that the Commission reviews the study object and orders its destruction. The revision track of the destruction as well as the existence of the document must be carefully noted in the administration tool Jira. The landing page of the study will be kept, stating that the study is no longer available.

For more information see the document Digital Preservation Policy (6) (Chapters 2.5, 2.6 and 3.1), sections Collection Development Policy (1), How to Get Data? (13) and Procedure on Ingest on the website (2).

Links to supporting documentation:
(all visited 01/09/2021)
3. Recommended and other forms of formats of individual materials for ingest - https://www.adp.fdv.uni-lj.si/eng/deli/postopek/priprava/formati/
4. Prepare the Study Description - https://www.adp.fdv.uni-lj.si/eng/deli/postopek/opis_raziskave/
10. Study Description Example - https://www.adp.fdv.uni-lj.si/opisi/mpstr18/

Reviewer Entry
Reviewer 1
9. Documented storage procedures

**R9. The repository applies documented processes and procedures in managing archival storage of the data.**

**Compliance Level:**

4 – The guideline has been fully implemented in the repository

**Reviewer Entry**

**Reviewer 1**

Comments:

4 – The guideline has been fully implemented in the repository

**Reviewer 2**

Comments:

4 – The guideline has been fully implemented in the repository

**Response:**

The archival workflow in ADP (1) follows a fixed workflow from ingest to dissemination (see Workflow on website (2)). Individual workflows of ADP are described in detail in internal guides and instructions of ADP (3) (see also Annex A in the document Digital Preservation Policy (4)).

Access to the system and data materials is restricted to employees and co-workers. A security system is in place for greater security of access. There is limited physical access to the hardware to ensure security. Transfer of research data between data providers and the ADP is possible through secure cloud transfer. All these measures ensure adequate information security of ADP (see Technology and Security on the website (5)).

The ADP monitors its holdings and adjusts them to meet its needs in case of changes in formats for long-term storage. The ADP also ensures that all materials and metadata are machine-readable over the long term. The archival function includes many safeguards, such as checking for errors in the information package, evaluating the preparation of materials for long-term storage, and a policy for handling the destruction of holdings. This review for errors is currently done manually for each data file (each file is opened, converted to a long-term file format if necessary, and compared to the
original to ensure that essential file properties are preserved). In the future, this error checking process will be automated by the newly developed tool "e-Storage". We also check that the documentation and data are consistent (e.g., that the variables in the data file match the questionnaire, metadata, and other study documents).

The archival information package (AIP) consists of all deposited and accessible digital objects that have been transformed into formats suitable for long-term storage. They are stored, along with associated metadata, in a separate location from the Dissemination Information Package (DIP). Backup copies of all packages (SIP, AIP and DIP) are made on a regular basis, allowing for prevention of data loss (see R15 for more information on the backup process). To ensure long-term storage, a policy and detailed guidance on the process of making backup copies and restoring the system in the event of a backed-up fallout has been developed at ADP (see chapter 4.2 in the document Digital Preservation Policy (4)).

The ADP considers the recommendations and requirements of CESSDA (e.g., future recommendations on PID and AAI) when designing its information technology. It regularly follows current trends in hardware and software development, which are regularly monitored and updated. Efficient storage capacities of the entire infrastructure are ensured. The preservation of data, its distribution and the entire infrastructure of the archive are based on an adapted IT infrastructure to which only staff and registered users have access.

To support internal processes and their automation, the ADP is currently piloting a self-developed archiving tool "e-Storage", based on repository software Fedora with certain extensions that consider the specificities of data, documentation, and metadata from the field of social sciences. This system periodically checks whether checksums are performed over copies stored in different locations. The ADP regularly invests in upgrades and developments of services that allow interconnectivity between different organizations and the use of versioning and persistent identifiers, an overview of copies in different formats and access regimes.

For more information, see the document Digital Preservation Policy (4) (Chapter 2.6, Section 4 and Annex A) and the sections Digital Object Management (1), Technology and Security (5) and List of Internal Guides and Instructions (3) on the website of ADP.

Links to supporting documentation:
(All visited 01/09/2021)
1. Digital Management in ADP - https://www.adp.fdv.uni-lj.si/eng/spoznaj/politika/upravljanje/
2. Workflow - https://www.adp.fdv.uni-lj.si/eng/spoznaj/politika/upravljanje/#panel-628

Reviewer Entry
Reviewer 1
Comments: accept
Reviewer 2
10. Preservation plan

R10. The repository assumes responsibility for long-term preservation and manages this function in a planned and documented way.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1
Comments:
4 – The guideline has been fully implemented in the repository
Accept

Reviewer 2
Comments:
4 – The guideline has been fully implemented in the repository
Accept

Response:

The ADP has developed a complete system of digital preservation, including the completion of fixed workflows (see Preservation Strategy (1) and Workflows (2) on website). Internal procedures and instructions now set detailed rules and procedures for processing and managing digital objects (see also Appendix A in the document Digital Preservation Policy (3)).

The ADP follows the fourth requirement of OAIS and the CTS requirements in establishing the digital preservation strategy. By ensuring that information is preserved in a manner that can be understood independently, the designated community is able to understand the information without relying on the help of the experts who created the information, even if the digital environment in which it was primarily stored has become obsolete. The basic strategy of digital preservation in the ADP is normalization in ingest. To this end, the ADP has established rules for appropriate formats of data files that are acceptable to data providers, as well as compatible formats for digital preservation (see Recommended Formats (4)).

The ADP has a mandate to preserve its collections digitally for the long term. The primary goals of the digital archive are to preserve files and other materials for the long term, particularly in conjunction with the following principles:
- Maintaining data integrity: ensuring that archived data is protected from unauthorized modification.
• Maintaining authenticity: ensuring that digital objects come from a documented creator and that they are what they purport to be.

• Complementarity: no parts of the digital object are missing.

• Preservation of readability: it is always possible to view and interpret at least the most recent version of a digital information object. In this context, it is important to know what formats occur for each version.

• Preservation of discoverability: persistent identifiers (DOI, URN) and entries in relevant directories and search engines should be used.

• Maintaining confidentiality: considering relevant legal regulations, ethical and disciplinary standards.

By fulfilling the above principles and creating transparency of its activities to the outside world, the ADP contributes significantly to the credibility of the data archive, which is one of the core objectives of the Digital Preservation Policy (3).

The ingest agreement, in the form of a Deposit Agreement (5), signed by the data depositor and the ADP, defines the relationship between the two parties: It gives the ADP (or its successor) the rights to process the study for the purpose of digital preservation and gives users the right to access the research data. By signing the agreement, the data depositor agrees, on his or her behalf or on behalf of the researcher, that the ADP will process, store, and disseminate research data (see the document Digital Preservation Policy, Chapter 3). The Deposit Agreement gives the ADP (or its successor) rights based on which it can (1) prepare materials for storage and distribution, and (2) store and distribute materials. With such an agreement, the ADP fulfils the second obligation of OAIS - it is necessary to obtain sufficient rights to handle information to ensure its long-term preservation.

Further information can be found in the document Digital Preservation Policy (3) (Chapters 2.1, 2.4, 2.6 and 3.2) and in the sections Organizational Infrastructure (6) and Digital Object Management (7) on the website.

Links to supporting documentation:
(all visited 01/09/2021)
2. Workflow - https://www.adp.fdv.uni-lj.si/eng/spoznaj/politika/upravljanje/#panel-628
4. List of Recommended Formats - https://www.adp.fdv.uni-lj.si/eng/deli/postopek/priprava/formati/
5. License Agreement - https://www.adp.fdv.uni-lj.si/eng/deli/postopek/izjava/
6. Organizational Infrastructure - https://www.adp.fdv.uni-lj.si/eng/spoznaj/politika/infrastruktura/

Reviewer Entry

Reviewer 1
Comments: accept

Reviewer 2
Comments: Accept
11. Data quality

R11. The repository has appropriate expertise to address technical data and metadata quality and ensures that sufficient information is available for end users to make quality-related evaluations.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1
Comments:
4 – The guideline has been fully implemented in the repository
accept

Reviewer 2
Comments:
4 – The guideline has been fully implemented in the repository
Accept

Response:

The ADP follows the OAIS model and the requirements of the CTS by providing its designated communities with enough information about the study (metadata) to enable end users to understand individual parts of the data file or additional materials on their own. In this way, ADP fulfils one of the mandatory roles of the OAIS by regularly updating and improving the study metadata according to the identified needs of users. Users and depositors can comment on the metadata or make quality assumptions about the (meta)data by contacting us via email or attending our training sessions and sharing their experiences with using (meta)data. We endeavour to take all comments received into account when designing our future service developments. The team at ADP has relevant and appropriate social science expertise in terminology and methodology to produce (meta)data that is appropriate for its designated communities.

Metadata are the main components of all versions of information packages in the system and, together with preservation metadata, form the basis for the appropriate semantic and structural use of data and additional documentation. In defining study descriptions (metadata), the ADP uses the DDI standard 2.5 (Data Documentation Initiative (1)) and follows the CESSDA Metadata model (2), including proposed controlled vocabularies (3). The Data Archivist with the help of the data provider, checks the submitted documentation for consistency and creates the final metadata description according to DDI on this basis. The scope of the metadata differs depending on the level of processing of the study. In the case of quantitative data, this may include not only the study description but also the full description of the variables, including frequency distribution and question texts. In the case of qualitative data, Data Archivists uses the metadata fields suggested in the document "Recommendations for ingest of qualitative data (for data archivists)" for data file descriptions.
The Data Archivist reviews the technical and content quality of submitted materials. The Data Archivist reviews and verifies each dataset before and during processing. If further quality issues, inconsistencies, or errors in the data are identified, the data provider will be contacted for more information on metadata and data or for a new version of the dataset. If the problem cannot be resolved, this will also be publicly documented in the descriptive metadata.

The use of standard metadata and the connectivity of identifiers with other information services enable quality and sustainability-oriented development of data services. This forms the basis for linking different services of scientific information provision and is at the same time the basis for coordination and cooperation within the common services of the international infrastructure unit of CESSDA. Interoperability is also one of the exposed focal points of the OAIS standard and one of the FAIR principles. Study descriptions according to DDI are interoperable with catalogues that harvest DDI formats (CESSDA Data Catalogue (4), DataVerse (5) etc.). We also enable Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) (6) using the Kuha (7), tool developed by the Finnish Social Science Data Archive. The OAI-PMH is a protocol that allows archives to share metadata with service providers. Using the metadata harvested from archives, service providers offer diverse services to end users, such as search engines or catalogues. OAI-PMH servers can provide metadata in various formats to service providers. Dublin Core and EAD (Encoded Archival Description) are the supported formats for the archive's OAI-PMH service. The Kuha server generates these formats from the study descriptions in DDI format from ADP and sends the studies to the CESSDA Data Catalogue (4).

The staff of ADP is involved in the projects to harmonize the use of metadata in the special working/project groups in CESSDA (controlled vocabularies, ELSST (European Language Social Science Thesaurus), CESSDA data catalogue), which includes the discussion on the fixed use of terminology and the development of methods to adapt the metadata to technological progress.

Within the third function of the OAIS model (Data Management Function), ADP maintains databases of descriptive metadata that identify and describe archival holdings. Primary data management functions also include performing queries on these databases and generating reports in response to requests from other functional units within OAIS (e.g., Ingest, Administration, Access), as well as performing updates to the databases as new information arrives or existing information is modified or deleted (for more on metadata management see Digital Preservation Policy (8), Chapter 3.4). Metadata and other materials related to the study are available to all users of the ADP website (9) without registration. Access to microdata is subject to prior registration (10). Registration provides users with the ability to conduct online analyses in the Nesstar browser (11) and/or download data files in the selected format to their own computers.

On the ADP website, users can access the following study metadata:

(a) Metadata of studies with microdata at ADP: ADP holds metadata along with microdata accessible through ADP. The user must agree to the rules of ADP to use such microdata.

(b) Metadata of studies with microdata available in other organisations: ADP also provides metadata of studies whose microdata are available in other archives or organisations, such as some internationally comparable data and unprotected microdata from official statistics. The ADP stores and disseminates their metadata and links to the landing page for data access. Access to the data files is subject to the rules of the organisation responsible for the preservation and dissemination of the study.

The ADP encourages and recommends that data providers also include with the submission package research reports and other accompanying publications (12) that may be useful for secondary use of research data (13). All reports and
accompanying publications for the study are added to the study descriptions in the catalogue of ADP in the form of citations to related work (see the Accompanying Materials tab in the example (14)). For more information, see the document Digital Preservation Policy (8) (Chapters 3.2.1, 3.2.3, and 3.4) and the sections Digital Object Management (15), Read Terms of Use (16), and Understand Descriptions (17) in the Catalogue on the ADP website (9).

Links to supporting documentation:
(all visited 01/09/2021)
2. CESSDA Metadata model – https://zenodo.org/record/3236194#.YBKpfOhKiUI
3. CESSDA Vocabulary Service - https://vocabularies.cessda.eu/
4. CESSDA Data Catalogue - https://datacatalogue.cessda.eu/
5. DataVerse - https://dataverse.harvard.edu/dataverse/adpljubljana?q=&types=datasets&sort=nameSort&order=asc
9. ADP Catalogue on ADP website – https://www.adp.fdv.uni-lj.si/opisi/
14. Study example - https://www.adp.fdv.uni-lj.si/opisi/mpstr18/

Reviewer Entry
Reviewer 1
Comments: accept

Reviewer 2
Comments: Accept

12. Workflows

R12. Archiving takes place according to defined workflows from ingest to dissemination.
Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry

Reviewer 1

Comments:
4 – The guideline has been fully implemented in the repository
accept

Reviewer 2

Comments:
4 – The guideline has been fully implemented in the repository
Accept

Response:

ADP has policies and procedures (defined in the internal manual (1)) that follow the archiving life cycle and the established criteria that apply at each stage (see also Appendix A in the document Digital Preservation Policy (2)). The management of all elements is done through the management tool JIRA (project tracking software) (3). Reports are exported to a PDF file at the end of a project and stored with the study documentation and materials in the archiving package.

The "data pipeline" at ADP conforms to the OAIS Reference Model and research data lifecycle model. Storage is managed according to strict criteria regarding media, redundancy, etc. Staff handling the data are trained in disclosure risk issues. They hold relevant degrees in social sciences or statistics and receive appropriate training opportunities. There is an internal manual (1) that defines processes for data transformations and instructions for proper use of SPSS syntax. Transformations of primary data files are saved and can be reviewed at any time. If relevant, the changes can also be published. If ad hoc decisions are required to handle exceptional cases, the decisions are made by the Director of Administration and documented in the metadata and/or the operational database.

Most data managed by ADP is quantitative in nature, but qualitative data is also increasingly processed and retained. Internal manuals and workflows for archiving quantitative and qualitative data are in place and establish the criteria for reviewing submitted data and materials. Constant monitoring of technological progress in this area makes it possible to follow and implement current trends and best practices.

The workflow from (pre)ingest to dissemination (with modification and republication) is available on the website (4) and described in detail in Chapter 3 at Digital Preservation Policy (2). A list of guidelines that comprise the internal manual from (pre-)ingest to dissemination is available on the website (1). We are currently developing a wiki where all internal documents and workflows will be stored to make it easier for our employees to access and use.

Communication between depositors and users about handling data occurs through various channels from the identification of the study to its publication. All changes to materials are coordinated with the depositor and recorded in the
administration tool Jira (3). Also, with respect to previously published studies, communication with users interested in that particular study is kept current and documented in the administrative tool Jira.

Links to supporting documentation:
(all visited 01/09/2021)
1. Internal Manual - https://www.adp.fdv.uni-lj.si/eng/spoznaj/politika/gradiva/

Reviewer Entry
Reviewer 1
Comments:
accept
Reviewer 2
Comments:
Accept

13. Data discovery and identification

R13. The repository enables users to discover the data and refer to them in a persistent way through proper citation.

Compliance Level:

4 – The guideline has been fully implemented in the repository

Reviewer Entry
Reviewer 1
Comments:
4 – The guideline has been fully implemented in the repository
accept
Reviewer 2
Comments:
4 – The guideline has been fully implemented in the repository
Accept

Response:

Study descriptions are published on the ADP website in the ADP catalogue (1) and in the ADP’s Nesstar catalogue (2). Both have search functions, and the ADP provides online guidance on searching data and documentation (3),
understanding study descriptions (4), and analysing data (5). Study descriptions are available in Slovenian and English. The data descriptions are available online as machine-readable DDI 2.5 XML files. ADP uses the DDI standard 2.5 (Data Documentation Initiative (6)) and follows the CESSDA Metadata model (7), including proposed controlled vocabularies (8).

The ADP Catalogue (1) provides customized Google searches from study descriptions to variable level text. Searches on Nesstar (2) are available in simple (9) and advanced (10) modes, which offer customized selection of items within the DDI structure. Data files are available in several common file formats (SPSS (*.sav), SPSS Portable (*.por), Statistica, Stata v.8, Stata v.7. DIF, Dbase, SAS). A direct download, where the user can choose his preferred format, is possible via the Nesstar browser (2).

ADP currently uses DOIs provided by da|ra (11) as persistent identifiers and ADP Study ID for study classification, which is unique to each study within the catalogue. The ADP is in the process of developing a system of URN unique identifiers in collaboration with the National and University Library. Currently, the ADP is piloting an internally developed "Long-term Storage" application based on Fedora repository software to control the inventory description, which will include FOXML and accompanying identifiers, including checksum (MD5) information, traceability, accessibility of different versions, etc. Through this application, a study-level PID will be assigned for each study, then versions will be granulated at the level of each digital object. ADP creates Dublin Core metadata for each digital object in DIP.

ADP is indexed in the Re3data Registry of Research Data Repositories (12). Study descriptions to DDI are interoperable with catalogues that harvest DDI formats (CESSDA Data Catalogue (13), Dataverse (14), etc.). We also enable the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) (15) using the Kuha, (16) tool developed by the Finnish Social Science Data Archive. The OAI-PMH is a protocol that allows archives to exchange metadata with service providers. Using the metadata harvested from archives, diverse services are provided to end users, such as search engines or catalogues. OAI-PMH servers can provide metadata to service providers in various formats. Dublin Core and EAD (Encoded Archival Description) are the supported formats for the archive's OAI-PMH service. The Kuha server generates these formats from the study descriptions in DDI format from ADP and harvests it to the CESSDA Data Catalogue (13), Open Data Slovenia Portal (17), Datacite (18).

The ADP ensures a standardized way to cite research data and supporting materials from the catalogue, thereby assuring end users of the ability to access research data and materials, including the appropriate and permanent citation format that enables traceability. Each study in the catalogue of ADP is accompanied by information on proper citation (see How do I cite this study? (19)). By registering, users agree to properly cite the materials used (see General Provisions and Terms of Use (20)). ADP encourages researchers to report all publications based on the data used from the catalogue of ADP. Guidance on data citation practices is also provided at the workshops for ADP users (21).

In the next period, the ADP will provide access to study metadata and data in the catalogue through the Dataverse application (access through the ADP website will no longer be available). In the first phase, the catalogue will also be accessible through the Nesstar browser, but we plan to stop using Nesstar soon after additional plugins in Dataverse will replace its functionalities (data download, data preview, data analysis etc.).
Further information can be found in the document Digital Preservation Policy (22) (Chapter 3.5) and in the sections under How to get data? on the website of the ADP (23).

Links to supporting documentation:
(all visited 01/09/2021)
1. ADP Catalogue on ADP website – https://www.adp.fdv.uni-lj.si/opisi/
3. How to Search Data - https://www.adp.fdv.uni-lj.si/eng/uporabi/kako/iskanje/
4. How to understand Study Descriptions - https://www.adp.fdv.uni-lj.si/eng/uporabi/kako/opis_kataloga/
5. How to Analyze data - https://www.adp.fdv.uni-lj.si/eng/uporabi/kako/analiza/
7. CESSDA Metadata model – https://zenodo.org/record/3236194#.YBKpfOhKiU
8. CESSDA Vocabulary Service - https://vocabularies.cessda.eu/
11. Da|ra registration agency for social and economic data - https://www.da-ra.de/
12. Re3data ADP entry – https://www.re3data.org/repository/r3d100010487
13. CESSDA Data Catalogue - https://datacatalogue.cessda.eu/
19. Citation of Studies - https://www.adp.fdv.uni-lj.si/opisi/mpstr18/
21. ADP Workshops - https://www.adp.fdv.uni-lj.si/eng/usposobi/delavnice/

**Reviewer Entry**

**Reviewer 1**
Comments: accept

**Reviewer 2**
Comments: Accept

**14. Data reuse**
**R14. The repository enables reuse of the data over time, ensuring that appropriate metadata are available to support the understanding and use of the data.**

**Compliance Level:**

3 – The repository is in the implementation phase

**Reviewer Entry**

**Reviewer 1**

Comments:
3 – The repository is in the implementation phase
accept

**Reviewer 2**

Comments:
3 – The repository is in the implementation phase
Accept

**Response:**

Study descriptions are published on the ADP website in the ADP catalogue (1) and in the ADP’s Nesstar catalogue (2). Study descriptions are available in Slovenian and English. The data descriptions are available online as machine-readable DDI 2.5 XML files. ADP uses the DDI standard 2.5 (Data Documentation Initiative (6)) and follows the CESSDA Metadata model (7), including proposed controlled vocabularies (8). Metadata prepared in XML are offered to users in different formats and lengths: from simple to detailed views, from metadata presented on the Web (with Study Description (citation metadata, study content metadata, methodology metadata, access metadata), Data Description, Supplemental Materials), to downloadable HTML and XML data. Browsing and searching by many categories (Study ID, Series ID, Content field, Depositors, etc.) is made possible through the website and the Nesstar browser.

By regularly updating metadata with administrative data and ensuring appropriately updated metadata for end users, ADP enables long-term independent understanding and usability of research data/deposited studies. The staff of ADP is sufficiently trained to manage and add all technical changes to the holdings and to achieve metadata quality in accordance with international standards and best practices, which in turn enables sufficient information to be provided to end users in the form of quality metadata.

Data file formats (9) used by the ADP will be chosen with consideration of the challenges of long-term preservation (10), avoiding proprietary, obsolete and infrequently used formats. When possible, all textual documentation for the study will be saved in PDF/A format to preserve the look and texture of the documents. Data files will be saved in ASCII format, including the DDI protocol on the structure and content of the data files, and accompanying syntax for reading the files will also be added.
The ADP has established rules for appropriate formats of data files (9) and resulting formats for digital preservation (see Chapter 3.1.2 in the document Digital Preservation Policy (11)). In its digital preservation strategy, ADP pursues the principle of readability, i.e., it should always be possible to display and interpret at least the most recent version of a digital information object. In this context, it is important to know which formats occur for each version (see Preservation Strategy on the website (12)).

Data files are available to end users in several common file formats used by the Designated Community (SPSS (*.sav), SPSS Portable (*.por), Statistica, Stata v.8, Stata v.7. DIF, Dbase, SAS). A direct download, where the user can choose his preferred format, is possible via the Nesstar browser (2).

A major upgrade to our catalogue is planned for the future. ADP will transfer its catalogue from the website and Nesstar to Dataverse and republish all studies in DDI 2.5 format. All studies will be populated with DDI Controlled Vocabularies, ELSST keywords and other controlled vocabularies (e.g. CESSDA Topic Classification and internal). We will also add our studies to the European Question Bank and the OpenAIRE catalogue.

Further information can be found in the document Digital Preservation Policy (11) (Chapters 2.6, 3.2 and 3.4) and in the sections Organizational Infrastructure (13) and Digital Object Management on the webpage of ADP (14).

Links to supporting documentation:
(all visited 01/09/2021)
1. ADP Catalogue on ADP website – https://www.adp.fdv.uni-lj.si/opisi/
3. How to Search Data - https://www.adp.fdv.uni-lj.si/eng/uporabi/kako/iskanje/
4. How to understand Study Descriptions - https://www.adp.fdv.uni-lj.si/eng/uporabi/kako/opis_kataloga/
5. How to Analyze data - https://www.adp.fdv.uni-lj.si/eng/uporabi/kako/analiza/
7. CESSDA Metadata model – https://zenodo.org/record/3236194#.YBKpfOhKiUI
8. CESSDA Vocabulary Service - https://vocabularies.cessda.eu/
TECHNOLOGY

15. Technical infrastructure

R15. The repository functions on well-supported operating systems and other core infrastructural software and is using hardware and software technologies appropriate to the services it provides to its Designated Community.

Compliance Level:

3 – The repository is in the implementation phase

Reviewer Entry

Reviewer 1
Comments:
3 – The repository is in the implementation phase
accept

Reviewer 2
Comments:
3 – The repository is in the implementation phase
Accept

Response:

The ADP operates on a well-supported operating system and other infrastructural program foundations suitable for the data services that the ADP provides to its designated communities (see Appendix A: Technology and Security in the document Digital Preservation Policy (1)). For its activities, the ADP uses the network of the Academic and Research Network of Slovenia ARNES (2), which ensures stable, secure, and efficient functioning of the information and communication infrastructure (see General provisions of the use of ARNES network services (3)). The Arnes assures that it manages the e-infrastructure, network resources and services carefully and in accordance with best practices and technological standards, thus serving the needs of its users with best efforts.

In designing its information technology, the ADP considers the recommendations and requirements of CESSDA (for
example, recommendations regarding PID and AAI). It follows current trends in hardware and software development, which are regularly monitored and updated. Efficient storage capacities of the entire infrastructure are provided. The storage of data, its distribution and the entire infrastructure of the archive are based on an adapted IT infrastructure, to which only staff and registered users have access.

Responsibilities regarding technical infrastructure are divided between ADP and the I.T. Department of the Faculty of Social Sciences, University of Ljubljana (see “Insourse/Outsource Partners” in R0). Overall, the I.T. Department provides and maintains the physical computing environment and services common to all faculty actors while ADP caters for virtual machines and services that are unique to ADP’s operations in the context of the Faculty of Social Sciences. ADP follows the faculty level guidance given by I.T. Department in case of outages and has backups set up on different locations. Division of labour has been agreed upon in meetings between ADP and the I.T. Department. No formal SLA has been signed as ADP and I.T. Department are distinct parts of the same organisation; rather, faculty policies and biannual meetings drive the cooperation between ADP and I.T. Department. Both parties maintain software inventory and documentation, respective to the division of labour.

The ADP is currently developing a technological upgrade to support internal processes and enable their automation, based on open-source repository software with certain adaptations that consider the specificities of data, documentation, and metadata from the field of social sciences. The ADP regularly invests in upgrades and developments of services that allow interconnectivity between different organizations and the use of versioning and persistent identifiers, an overview of copies in different formats and access regimes. The ADP will also continue to collaborate with the NUK and ARNES in relation to work on secure digital storage across multiple sites.

One of the ongoing activities of ADP is to contribute to, test and implement tools in an international environment. In addition to Nesstar and online environments with contemporary documentation systems (Django, Wordpress, Jira), which the ADP regularly maintains, the ADP plans to introduce technological support for researchers that will enable controlled handling of research data throughout the project and facilitate the transfer of data collected during the project to digital storage in ADP after the end of the project.

The set goals of digital preservation will be achieved with a combination of the introduction of open access tools, such as Dataverse (4) for ingesting and distributing studies, and the implementation of the internally developed repository tool “E-storage” to manage the archiving processes in the ADP (Fedora-based application). These tools will serve as external support for data and documentation preparation and will enable rule-based machine processing of ingest. Both tools are currently being piloted.

The ADP follows the CESSDA Technical Guidelines (5) and the requirements defined in ISO 16363/ TDR (6) and tries to place its operations within the framework of these requirements as much as possible.

Because ADP is a small organization (8 full-time employees) that does not employ full-time programmers, we rely entirely on outsourcing for the technical development of our services. This is the reason why our current technological developments take a long time to be fully developed and put into production.

In the near future, we will be implementing the FitSM standard for IT service management (7), for which one of our employees is certified. This standard will allow us to manage our IT services more transparently and effectively.
For more information see the document Digital Preservation Policy (1) (Chapter 4.1) and the Technology and Security section on the ADP website (8).

Links to supporting documentation:
(all visited 01/09/2021)
5. CESSDA Technical Guidelines - https://docs.tech.cessda.eu/

Reviewer Entry
Reviewer 1
Comments: accept

Reviewer 2
Comments: Accept

16. Security

R16. The technical infrastructure of the repository provides for protection of the facility and its data, products, services, and users.

Compliance Level:

3 – The repository is in the implementation phase

Reviewer Entry
Reviewer 1
Comments: 3 – The repository is in the implementation phase
accept

Reviewer 2
Comments:
Response:

The ADP is committed to the security of its physical spaces, equipment, research data and other materials, services, and users. There are three physical rooms where all computer equipment and materials are stored. The rooms are part of the Faculty Social Sciences of the University of Ljubljana, which provides for the security of its premises according to its own protocols, such as fire protection and physical security of the premises, including the permanent presence of a security guard.

The ADP follows the safety instructions and rules of the Faculty of Social Sciences in case of various natural disasters:
Rules on the Measures for the Protection of Information-Communication Systems in the Faculty Social Sciences (2010),
House Rules of the Faculty of Social Sciences,
Fire safety rules of the Faculty of Social Sciences.

To ensure safety, all rooms with computers and materials must be locked when no staff member is present. The ADP ensures secure access to its servers, which are only available to ADP staff and its external service providers. Physical access to the servers is provided only to the staff of the I.T. Department of the Faculty of Social Sciences (RC FDV), external service providers with a valid contract and the staff of ADP, but only in the presence of a representative of the I.T. Department of FDV. Access to ARNES servers is available only to ARNES staff.
Access to the system and materials is available only to users and registered users. A security system is in place for increased security of access. To ensure security, there is limited physical access to the hardware. Transfer of research data between data providers and the ADP is possible through secure cloud transfer. All these measures ensure adequate information security of ADP.

The network of ARNES that the ADP uses for its work is under the direction of ARNES. ARNES has established mechanisms of automatic control and a control centre for technical support, while outside office hours problems in the work of the network are solved by the emergency services. With these measures, ARNES ensures the reliability, quality, and security of its services. ARNES tries to establish redundancy in all its network services, which reduces the possibility of outages. In the event of unforeseen events, ARNES ensures that problems are resolved in the shortest possible time.

To ensure physical storage, the ADP has developed a policy and detailed guidance for backup creation and system recovery in the event of a fallout (see Technology and Security in Appendix A in Digital Preservation Policy (1)). Software solutions allow for automatic synchronization of backup copies on a specified backup server where encrypted versions of the data files are stored. The encrypted data files are then stored in three distinct locations: NAS server, external iSCI disk (Arnes Storage (2) – Technological Park of Ljubljana) copying via SSH, and on an external hard disk. In this way, backup copies are created in case of serious events in the server room (e.g., destructive fire). The backup copy outside the location of the archive on the other hand enables backup copies in case of major disruptive events at the Faculty of Social
Sciences (destructive fire, bomb, earthquake, etc.).

The ADP has developed a “Strategy for Managing Security Threats”, using the DRAMBORA (Digital Repository Audit Method Based on Risk Assessment) tool (3). The document is a systematic analysis of potential hardware and software security risks, assessment of system vulnerabilities and the consequences of such risk for the smooth operation of ADP services. The document also identifies appropriate management strategies for the identified risks.

More thorough procedures for long-term storage and handling of materials are underway and will be fully implemented in 2021. To this end, the ADP, in collaboration with National University Library (NUK), is developing a new Fedora-based software environment that will provide a more secure and automated method of digitally storing materials. In the new system, a copy of the data and additional materials will be stored on the ADP server and a copy will be stored at NUK. In the future, the ADP will provide access to the study metadata and data in the catalogue only through the Dataverse application that will use AAI, provided by ARNES, to safely manage access.

In the near future, we will be implementing the FitSM standard for IT service management (4), for which one of our employees is certified. This standard will allow us to manage our IT services more transparently and effectively, particularly in terms of information security management, incident & service request management, problem management, change management, release and deployment management and continual service improvement management.

Links to supporting documentation:
(all visited 01/09/2021)
3. DRAMBORA tool - https://www.repositoryaudit.eu/

**Reviewer Entry**

**Reviewer 1**
Comments:
accept

**Reviewer 2**
Comments:
Accept

**APPLICANT FEEDBACK**

Comments/feedback
These Requirements are not seen as final, and we value your input to improve the CoreTrustSeal certification procedure. Any comments on the quality of the Requirements, their relevance to your organization, or any other contribution, will be considered as part of future iterations.

Response:

Reviewer Entry

Reviewer 1
Comments:
Thank you very much for this very well-done, informative and comprehensible self-assessment.

Reviewer 2
Comments: