



Implementation of the CoreTrustSeal

The CoreTrustSeal board hereby confirms that the Trusted Digital repository The Finnish Social Science Data Archive (FSD) complies with the guidelines version 2017-2019 set by the CoreTrustSeal Board.

The afore-mentioned repository has therefore acquired the CoreTrustSeal on August 17, 2017.

The Trusted Digital repository is allowed to place an image of the CoreTrustSeal logo corresponding to the guidelines version date on their website. This image must link to this file which is hosted on the CoreTrustSeal website.

Yours sincerely,

The CoreTrustSeal Board

Assessment Information

Guidelines Version:	2017-2019 November 10, 2016
Guidelines Information Booklet:	CTS Requirements 2017-2019
All Guidelines Documentation:	Documentation
Repository:	The Finnish Social Science Data Archive (FSD)
Seal Acquiry Date:	Aug. 17, 2017
For the latest version of the awarded CoreTrustSeal for this repository:	https://www.coretrustseal.org/why-certification/certified-repositories/
Previously Acquired Seals:	Seal date: September 23, 2014 Guidelines version: 2014-2017 July 19, 2013
This repository is owned by:	The Finnish Social Science Data Archive (FSD) Åkerlundinkatu 2 University of Tampere 33014 Tampere FINLAND T +358401901432 E fsd@uta.fi W http://www.fsd.uta.fi/en/

Assessment

0. Context

Applicant Entry

Self-assessment statement:

Repository Type

- **Domain or subject based repository:** A domain-based repository with focus on research data from social sciences
- **National repository system, including governmental:** A national service resource for research and teaching
- **Library/Museum/Archives:** Social science data archive

Repository's Designated Community

The [Finnish Social Science Data Archive \(FSD\)](#) (1) is a national service resource for research and teaching. FSD promotes data sharing and curates and disseminates digital research data for research, teaching and learning purposes. FSD serves both national and international users.

FSD's Designated Community primarily includes actors in social sciences, but also in the fields of humanities and health science. The knowledge base of the Designated Community is expected to include knowledge of research methods, research data and basic software used in doing research.

The social sciences are the core field of FSD, but FSD also acquires data in humanities, health science and fields of study related to social sciences. FSD archives and disseminates both quantitative and qualitative datasets. At the moment, there are nearly 1300 datasets in FSD's [Aila Data Service](#) (2), 14% of which are qualitative and 86% quantitative.

FSD is a separate unit at the [University of Tampere](#) (3), which is known especially for its research on society and health.

Links:

(1) Read more: Finnish Social Science Data Archive (FSD): <http://www.fsd.uta.fi/en/> (25.4.2017)

(2) Read more: Datasets in the Aila Data Service (Aila): https://services.fsd.uta.fi/catalogue/index?lang=en&study_language=en (25.4.2017)

(3) Read more: University of Tampere: <http://www.uta.fi/english/about> (25.4.2017)

Level of Curation

D. Data-level curation, which include e.g. creation of new formats, enhancement of documentation and also additional editing of deposited data for accuracy.

Outsource Partners

- **The National Digital Library (KDK):** FSD has signed a [service agreement](#) (1) with the [National Digital Library \(KDK\)](#) (2) regarding [long-term preservation](#) (3). The KDK is a project which aims to ensure that electronic material relating to Finnish culture and science are managed according to a high standard, are easily accessed and securely preserved well into the future. FSD has participated in development work with the KDK, and is in the process of transferring bit-level storage of data backups to the KDK in 2017. The KDK will secure the bit-level preservation and FSD will have the overall responsibility of the acquisition policy, data curation, planning of preservation and data management.
- **The University of Tampere:** FSD operates as a separate unit of the [University of Tampere](#) (4). Data are stored on FSD's own server and back-ups of the data are exported to the servers of the University of Tampere.

Links:

(1) National Digital Library (KDK): Information about the service agreement regarding long-term preservation (in Finnish):

<http://www.kdk.fi/index.php/fi/pitkaaikaisilytys/maeerittely-ja-dokumentit/5-suomi/pitkaaikaisilytys/371-palvelusopimus>
(25.4.2017)

(2) National Digital Library (KDK): <http://www.kdk.fi/en/> (25.4.2017)

(3) National Digital Library (KDK): Digital Preservation: <http://www.kdk.fi/en/digital-preservation/specifications>
(25.4.2017)

(4) University of Tampere: <http://www.uta.fi/en/yliopisto> (25.4.2017)

Other Relevant Information

FSD's Internal Manual will be referred to often in the assessment. If needed, requested parts of it can be delivered to the reviewer of the assessment.

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

1. Mission/Scope

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

The [Finnish Social Science Data Archive \(FSD\)](#) (1) is a national service resource for research and teaching. FSD promotes data sharing and curates and disseminates digital research data for research, teaching and learning purposes. The Archive was founded by the Ministry of Education and Culture in 1999, and it operates as a separate unit of the University of Tampere. FSD is the Finnish Service Provider for CESSDA (the Consortium of European Social Science Data Archives). FSD's goal is to consolidate its strong and active role in CESSDA's activities.

FSD's tasks and mission are defined on a general level in the [Regulations of the University of Tampere](#) (2). It describes the responsibilities of FSD in the following manner (unofficial translation): "The Finnish Social Science Data Archive (FSD) serves research and teaching on the national level. FSD archives digital research data from Finland and abroad and disseminates it for research, teaching and learning purposes." The Regulations of the University of Tampere are based on the [Finnish Universities Act \(558/2009\)](#) (3) and approved by the Board of the University of Tampere.

FSD contributes significantly to open access and data sharing. FSD provides long-term preservation, curation and access to data as well as information and support services. Preservation is a major goal of FSD's operations. FSD participates actively in national open science initiatives and works relentlessly to create a culture of data sharing.

The most important document that outlines the operations of FSD is the [Archives Formation Plan \(AMS\)](#) (4). This document is the highest-ranking directive concerning FSD's operations and services. It is supplemented by an Internal Manual, which is a wiki where all revisions are saved.

FSD was included in the first Finnish Roadmap for Research Infrastructures in 2009. In the [Finnish Strategy and Roadmap for Research Infrastructures 2014–2020](#) (5), FSD and CESSDA are included as a combined operator in the national infrastructure. FSD achieved significant project funding from the [Academy of Finland for years 2017–2021](#) (6). This funding is targeted at fulfilling the [CESSDA requirements and participating actively in CESSDA activities](#) (7).

Links:

(1) Read more: Finnish Social Science Data Archive (FSD): <http://www.fsd.uta.fi/en/organisation/index.html> (25.4.2017)

(2) Read more: Regulations of the University of Tampere (unofficial translation into English): http://www.uta.fi/english/administration/regulations/TaY_Johtosaanto_EN_voimaan_01012017.pdf (25.4.2017)

(3) Read more: Finnish Universities Act (558/2009) (unofficial translation into English): <http://www.finlex.fi/en/laki/kaannokset/2009/en20090558.pdf> (25.4.2017)

(4) Evidence: Archives Formation Plan (AMS): <http://www.fsd.uta.fi/en/organisation/documents/AMS/index.html> (25.4.2017)

(5) Evidence: Finnish Roadmap 2014–2020: http://www.aka.fi/globalassets/awanhat/documents/firi/tutkimusinfrastruktuurien_strategia_ja_tiekartta_2014_en.pdf (25.4.2017)

(6) Evidence: Academy of Finland: Funding decision: http://webfocus.aka.fi/ibi_apps/WFServlet?IBIF_ex=x_HakKuvaus&CLICKED_ON=&HAKNRO1=305673&UILANG=en&IBIAPP_ap (25.4.2017)

(7) Read more: CESSDA news: Academy of Finland funding decision: <https://cessda.net/CESSDA-Services/Media/News/Academy-of-Finland-awards-funding-for-FSD-to-develop-services-for-researchers> (25.4.2017)

Read more: Quality, Assessment and Development in FSD: http://www.fsd.uta.fi/en/organisation/documents/quality_assessment.html (25.4.2017)

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Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

2. Licenses

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

The Finnish Social Science Data Archive (FSD) contributes significantly to open access to research data. FSD provides long-term preservation, curation and access to data as well as information and support services. FSD participates actively in national open science initiatives and works relentlessly to create a culture of data sharing in the social sciences. FSD has the necessary licenses and agreements in place to perform these activities.

All data depositors sign a [Deposit Agreement](#) (1) with FSD when depositing data for archiving. All data re-users agree to [General Terms and Conditions for Data Use](#) (2) and [Terms and Conditions for the Use of the Aila Data Service](#) (3). The [Aila Data Service](#) (4) is FSD's online data service portal. FSD's User Services monitor data use on the administrative platform of Aila. FSD also requests information about any publications based on datasets archived at FSD. In case of a breach, FSD reserves the right to close the account of any user who has breached the terms. FSD also has the right to notify the user's organization and research funders of the breach. Users agree to these terms in General Terms and Conditions for Data Use.

The access rights of individual datasets depend on the access conditions set in the Deposit Agreement. In the Deposit Agreement, the depositor chooses for which re-use purposes the data can be accessed. There are four access levels to choose from: (A) data are freely available to all users, (B) data are available for research, teaching and study, (C) data are available for research purposes only (including e.g. Master's, licentiate and doctoral theses) and (D) data are only available with a permission from the depositor. Sensitive data are often available only by permission from the depositor/principal investigator. FSD User Services review each access application to ensure that the purposes of use mentioned in the application are in line with the access conditions set for the data.

In the Aila Data Service, all data descriptions are available for browsing, but to download data, the user needs to log in to the portal (except for the data with access level (A), which are freely available to all users). Logging in is possible with [HAKA authentication](#) (5), provided by the Identity Federation for Finnish higher education and research institutions. Users without HAKA login credentials need to apply for a username from FSD User Services. The General Terms and Conditions for Data Use and the Terms and Conditions for the Use of the Aila Data Service are binding upon both user groups.

The [metadata](#) (6) are openly available, and licensed with CC BY 4.0 ([Creative Commons by 4.0](#) (7)). The [Data Management Guidelines](#) (8) by FSD are also licensed under CC BY 4.0.

Links:

- (1) Evidence: Deposit Agreement: <http://www.fsd.uta.fi/en/forms/deposit.pdf> (25.4.2017)
- (2) Evidence: General Terms and Conditions for Data Use: <https://services.fsd.uta.fi/docs/terms-of-use?lang=en> (25.4.2017)
- (3) Evidence: Terms and Conditions for the Use of the Aila Data Service Portal: <https://services.fsd.uta.fi/docs/eula?lang=en> (25.4.2017)
- (4) Read more: Aila Data Service: <https://services.fsd.uta.fi/index?lang=en> (25.4.2017)
- (5) Read more: HAKA Identity Federation service: <https://www.csc.fi/-/haka-kayttajatunnistusjarjestel-1> (25.4.2017)
- (6) Evidence: FSD metadata records in DDI 2.0: <http://www.fsd.uta.fi/en/data/background/ddi-records.html> (25.4.2017)
- (7) Read more: Creative Commons by 4.0 license: <https://creativecommons.org/licenses/by/4.0/> (25.4.2017)
- (8) Read more: Data Management Guidelines: <http://www.fsd.uta.fi/aineistonhallinta/en/> (25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

3. Continuity of access

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

FSD provides long-term preservation for all archived data in its collections. The archived document types and file types and their preservation times are listed in the Appendix 1 ([Documents and document series generated by FSD](#)) (1) of FSD's Archives Formation Plan (AMS). Data in Dissemination Information Packages (DIP) are permanently stored.

The [Archives Formation Plan](#) (AMS) (2) also contains information about preservation plans, ingest criteria, archival process, information system and data protection practices. The AMS is the highest-ranking directive concerning FSD's operations and services. It is supplemented by the Internal Manual.

FSD's Preservation Planning Team decides on any changes to these responsibilities or to the contents of the AMS. The team consists of the senior staff members from all operational modules of FSD and it convenes 3–4 times a year. The AMS is reviewed once a year to ensure it is up to date. The responsibility for keeping it up to date lies with the development manager.

FSD's strategic plan, approved by the [National Advisory Board](#) (3), describes FSD's vision for the period of four years. The strategy is currently being renewed, and the new strategy (4) will cover the years 2017–2020. The strategy is an important document in implementing FSD's mission and development.

The [Rules of Finance of the University of Tampere](#) (5) demand that action and financial plans are produced annually. FSD's annual action and financial plan is approved by the director and it is in line with the strategies of the University of Tampere. The action and financial plan is not published. The plan for the year 2017 includes the following sections: improvement of services (international cooperation and focus on basic functions and projects in 2017), alignment of staff resources and duties, finance, cooperation with the three universities in Tampere ([Tampere3](#)) (6) and risk management.

FSD's base funding comes from the Ministry of Education and Culture and the University of Tampere. The base funding covers FSD's basic functions like the preservation of data, salaries for regular staff, administrative costs, resources for information technology and participation in relevant seminars.

In addition to the base funding, FSD undertakes development activities with project-based funding. Financing periods for project-based funding vary from one year to five years.

In the unlikely event that FSD's funding and the continuity of operations are at risk, the director of FSD appoints a task group to map out required functions for the controlled transferring of the data to another institution. The task group must take administrative and technical aspects into account when planning the transfer. Representatives of funders, members of FSD's National Advisory Board and archiving experts should be included in the task group. The continuity plan is included in the AMS ([Chapter 7](#)) (7).

As a result of the above-mentioned measures and activities, FSD can ensure the continuity of access both at the moment and also in the future. FSD constantly improves its services to meet the requirements of long-term access to and availability of data. FSD follows the latest developments and technological progress to stay informed of the best practices for long-term preservation.

FSD's website and the [Aila Data Service](#) (8) are available round the clock. Both are generated from an offline source on a schedule. Site generation also acts as a monitoring mechanism. In the event of the site becoming unavailable due to a malfunction at FSD, staff will set up a replacement and set it as target for site generation.

Links:

- (1) Evidence: Archives Formation Plan (AMS): Appendix 1. Documents and document series generated by the FSD: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_documents_series.html (25.4.2017)
- (2) Evidence: Archives Formation Plan (AMS): <http://www.fsd.uta.fi/en/organisation/documents/AMS/index.html> (25.4.2017)
- (3) Read more: National Advisory Board: <http://www.fsd.uta.fi/en/organisation/board.html> (25.4.2017)
- (4) Evidence: Strategy for years 2017–2020 (in Finnish): forthcoming during 2017 on FSD website. <http://www.fsd.uta.fi/fi/hallinto/asiakirjat/> (25.4.2017)
- (5) Evidence: Rules of Finance of the University of Tampere (in Finnish): <http://www.uta.fi/hallinto/yliopistopalvelut/yleishallinto/saadokset/taloussaanto.html> (25.4.2017)
- (6) Read more: Tampere3: <https://www.tampere3.fi/en/information> (25.4.2017)
- (7) Evidence: The Archives Formation Plan (AMS): Chapter 7. Continuity Plan: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_guidelines.html#continuity-plan (25.4.2017)
- (8) Read more: Aila Data Service (Aila): <https://services.fsd.uta.fi/index?lang=en> (25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

4. Confidentiality/Ethics

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

FSD complies with applicable disciplinary norms and legislation. FSD also provides information about these in the [Data Management Guidelines](#) (1).

FSD's [Archives Formation Plan](#) (AMS) (2) contains information on the legislation that is taken into account in data archiving (Archives Act (1994/831); Act on the Openness of Government Activities (1999/621); Copyright Act (1961/404); Personal Data Act (1999/523)). The AMS also contains FSD's data protection practices, whereas the Internal Manual describes anonymization procedures and handling personal data in detail.

Data with disclosure risk are handled appropriately. Explicit and consistent guidelines of the Internal Manual guide all data processing activities. Disclosure risk is always assessed on a case-by-case basis for each dataset, but with reference to the Internal Manual. FSD personnel is regularly trained on matters of privacy and data protection to ensure a high standard of expertise. Training is provided both on handling personal information of users and on anonymizing data files. Personnel who process and manage data prepare a privacy protection plan for each dataset on a case-by-case basis. These plans can be prepared under the guidance of the development manager and in cooperation with colleagues in data management. Well-formulated plans standardize the management of data with disclosure risk.

All data depositors sign the [Deposit Agreement](#) (3) with FSD, and all data users agree to the [General Terms and Conditions for Data Use](#) (4) and [Terms and Conditions for the Use of the Aila Data Service](#) (5) (the [Aila Data Service](#) (6) is FSD's online data service portal). The General Terms and Conditions for Data Use require that data re-users follow the [ethical guidelines](#) (7) drawn up by the National Advisory Board on Research Integrity. There is always a minor risk that even anonymized qualitative data may be identifiable to a re-user who knows the target group beforehand. For these rare situations, FSD provides Special Terms and Conditions for Access in addition to the General Terms and Conditions of use.

In most cases, data files have no security or privacy risks and may be delivered to the archive as an attachment to an e-mail. If there is a possibility that the file contains sensitive information, the depositor and FSD choose the best transfer method case-by-case, such as a secured file transfer or a disk by registered post. Data files delivered to FSD are stored in a separate folder and scanned for viruses by the FSD staff before they are moved to the data directory.

Access to deposited data files (using a unique user name and password) is restricted. Access is provided only to personnel that have tasks involving data processing and handling. Original data files containing sensitive or identifiable information are deleted at the beginning of data processing. Data variables containing direct identifiers are deleted immediately after there is no need for using them, e.g. for constructing new, non-identifiable background variables.

In Finland the research ethics of medical studies is evaluated by the ethics committees of hospital districts and it is based on the [Medical Research Act](#) (388/1999) (8). The ethics of non-medical research is assessed by universities' own research ethics committees, which comply with the guidelines set by the [Finnish Advisory Board on Research Integrity](#) (9). If a research project offering data to be archived has gone through an ethics review, FSD checks what has been mentioned on data processing and preservation in the review. FSD prefers to only ingest data for which there are clear plans, consents and ethical review statements concerning data archiving.

If anonymization would prevent sensible use of a dataset and if the data are of high scientific value, FSD recommends that the researcher(s) apply permission for archiving from the National Archives. The permission procedure is based on the [Personal Data Act](#) (199/523) (10). FSD has so far archived only two qualitative datasets

with permission of the National Archives. Therefore, the general rule is to archive anonymized data or data that can be anonymized during the archiving process.

FSD does not ingest data that have unresolved rights issues or any intellectual property rights problems. Copyright protected data produced by research participants are archived only if the agreement concerning the transfer of rights includes a statement on data archiving.

Knowledge and compliance with national and international laws is ensured by participating in national and international cooperation, projects and training. FSD's development manager specializes in research ethics, privacy protection and copyright issues. On 24 May 2016, the [European Union's general data protection regulation](#) (GDPR) (11) entered into force and will apply from May 2018. FSD has taken the new regulation into account in its activities to ensure compliance with the requirements of the regulation. For example, the development manager has been appointed as FSD's specialist in privacy protection and copyright issues.

FSD provides researchers guidance on anonymization and privacy issues. The Data Management Guidelines (in [Chapter 8](#)) (12) provide general guidance on handling and processing data containing personal identifiers. FSD has organized and continues to organize [public seminars](#) (13) and training concerning privacy protection, anonymization and ethical assessment of research data.

Links:

- (1) Evidence: Data Management Guidelines: Why Are Research Data Managed and Reused: <http://www.fsd.uta.fi/aineistohallinta/en/why-are-research-data-managed-and-reused.html#part-of-good-scientific-practice> (25.4.2017)
- (2) Evidence: Archives Formation Plan (AMS): <http://www.fsd.uta.fi/en/organisation/documents/AMS/index.html> (25.4.2017)
- (3) Evidence: Deposit Agreement: <http://www.fsd.uta.fi/en/forms/deposit.pdf> (25.4.2017)
- (4) Evidence: General Terms and Conditions for Data Use: <https://services.fsd.uta.fi/docs/terms-of-use?lang=en> (25.4.2017)
- (5) Evidence: Terms and Conditions for the Use of the Aila Data Service Portal: <https://services.fsd.uta.fi/docs/eula?lang=en> (25.4.2017)
- (6) Read more: Aila Data Service (Aila): <https://services.fsd.uta.fi/?lang=en> (25.4.2017)
- (7) Read more: National Advisory Board on Research Integrity: Ethical principles of research in the humanities and social and behavioral sciences: <http://www.tenk.fi/en/ethical-review-human-sciences/ethical-principles> (25.4.2017)
- (8) Read more: Medical Research Act (unofficial translation into English): <http://www.finlex.fi/fi/laki/kaannokset/1999/en19990488.pdf> (25.4.2017)
- (9) Read more: Finnish Advisory Board on Research Integrity (TENK): <http://www.tenk.fi/en> (25.4.2017)
- (10) Read more: Personal Data Act (532/1999): <http://www.finlex.fi/fi/laki/kaannokset/1999/en19990523.pdf> (25.4.2017)
- (11) Read more: EU's General Data Protection Regulation (GDPR): http://ec.europa.eu/justice/data-protection/reform/files/regulation_oj_en.pdf (25.4.2017)
- (12) Evidence: Data Management Guidelines: Chapter 8: Anonymisation and Personal Data: <http://www.fsd.uta.fi/aineistohallinta/en/anonymisation-and-identifiers.html> (25.4.2017)
- (13) Evidence: Examples of the seminars organized by FSD (in Finnish): <http://www.fsd.uta.fi/fi/ajankohtaista/tapahtumat/> (25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

CoreTrustSeal Board

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5. Organizational infrastructure

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

The Finnish Social Science Data Archive (FSD) provides a single point of access to a wide range of digital research data for learning, teaching and research purposes. FSD was founded by the [Ministry of Education and Culture](#) (1). FSD operates as a separate unit of the [University of Tampere](#) (2), which is known especially for its research on society and health. In addition to curation and dissemination of data, key services include data-related information services and support for research data management. As a unit of the University of Tampere, FSD follows the administrative procedures of the [University](#) (3).

FSD's base funding comes from the Ministry of Education and Culture and the University of Tampere. This base funding covers FSD's basic functions like the preservation of data, salaries for regular staff, administrative costs, resources for information technology and participation in relevant seminars.

In addition to the base funding, FSD undertakes development activities with project-based funding. Financing periods for project-based funding vary from one year to five years.

Administratively, FSD consists of four modules: 1. Administration and Communications, 2. User Services and Data Ingest, 3. Projects and Development and 4. Technical Services. FSD employs about 24 FTEs per year. The [FSD staff](#) (4) have a wide expertise in archiving, information technology and academic research. Staff have expertise in multiple fields of study, such as in sociology, social policy, economics, statistics, philology, art history, political science, computer science, information technology, communication studies and administrative science. FSD has both long-standing and newly started members of staff, which is a significant advantage in sustaining and developing the activities of the organization.

The staff have constant opportunities to improve their expertise by participating in high-quality internal training and the courses for personnel organized by the University of Tampere. Cooperation with [CESSDA](#) (5) also offers opportunities for the FSD staff to improve their professional skills. FSD has an active role in both national and international associations, and it cooperates actively with other research infrastructures. Examples include disseminating the [Finnish data of the European Social Survey \(ESS\)](#) (6) to users, teaching data management together with [FIN-CLARIN](#) (7), opening metadata via [Finna](#) (8), having a representative in [Statistics Finland's](#) (9) project board, and participating in several [Open Science and Research \(ATT\)](#) (10) and the [National Digital Library \(KDK\)](#) (11) working groups. These cooperation activities enhance the expertise of the FSD staff and improve the entire infrastructure as well.

Links:

- (1) Read more: Ministry of Education and Culture: <http://minedu.fi/en/frontpage> (25.4.2017)
- (2) Read more: University of Tampere: <http://www.uta.fi/en> (25.4.2017)
- (3) Evidence: Administration of the University of Tampere: <http://www.uta.fi/english/administration/index.html> (25.4.2017)
- (4) Evidence: FSD staff: <http://www.fsd.uta.fi/en/contact/staff.html> (25.4.2017)
- (5) Read more: Consortium of European Social Science Data Archives (CESSDA): <https://cessda.net/> (25.4.2017)
- (6) Read more: European Social Survey (ESS) (in Finnish): <http://www.fsd.uta.fi/aineistot/kvdata/ess.html> (25.4.2017)
- (7) Read more: FIN-CLARIN: <https://kitwiki.csc.fi/twiki/bin/view/FinCLARIN/KielipankkiFrontpage> (25.4.2017)
- (8) Read more: Finna: <https://www.finna.fi/Content/organisations?lng=en-gb> (25.4.2017)
- (9) Read more: Statistics Finland: https://www.stat.fi/org/index_en.html (25.4.2017)
- (10) Read more: Open Science and Research (ATT): <http://openscience.fi/about> (25.4.2017)

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(11) Evidence: National Digital Library (KDK): Members of the Working Group (in Finnish):
<http://www.kdk.fi/fi/pitkaaikaislytys/yhteistyoryhma> (25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

6. Expert guidance

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

The Finnish Social Science Data Archive's (FSD) [National Advisory Board](#) (1) is an advisory body that guides FSD's operations. The Advisory Board consists of 15 members from Finnish universities and other stakeholders, such as the Academy of Finland, Statistics Finland and the National Archives of Finland. The Advisory Board combines wide expertise in the areas of social science, digital preservation and funding.

FSD has constant dialogue with national and international actors in the fields of data archiving and research. FSD staff members regularly participate in various working groups to improve FSD's operations but also to share know-how with partners. For instance, FSD is a member of the National Digital Library's (KDK) [digital preservation working group](#) (2). The [KDK](#) (3) aims to ensure that electronic material relating to Finnish culture and science are managed according to a high standard, are easily accessed and securely preserved well into the future.

FSD has various international and national [memberships](#) (4), which are important for communicating with experts for advice. FSD cooperates, for example, with CESSDA, the International Federation of Data Organizations (IFDO), the Inter-university Consortium for Political and Social Research (ICPSR), the DDI Alliance and the Open Science and Research Initiative (ATT). The [Open Science and Research Initiative \(ATT\)](#) (5), for example, is promoted by the Ministry of Education and Culture of Finland and has defined the wide openness of science and research in Finland as one important goal to pursue.

FSD's Designated Community have the possibility to send feedback by e-mail to FSD User Services and Technical Support. FSD User Services can also be contacted by phone during office hours. Whenever feedback is sent, FSD staff responds in a professional manner as soon as possible and makes an effort to take each individual user's wishes and criticism into consideration. All questions and feedback from users are stored in [CRM \(Customer relationship management\) database](#) (6) which is included in FSD's operational database (Tiipii). This further assures the good quality of the user services. FSD's Internal Manual contains practical guidelines for user service and how to respond to feedback.

In 2015, FSD conducted a [survey](#) (7) to chart researcher views of and attitudes to archiving and data sharing in the fields of [humanities and health science](#) (8). A general customer feedback survey will be conducted in 2017. It will be targeted at FSD's Designated Community and the aim is to assess users' satisfaction with FSD's services.

In addition to feedback from users, FSD follows the user statistics of its website and the [Aila Data Service](#) (9). FSD also has active [external communication channels](#) (10), such as a news page, bulletin, email list, Facebook page and Twitter account. Furthermore, FSD regularly participates in scientific seminars and other relevant events where the Designated Community can be encountered face to face.

Links:

(1) Evidence: Administration: The Finnish Social Science Data Archive's National Advisory Board: <http://www.fsd.uta.fi/en/organisation/board.html> (25.4.2017)

(2) Evidence: National Digital Library's digital preservation working group (in Finnish): <http://www.kdk.fi/fi/pitkaaikaislytys/yhteistyoryhma> (25.4.2017)

(3) Read more: National Digital Library (KDK): <http://www.kdk.fi/en> (25.4.2017)

(4) Evidence: FSD's memberships (in Finnish): <http://www.fsd.uta.fi/fi/hallinto/jasenyydet.html> (25.4.2017)

(5) Read more: Open Science and Research Initiative (ATT): <http://openscience.fi/about> (25.4.2017)

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- (6) Read more: The Privacy Notice: Client Register of the FSD: http://www.fsd.uta.fi/en/organisation/documents/AMS/privacy_notice.html (25.4.2017)
- (7) Evidence: Open Access and Research Data: Researcher Survey 2015: https://services.fsd.uta.fi/catalogue/FSD3123?study_language=en&lang=en (25.4.2017)
- (8) Evidence: Research report: Open Access and Research Data (in Finnish): Researcher Survey 2015: http://www.fsd.uta.fi/fi/julkaisut/julkaisusarja/FSDjs12_tutkimusaineistot-kysely.pdf (25.4.2017)
- (9) Read more: Aila Data Service (Aila): <https://services.fsd.uta.fi/index?lang=en> (25.4.2017)
- (10) Read more: FSD's communication channels: <http://www.fsd.uta.fi/en/news/index.html> (25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

7. Data integrity and authenticity

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

3. In progress: We are in the implementation phase.

Self-assessment statement:

FSD's Archives Formation Plan ([Chapter 3](#)) (1) describes the ingestion and processing of the data and the type of the data and metadata files that are created ([Appendix 1, Tables 5-9](#)) (2).

For each dataset, FSD processes the Submission Information Package (SIP), turning it into an Archival Information Package (AIP) for long-term preservation. The AIP contains the data and the metadata. The AIP is used to produce a Dissemination Information Package (DIP) that makes the data suitable for re-use. Usually the AIP is the same thing as the DIP, but sometimes (because of an embargo or data protection issues) separate AIP and DIP are created.

Integrity

Checksums for the data archived at FSD are routinely generated and compared to previous values to ensure the integrity of the data (AIPs). If the checksums do not match, files are investigated for errors. If any inconsistencies are found, they are reviewed and fixed. This process is detailed in FSD's Internal Manual.

Data managers process the data according to the instructions in the Internal Manual. All changes made by FSD to the SIP to create the AIP to allow digital preservation are documented by FSD's data processing staff. Complete information about each data and metadata file as well as change logs and additional administrative metadata are stored in FSD's operational database (Tiipii), and certain information is also published with the metadata.

Data are given a version number, and changes made to create a new version are described in detail (usually in the form of SPSS syntax). Metadata files are not versioned, although the history log is maintained (manually) in the operational database (Tiipii). The version number of a study is the same as the version number of the data of that study. The Internal Manual contains step-by-step versioning instructions.

All changes that have been made to datasets or metadata by the personnel are reported in FSD's own operational database (Tiipii). The operational database includes documentation of the data management process date by date. The version changes are also documented in the database. By default, access for re-users is provided only to the most recent version of the study on the Aila Data Service. For earlier versions, users must contact the staff. Version number of each study is included in its recommended bibliographic citation, which also contains the PID.

FSD ensures that all the studies in its holdings are usable and uniquely identifiable. FSD assigns each study an FSD identification number at the study level. The FSD identifier is permanent and unique (within FSD). All data archived at the FSD have persistent identifiers (PID). FSD's PIDs are URNs. FSD manages its own URN:NBN sub-namespace provided by the [National Library of Finland](#) (3). A recommended citation with the URN identifier is included in the study descriptions of archived data. The user can copy and use the recommended citation or amend it to be compatible with the citation requirements of the publication. Guidance on [data citation practices](#) (4) is provided on the FSD website. FSD's [metadata records](#) (5) are openly available for everyone and the data are available according to the [General Terms and Conditions for Data Use](#) (6). Using appropriate attribution and citation is required.

FSD's metadata are based on the [Data Documentation Initiative \(DDI\)](#) (7), which is an international standard for describing data.

Authenticity

It is stated in the [Deposition Agreement](#) (8) that FSD preserves the data and maintains its long-term usability in accordance with [the Archives Formation Plan \(the archive's records management and archives formation plan\)](#) (9).

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Changes made to data are documented manually in FSD's operational database (Tiipii) by data managers. Audit trails are not available to automatically restore the archival history of the data. These procedures have been decent so far, but at the moment FSD is improving its archival process from data ingest to long-term preservation and data access. To this end, FSD will have a new metadata database, [Metka](#) (10). The new database will include advanced version control of both data and metadata. Metka is currently in the testing phase and is expected to be taken into use in 2018.

FSD's archiving process is highly consistent and it is described in detail and step by step in the Internal Manual. The Internal Manual contains separate sections for data processing staff and technical support. When processing data, data managers report all actions they have performed in the internal database and in the documents produced (for example in SPSS syntax with quantitative datasets).

To ensure expertise of data managers, skills are regularly developed and best practices shared. Every month, the staff of the User Services and Data Ingest module gather for a session where data processing practices and know-how are shared and discussed. Data managers are in close cooperation with each other on a daily basis.

Consistent data processing and management are technically supported at every stage of the archiving process. FSD uses utility programs, developed in-house, which streamline and standardize the process. These programs are included in FSD's version management system, which ensures that the programs are updated and controlled by FSD in a consistent manner. The instructions for using the programs are found in the Internal Manual.

Data managers verify data and are in touch with data depositors during the archiving process. The depositor has to have contact details that can be connected to an existing institution or organization. In Finland, where the research community is fairly small and compact, this method of identifying the depositors is reasonable and adequate.

Links:

- (1) Evidence: Archives Formation Plan (AMS): Chapter 3. FSD's work process: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_guidelines.html#work-process (25.4.2017)
- (2) Evidence: Archives Formation Plan (AMS): Appendix 1. Documents and document series generated by the FSD: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_documents_series.html (25.4.2017)
- (3) Read more: National Library of Finland: Expert Services of Data Description: <https://www.kansalliskirjasto.fi/en/service-package/expert-services-of-data-description> (25.4.2017)
- (4) Evidence: Citing Archival Data: http://www.fsd.uta.fi/en/data/ordering/citing_data.html (25.4.2017)
- (5) Evidence: FSD metadata records in DDI 2.0: <http://www.fsd.uta.fi/en/data/background/ddi-records.html> (25.4.2017)
- (6) Evidence: General Terms and Conditions for Data Use: <https://services.fsd.uta.fi/docs/terms-of-use?lang=en> (25.4.2017)
- (7) Read more: Data Documentation Initiative (DDI) Alliance: <http://www.ddialliance.org/> (25.4.2017)
- (8) Evidence: Agreement on the deposition of data to the Finnish Social Science Data Archive: <http://www.fsd.uta.fi/en/forms/deposit.pdf> (25.4.2017)
- (9) Read more: Archives Formation Plan (AMS): <http://www.fsd.uta.fi/en/organisation/documents/AMS/index.html> (25.4.2017)
- (10) Read more: Conference Abstract (including a poster) about the metadata database Metka: <http://www.eddi-conferences.eu/ocs/index.php/eddi/eddi15/paper/view/200> (25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

8. Appraisal

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

FSD's Archives Formation Plan (AMS) defines the criteria for the data acquisition and selection ([in Chapter 2](#)) (1). The criteria include the qualitative criteria, technical criteria and legislative criteria.

FSD does not use automatic quality control checks because using them is not relevant, as each deposited dataset is processed by a data manager. The data managers prepare metadata for each dataset in cooperation with the depositor. If a data manager notices any inconsistencies or errors in the data, the depositor is contacted for further information or a new version of the dataset. Data are processed following the instructions in FSD's Internal Manual.

FSD has listed the recommended file formats for depositors. The list is included in the AMS ([Chapter 2, Appendix 6](#)) (2). If the data are in an unsuitable format and cannot be converted at FSD or if the data do not meet FSD's criteria for data acquisition and selection, the depositor is suggested a more suitable repository.

The aim of data processing is to ensure that 1. the data are accessible in the long term, both in terms of technical format and content, and that 2. the research subjects' privacy is protected. This is achieved, for example, by choosing appropriate technical formats, creating detailed metadata and anonymizing the data. The aims of data processing are the same for different data types, but different types of data are processed in different ways. The processes are defined in detail in FSD's Internal Manual.

The [list of available data formats for downloading and using data](#) (3) is available on the FSD website.

FSD makes constant efforts to ensure that the data are accessible in the long term and aims to follow the best practices in long-term preservation. FSD has a representative in the [National Digital Library's \(KDK\)](#) (4) [Long Term Preservation working group](#) (5).

Links:

- (1) Evidence: Archives Formation Plan (AMS): Chapter 2. Data acquisition and selection criteria: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_guidelines.html#data-acquisition-and-selection-criteria (25.4.2017)
- (2) Evidence: Archives Formation Plan (AMS): Appendix 6. Digital File Formats Used in the FSD for Different Types of Data: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_file_formats.html (25.4.2017)
- (3) Evidence: List of available data formats for downloading and using data: http://www.fsd.uta.fi/en/data/ordering/data_formats.html (25.4.2017)
- (4) Read more: National Digital Library (KDK): Digital Preservation: <http://www.kdk.fi/en/digital-preservation> (25.4.2017)
- (5) Evidence: National Digital Library's Long Term Preservation working group (in Finnish): <http://www.kdk.fi/fi/pitkaaikaisilytyys/yhteistyoryhma> (25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

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9. Documented storage procedures

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

The Finnish Social Science Data Archive (FSD) applies documented processes and procedures to guarantee secure storage of data. A strategy of multiple copies/backups, recovery plans as well as a description of the risks and actions taken to reduce risk and overcome problems are included in the Archives Formation Plan ([in Chapter 5](#)) (1). FSD has an Internal Manual, which is accessible only by in-house staff using their IDs and passwords. The Internal Manual includes an extensive and detailed information on archiving practices.

Data files (Submission Information Package, SIP) delivered to FSD are stored in a separate folder and they are scanned for viruses by FSD staff before they are moved to the data directory. Accessing data files (for example Archival Information Package, AIP) is only possible by personnel that have tasks involving data processing and handling. Dissemination Information Packages (DIPs) are delivered to authenticated users via the Aila Data Service.

Only authorized persons with a personnel key card can enter FSD's premises unsupervised. These include FSD staff members, University's house managers (facilities managers), cleaning and maintenance personnel, and an HR secretary of the University. Entering the server room, located in the premises, is possible only by certain FSD employees and authorized maintenance personnel.

Data are stored on FSD's own server and back-ups are exported to the servers of the University of Tampere, which are located physically elsewhere than FSD's own server. Checksums are routinely run to ensure the integrity of the data in the repository. Storage media are monitored for deterioration and back-up copies are tested. Back-up procedures and recovery of files are described in detail in the Internal Manual. Data formats used for data storage are monitored to identify potential preservation issues. Manual checks of archived data files are carried out at random on a regular basis.

The Internal Manual describes data storage and backup procedures in detail. The Manual contains references to data recovery, but there is no separate documentation on these processes. However, any competent IT technician should easily be able to restore any files based on the storage and backup description.

FSD has signed a [service agreement](#) (2) with the [National Digital Library \(KDK\)](#) (3) regarding long-term preservation. The KDK is a project which aims to ensure that electronic material relating to Finnish culture and science are managed according to a high standard, are easily accessed and securely preserved well into the future. FSD has participated in development work with the KDK, and is in the process of transferring bit-level storage of data backups to the KDK in 2017. The KDK's services for bit-level preservation are produced by the [CSC - IT Center for Science](#) (4). With regard to information security, the [CSC has the ISO/IEC 27001 certification](#) (5). In OAIS terms, the KDK will secure the bit-level preservation (archival storage) and FSD will have the overall responsibility of pre-ingest, acquisition policy, ingest, preservation planning, data management and access.

FSD has its own Preservation Planning Team (AMS-PAS) that is responsible for the Archives Formation Plan and the preservation strategy. The team consists of FSD's senior staff members from all operational modules of FSD. The Preservation Planning Team decides on and updates the contents of the Archives Formation Plan and the preservation strategy with long-term preservation in mind. The team participates in the development of common practices in archiving and preservation with national and international institutions and organizations.

Links:

(1) Evidence: Archives Formation Plan (AMS): Chapter 5: Information systems and data security: [_](#)

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http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_guidelines.html#information-systems-and-data-security
(25.4.2017)

(2) Evidence: National Digital Library (KDK): Information about the service agreement regarding long term preservation (in Finnish):

<http://www.kdk.fi/index.php/fi/pitkaaikaisailytys/maeaerittely-ja-dokumentit/5-suomi/pitkaaikaisailytys/371-palvelusopimus>
(25.4.2017)

(3) Read more: National Digital Library (KDK): Digital Preservation:

<http://www.kdk.fi/en/digital-preservation/specifications> (25.4.2017)

(4) Read more: CSC - IT Center for Science: <https://www.csc.fi/csc> (25.4.2017)

(5) Read more: CSC - IT Center for Science: ISO 27001 certification now covers all CSC's ICT platforms:
<https://www.csc.fi/-/iso-27001-sertifikaatti-nyt-myos-csc-n-ict-alustoille> (25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

10. Preservation plan

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

FSD's [Archives Formation Plan \(AMS\)](#) (1) contains specific information on the Archive's tasks, including preservation policy, ingest criteria, archival process, information systems, and data protection practices ([in Appendix 1](#)) (2). FSD's Internal Manual contains detailed guidelines on data processing and managing procedures. FSD's Preservation Plan is included in FSD's Archives Formation Plan (AMS).

In particular, [Chapter 5](#) (3) of the AMS states that FSD will use a migration strategy to ensure the long-term preservation of FSD's data holdings. The [data formats that FSD uses](#) (4) for storing the data are chosen with long-term preservation in mind, avoiding proprietary, closed or rarely used file formats. Extensive metadata are produced and stored to ensure the usability of data.

FSD has its own Preservation Planning Team (AMS-PAS) that is responsible for the Archives Formation Plan and the preservation strategy. The Preservation Planning Team consists of FSD's cross-module staff members from all FSD's operations. The team decides on and updates the contents of the Archives Formation Plan and the preservation strategy with long-term preservation in mind. The team participates in the development of common practices in archiving and preservation with national and international institutions and organizations.

The Preservation Planning Team decides on any changes to these responsibilities and to the contents of the AMS. The team convenes 3–4 times a year. The AMS is reviewed once a year to see that it is up to date. The responsibility for keeping it up to date lies with the development manager.

Development and progress in technologies are followed closely, and the FSD staff are involved in a national project, the [National Digital Library \(KDK\)](#) (5), that plans and implements national long-term preservation solutions for digital cultural heritage materials. FSD has signed a [service agreement](#) (6) with the KDK regarding long-term preservation. The KDK aims to ensure that electronic material relating to Finnish culture and science are managed according to a high standard, are easily accessed and securely preserved well into the future.

FSD has participated in development work with the KDK, and is in the process of transferring bit-level storage of data backups to the KDK in 2017. KDK's services for bit-level preservation are produced by the [CSC - IT Center for Science](#) (7). With regard to information security, the [CSC has the ISO/IEC 27001 certification](#) (8). In OAIS terms, the KDK will secure the bit-level preservation (archival storage) and FSD will have the overall responsibility of pre-ingest, acquisition policy, ingest, preservation planning, data management and access.

All data depositors sign a [Deposit Agreement](#) (9) with FSD. The agreement gives FSD permission to preserve the data and maintain its long-term usability in accordance with the Archives Formation Plan (AMS).

Links:

(1) Evidence: Archives Formation Plan (AMS): <http://www.fsd.uta.fi/en/organisation/documents/AMS/index.html> (25.4.2017)

(2) Evidence: Archives Formation Plan (AMS): Appendix 1. Documents and document series generated by the FSD: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_documents_series.html (25.4.2017)

(3) Evidence: Archives Formation Plan (AMS): Chapter 5. Information systems and data security: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_guidelines.html#information-systems-and-data-security (25.4.2017)

(4) Evidence: Archives Formation Plan (AMS): Appendix 6. Digital File Formats Used in the Finnish Social Science Data Archive for the Different Types of Data: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_file_formats.html (25.4.2017)

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- (5) Read more: National Digital Library (KDK): <http://www.kdk.fi/en/> (25.4.2017)
- (6) Evidence: National Digital Library (KDK): The service agreement (in Finnish): <http://www.kdk.fi/index.php/fi/pitkaaikaisailytys/maeaerittely-ja-dokumentit/5-suomi/pitkaaikaisaelytys/371-palvelusopimus> (25.4.2017)
- (7) Read more: CSC - IT Center for Science: <https://www.csc.fi/csc> (25.4.2017)
- (8) Read more: CSC - IT Center for Science: ISO 27001 certification now covers all CSC's ICT platforms: <https://www.csc.fi/-/iso-27001-sertifikaatti-nyt-myos-csc-n-ict-alustoille> (25.4.2017)
- (9) Evidence: Deposit Agreement: <http://www.fsd.uta.fi/en/forms/deposit.pdf> (25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

11. Data quality

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

FSD's [Archives Formation Plan \(AMS\)](#) (1) defines the criteria for the data acquisition and selection (in [Chapter 2](#)) (2), which include the qualitative criteria, technical criteria and legislative criteria.

Each deposited dataset is processed by data processing personnel. Data managers check and verify data before and during processing. They prepare metadata for each dataset in cooperation with the depositor. If a data manager notices any inconsistencies or errors in the data, the depositor is contacted for further information regarding metadata and data or for a new version of the dataset. FSD has listed the recommended file formats for depositors. The list is included in the AMS (Chapter 2, [Appendix 6](#)) (3).

The aim of data processing is to ensure that 1. the data are accessible in the long term, both in terms of technical format and content information and that 2. the research subjects' privacy is protected. This is achieved, for example, by choosing appropriate technical formats, creating detailed metadata and anonymizing the data. The aims of data processing are the same for different data types, but different types of data are processed in different ways. The process is described in detail in FSD's Internal Manual.

FSD produces [DDI Codebook](#) (4) metadata in XML format for each deposited dataset. In addition, administrative metadata are maintained in FSD's operational database (Tiipii). Metadata are checked by the data processing staff and validated by FSD's utility programs. The structure of metadata is precisely defined in the Internal Manual, where mandatory and recommended metadata elements are listed and described. Partly divergent metadata structures are defined for quantitative and qualitative data processing. Mandatory and recommended elements of metadata are based on the guidelines of CESSDA, the [national guidelines of the National Digital Library \(KDK\)](#) (5) and the [Finnish national minimum metadata model for research data](#) (6).

All changes that have been done to datasets or metadata by data managers are reported in FSD's own operational database (Tiipii). The operational database includes documentation of the data management process date by date. All version changes are also documented in the database.

FSD's [metadata records](#) (7) are openly available for everyone. Users are required to attribute and cite the metadata appropriately.

Links:

(1) Evidence: Archives Formation Plan (AMS): <http://www.fsd.uta.fi/en/organisation/documents/AMS/index.html> (25.4.2017)

(2) Evidence: Archives Formation Plan (AMS): Chapter 2: Data acquisition and selection criteria: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_guidelines.html#data-acquisition-and-selection-criteria (25.4.2017)

(3) Evidence: Archives Formation Plan (AMS): Appendix 6. Digital File Formats Used in the Finnish Social Science Data Archive for Different Types of Data: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_file_formats.html (25.4.2017)

(4) Read more: DDI-Codebook: <http://www.ddialliance.org/Specification/DDI-Codebook/> (25.4.2017)

(5) Read more: National Digital Library (KDK): Metadata Requirements and Preparing Content for Digital Preservation: <http://www.kdk.fi/index.php/en/digital-preservation/specifications/353-metadata-requirements-and-preparing-content-for-digital-preservation> (25.4.2017)

(6) Read more: The Finnish national minimum metadata model (in Finnish): <http://avointiede.fi/documents/10864/39400/TTA-minimimetatietomalli.pdf/0090c35e-e3fc-40af-8991-ef888e38c890>

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(7) Evidence: FSD metadata records in DDI 2.0: <http://www.fsd.uta.fi/en/data/background/ddi-records.html>

(25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

12. Workflows

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

FSD's [Archives Formation Plan \(AMS\)](#) (1) contains specific information on the Archive's tasks, including preservation policy, ingest criteria, archival process, information system, and data protection practices. The Internal Manual contains detailed instructions on data processing and managing procedures. The Internal Manual is continuously updated. The Internal Manual includes, for example, the following sections on data processing:

- Management of quantitative data
 - Data manager's check list
 - Processing datasets (variables, anonymization, utility programs)
- Management of qualitative data
 - Processing datasets (anonymization, utility programs)
- Data description (structures of quantitative and qualitative data descriptions)
 - Study Description and other study related materials
 - Data File Description
- Publishing processed data

The Internal Manual not only describes the workflow of data processing but also all other operations relating to archiving.

FSD has listed the recommended file formats for depositors. The list is included in the AMS (Chapter 2, [Appendix 6](#)) (2). If the data are in an unsuitable format and cannot be converted at FSD or if the data do not meet FSD's [criteria for data acquisition and selection](#) (3), the depositor is suggested a more suitable repository.

The Archives Formation Plan ([Chapter 3](#)) (4) describes FSD's work process, including anonymization, data privacy and data formats at the general level. The Internal Manual contains process descriptions as well as step-by-step directions for processing data, creating metadata and validating files. If any two data managers processed the same data according to the instructions, the resulting data and metadata files would be substantially similar. FSD's operational database (Tiipii) contains information about the workflow (status of data; person processing the data and metadata etc.). This information also includes details of processing dates and version revisions.

If ad-hoc decisions are needed to deal with special cases, the decisions are made by the Head of Data Services and documented in the metadata and/or operational database.

The data management process from depositing to dissemination of the data is currently quite advanced as a result of the implementation of the [Aila Data Service](#) (5). Researchers can explore and test the Aila and become acquainted with the services provided by FSD before depositing data. Thanks to the Aila Data Service, re-using data is now easier, faster and more reliable. The Service has influenced data downloading positively, since the number of data downloads has steadily increased every year.

Links:

(1) Evidence: Archives Formation Plan (AMS): <http://www.fsd.uta.fi/en/organisation/documents/AMS/index.html> (25.4.2017)

(2) Evidence: Archives Formation Plan (AMS): Appendix 6: Digital File Formats Used in the Finnish Social Science Data Archive for Different Types of Data: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_file_formats.html (25.4.2017)

(3) Evidence: Archives Formation Plan (AMS): Chapter 2: Data acquisition and selection criteria: [http://www.fsd.uta.fi/en/organisation/documents/AMS/chapter2_data_acquisition_and_selection_criteria.html](#) (25.4.2017)

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http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_guidelines.html#data-acquisition-and-selection-criteria
(25.4.2017)

(4) Evidence: Archives Formation Plan (AMS): Chapter 3: FSD's work process: _

http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_guidelines.html#work-process (25.4.2017)

(5) Read more: Aila Data Service: <https://services.fsd.uta.fi/?lang=en> (25.4.2017)

Read more: Short description of data processing at FSD in English: _

<http://www.fsd.uta.fi/en/data/depositing/index.html#processing> (25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

13. Data discovery and identification

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

The Finnish Social Science Data Archive (FSD) archives and disseminates both quantitative and qualitative datasets. At the moment, there are nearly 1 300 datasets in the FSD's [Aila Data Service](#) (1), out of which 14% are qualitative datasets and 86% quantitative datasets. To ensure effective dissemination of data, reliable and versatile search features are essential. FSD's Aila Data Service allows searching for data in various ways. The [Aila search](#) (2) was updated and improved in 2017. There are three different search options: simple, advanced and expert search. Users are able to type a search term in the search field or, using the advanced search, they may search by various criteria. For advanced users, expert search allows using complex search queries. The new search enables searching for datasets and data descriptions, individual variables or publications based on archived data. In addition to the Aila Data Service, metadata produced at FSD are also available in the national research data search service [Etsin](#) (3) and in [Finna](#) (4), which is a search service for material in Finnish archives, libraries and museums.

The Aila Data Service gives users access to FSD data holdings through online registration and data download. In the Aila Data Service metadata are available for browsing, but to download data, the user needs to log in to the portal (except for data with access level (A), which are freely available to all users). Logging in is possible with [HAKA authentication](#) (5), provided by the Identity Federation for Finnish higher education and research institutions. Users without HAKA login credentials need to apply for a username from FSD User Services.

FSD ensures that all the studies in its holdings are usable and uniquely identifiable. FSD assigns each study an FSD identification number at the study level. The FSD identification number is permanent and unique (within the FSD). All data archived at the FSD have persistent identifiers (PID). FSD's PIDs are based on URN identifiers. A recommended citation with the URN identifier is included in study descriptions of data. The user can copy and use the recommended citation or amend it to be compatible with the citation requirements of the publication. Guidance on data citation practice is provided on the [FSD website](#) (6). [FSD's metadata records](#) (7) are openly available for everyone and the data is available according to the [Terms and Conditions](#) (8). Appropriate attribution and citation must be used.

Links:

- (1) Evidence: Aila Data Service (Aila): <https://services.fsd.uta.fi/index?lang=en> (25.4.2017)
- (2) Evidence: Aila Data Service's search: <https://services.fsd.uta.fi/catalogue/search?lang=en> (25.4.2017)
- (3) Evidence: National Research data finder Etsin: <https://etsin.avointiede.fi/en> (25.4.2017)
- (4) Evidence: Finna: <https://www.finna.fi/?lng=en-gb> (25.4.2017)
- (5) Read more: HAKA Identity Federation: <https://www.csc.fi/-/haka-kayttajatunnistusjarjestel-1> (25.4.2017)
- (6) Evidence: Citing Archival Data: http://www.fsd.uta.fi/en/data/ordering/citing_data.html (25.4.2017)
- (7) Evidence: FSD metadata records in DDI 2.0: <http://www.fsd.uta.fi/en/data/background/ddi-records.html> (25.4.2017)
- (8) Evidence: General Terms and Conditions for Data Use: <https://services.fsd.uta.fi/docs/terms-of-use?lang=en> (25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

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14. Data reuse

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

4. Implemented: This guideline has been fully implemented for the needs of our repository.

Self-assessment statement:

Metadata are produced by the Finnish Social Science Data Archive (FSD). The data are described and documented in a clear and comprehensible manner with adequate information. FSD's metadata are produced using [DDI Codebook standard](#) (1) and [standards recommended by the National Digital Library \(KDK\)](#) (2). The KDK have their own [METS \(Metadata Encoding & Transmission Standard\)](#) (3) profile based on METS version 1.11., and [PREMIS \(Preservation Metadata Maintenance Activity\)](#) (4) specification is one of the key aspects of the KDK METS profiles.

For example, using the DDI's [Controlled Vocabularies](#) (5) allows describing the metadata consistently. The [DDI \(Data Documentation Initiative\)](#) (6) Codebook is designed especially for fields such as social, behavioral, economic and health sciences. FSD's Designated Community includes researchers in social sciences, but also in fields like the humanities and health science.

In FSD's operational database (Tiipii), files are categorized by preservation status. For instance, when there is a need to migrate data to a new format, files designated for long-term preservation can be marked with a corresponding status and thus ensure their safe transfer to the new format. FSD does not have an automated migration system, but the current operational tools enable migration when needed. FSD's Preservation Planning Team is responsible for format issues and monitors the possible need for migration.

FSD has signed a [service agreement](#) (7) with the [National Digital Library \(KDK\)](#) (8) with regarding long-term preservation. The KDK aims to ensure that electronic material relating to Finnish culture and science are managed according to a high standard, are easily accessed and securely preserved well into the future. FSD has participated in development work with the KDK and is in the process of transferring bit-level storage of data backups to the KDK in 2017. The KDK's services for bit-level preservation are produced by the [CSC - IT Service for Science](#) (9). With regard to information security, the [CSC has the ISO/IEC 27001 certification](#) (10). In OAIS terms, the KDK will secure the bit-level preservation (archival storage) and FSD will have the overall responsibility of pre-ingest, acquisition policy, ingest, preservation planning, data management and access.

In the Archives Formation Plan (AMS) FSD has defined the [list](#) (11) of the data types and digital file formats which are used from ingest to dissemination and long-term preservation. The DDI metadata produced by FSD is licensed with CC BY 4.0 ([Creative Commons by 4.0](#) (12)). FSD's metadata records are openly available for everyone. Appropriate attribution and citation must be used. FSD provides technical information about the metadata records on its [website](#) (13).

Links:

(1) Read more: DDI Codebook: <http://www.ddialliance.org/Specification/DDI-Codebook/> (25.4.2017)

(2) Read more: National Digital Library (KDK): Metadata Requirements and Preparing Content for Digital Preservation:

<http://www.kdk.fi/index.php/en/digital-preservation/specifications/353-metadata-requirements-and-preparing-content-for-digital-preservation> (25.4.2017)

(3) Read more: METS (Metadata Encoding & Transmission): <http://www.loc.gov/standards/mets/> (25.4.2017)

(4) Read more: PREMIS (Preservation Metadata Maintenance Activity): <http://www.loc.gov/standards/premis/> (25.4.2017)

(5) Read more: DDI Controlled Vocabularies: <http://www.ddialliance.org/controlled-vocabularies> (25.4.2017)

(6) Read more: Data Documentation Initiative (DDI): <http://www.ddialliance.org/> (25.4.2017)

(7) Evidence: National Digital Library (KDK): The service agreement (in Finnish):

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<http://www.kdk.fi/index.php/fi/pitkaaikaisailytys/maeairittely-ja-dokumentit/5-suomi/pitkaaikaisaeilytys/371-palvelusopimus>
(25.4.2017)

(8) Read more: National Digital Library (KDK): <http://www.kdk.fi/en> (25.4.2017)

(9) Read more: CSC - IT Center for Science: <https://www.csc.fi/csc> (25.4.2017)

(10) Read more: CSC - IT Center for Science: ISO 27001 certification now covers all CSC's ICT platforms:
<https://www.csc.fi/-/iso-27001-sertifikaatti-nyt-myos-csc-n-ict-alustoille> (25.4.2017)

(11) Evidence: Archives Formation Plan (AMS): Appendix 6. Digital File Formats Used in the Finnish Social Science Data Archive for Different Types of Data:

http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_file_formats.html (25.4.2017)

(12) Read more: Creative Commons by 4.0 license: <https://creativecommons.org/licenses/by/4.0/> (25.4.2017)

(13) Evidence: FSD metadata records in DDI 2.0: <http://www.fsd.uta.fi/en/data/background/ddi-records.html>
(25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

15. Technical infrastructure

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

3. In progress: We are in the implementation phase.

Self-assessment statement:

FSD's technical infrastructure is well-shaped and constantly developed. [Metadata](#) (1) are recorded using the DDI Codebook standard in XML formal. The [DDI \(The Data Documentation Initiative\)](#) (2) is an international standard for describing data especially in the fields of social, behavioral, economic, and health sciences. For this reason, the DDI standards are suitable for FSD's Designated Community.

The standards of the OAIS (Open Archival Information System) are used as a reference in [FSD's operations](#) (3). The OAIS is an ISO standard (ISO 14721:2003). FSD has compared its operations with the OAIS standard in order to examine the efficiency of its processes and to improve the prerequisites for national and international cooperation. FSD is OAIS [compliant](#) (4). Regarding digital preservation, FSD complies with the standards of the [National Digital Library \(KDK\)](#) (5) in addition to the OAIS.

FSD has an internal plan for infrastructure development. A plan for Formalization and Documentation for Information Technology is under way. These documents are in FSD's internal use. FSD received [Research Infrastructure Funding](#) (6) from the Academy of Finland for years 2017–2021 [to develop](#) (7) integrated technical services to fulfil the requirements of CESSDA. Developing these services enables sharing expertise and gaining new competence.

Software used by FSD in its technical infrastructure is mainly open source, such as Linux and Openstack. Open source development tools, such as Python, are used for building in-house tools like the utility programs used for data processing. Other open source software used include, for instance, iconv and SciTE. SPSS, which is a proprietary software, is also used for data processing. FSD's Internal Manual contains instructions on using the software and performing technical operations. The Redmine project management tool is used to track issues, create documentation for internal systems and managing technical projects.

FSD improves its technical infrastructure on a regular basis to assure the high-quality of internal processes, which enables providing useful services to FSD's Designated Community.

Links:

(1) Evidence: FSD metadata records in DDI 2.0: <http://www.fsd.uta.fi/en/data/background/ddi-records.html> (25.4.2017)

(2) Read more: DDI Alliance: <http://www.ddialliance.org/> (25.4.2017)

(3) Evidence: Open archival information system (OAIS) in FSD's operations: <http://www.fsd.uta.fi/lehti/en/30/oais.html> (25.4.2017)

(4) Read more: IASSIST Quarterly: Improvin the Quality of Digital Preservation Using Metrics: http://www.iassistdata.org/sites/default/files/iqvol_39_2_kleemola.pdf (25.4.2017)

(5) Read more: National Digital Library (KDK): <http://www.kdk.fi/en> (25.4.2017)

(6) Evidence: Academy of Finland Funding Decision: http://webfocus.aka.fi/ibi_apps/WFServlet?IBIF_ex=x_HakKuvaus&CLICKED_ON=&HAKNRO1=305673&UILANG=en (25.4.2017)

(7) Read more: FSD's Current Projects: Active FSD for CESSDA: New European Services for Researchers: <http://www.fsd.uta.fi/en/news/projects.html> (25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

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16. Security

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

3. In progress: We are in the implementation phase.

Self-assessment statement:

The Finnish Social Science Data Archive (FSD) applies documented processes and procedures to safeguard the storage of data. FSD's technical infrastructure is secure for data, tools produced in-house, services and users. Users of the Aila Data Service are identified by using the [HAKA authentication](#) (1) service and are able to download data online.

A strategy for multiple copies/backups, recovery plans as well as a description of the risks and actions taken to reduce risk and overcome problems, are included in the Archives Formation Plan (AMS) ([Chapter 5](#)) (2). Data are stored at FSD's own server and back-ups are exported to the servers of the University of Tampere. FSD's data managers are required to sign a non-disclosure agreement. To improve data security, the Finnish Social Science Data Archive (FSD) has signed a [service agreement](#) (3) with the National Digital Library (KDK) on long-term preservation.

The [National Digital Library \(KDK\)](#) (4) is a project which aims to ensure that electronic material relating to Finnish culture and science are managed according to a high standard, are easily accessed and securely preserved well into the future. FSD has participated in development work with the KDK, and is in the process of transferring bit-level storage of data backups to the KDK in 2017. The KDK's services for bit-level preservation are produced by the [CSC - IT Service for Science](#) (5). With regard to information security, the [CSC has the ISO/IEC 27001 certification](#) (6). In OAIS terms, the KDK will secure the bit-level preservation (archival storage) and FSD will have the overall responsibility of pre-ingest, acquisition policy, ingest, preservation planning, data management and access.

At FSD, checksums are routinely run for files to ensure the integrity of the data in the repository. Storage media are monitored for deterioration and back-up copies are tested. Back-up procedures and recovery of files are described in detail in FSD's Internal Manual. Data formats used for data storage are monitored to identify potential preservation issues. Manual checks of archived data files are carried out at random on a regular basis.

Regarding data ingest, in most cases data files have no security or privacy risks and may be delivered to the archive as an attachment to an e-mail. If there is a possibility that the file contains sensitive information, the depositor and FSD choose the best transfer method case-by-case, for example, a secured file transfer or a disk by registered post. In 2017, FSD will release a new interface for data deposition, which allows researchers to deposit data with FSD more easily and securely via FSD website once deposition has been agreed upon. Data files delivered to FSD are stored in a separate folder and scanned for viruses by FSD staff before they are moved to the data directory.

Access to computer systems is restricted. Each user has unique access credentials. Administrative access to computer systems is given to select members of the staff. The computer systems are segregated from the main university systems into a domain specific to FSD only. Access credentials are changed and systems are updated regularly. Security notification lists are monitored and, if the threat situation so warrants, the systems are updated also outside the normal update cadence.

Access to deposited data files is provided only to personnel that have tasks involving data processing and handling. Original data files containing sensitive or identifiable information are deleted at the beginning of data processing. Data variables containing direct identifiers are deleted immediately after there is no need for using them, e.g. to construct new, non-identifiable background variables.

Physical data security at FSD is achieved by several means. FSD's front doors are connected to an access control system. The server room door is also connected to the access control system and only certain FSD employees and authorized maintenance personnel can access the room. In addition, FSD follows the University of Tampere Security instructions, which include information about procedures in various crises, such as fire and bomb threats. The security instructions are not public but can be found on the intranet of the University.

FSD follows the risk management principles and practices of the University of Tampere. Possible risks are listed in the FSD's internal annual action plan according to the instructions provided by the University of Tampere. Instructions for crisis situations and general safety instructions are set out in FSD's operations manual managed by the University of Tampere on its intranet.

FSD's Internal Manual contains information and instructions for a number of unexpected events. For example, two separate procedures have been designed to restore power quickly in case of a power outage, which is a rather significant threat to a digital archive such as FSD. The Manual also provides instructions on how the technical systems can be promptly restored and recovered in case of a failure.

The Archives Formation Plan (AMS) defines FSD's business continuity plan in case funding and continuity of the operations are at risk. In the unlikely event that FSD's funding and the continuity of operations are at risk, the director of FSD appoints a task group to map out required functions for the controlled transferring of the data to another institution. The task group are to take administrative and technical aspects into account when planning the transfer. Representatives of funders, members of FSD's National Advisory Board and archiving experts should be included in the task group. The continuity plan is included in the AMS ([Chapter 7](#)) (7).

Responsibilities relating to security are divided among the personnel. The executive responsibility for records management lies with the director of FSD. The responsibilities of key staff members are defined more specifically in the AMS and the responsibilities concerning specific documents are set out in the Archives Formation Plan ([Appendix 1](#)) (8). Any material containing sensitive information and deemed to be destroyed are treated according to the University of Tampere procedures and guidelines on destruction of such materials.

Links:

- (1) Read more: HAKA Identify Federation service: <https://www.csc.fi/-/haka-kayttajatunnistusjarjestel-1> (25.4.2017)
- (2) Evidence: Archives Formation Plan (AMS): Chapter 5: Information systems and data security: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_guidelines.html#information-systems-and-data-security (25.4.2017)
- (3) Evidence: National Digital Library (KDK): Service Agreement (in Finnish): <http://www.kdk.fi/index.php/fi/pitkaaikaissailtyts/maeaerittely-ja-dokumentit/5-suomi/pitkaaikaissaailyts/371-palvelusopimus> (25.4.2017)
- (4) Read more: National Digital Library (KDK): <http://www.kdk.fi/en> (25.4.2017)
- (5) Read more: CSC - IT Center for Science: <https://www.csc.fi/csc> (25.4.2017)
- (6) Read more: CSC - IT Center for Science: Iso 27001 certification now covers all CSC's ICT platforms: <https://www.csc.fi/-/iso-27001-sertifikaatti-nyt-myos-csc-n-ict-alustoille> (25.4.2017)
- (7) Evidence: The Archives Formation Plan (AMS): Chapter 7. Continuity Plan: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_guidelines.html#continuity-plan (25.4.2017)
- (8) Archives Formation Plan: Appendix 1. Documents and document series generated by FSD: http://www.fsd.uta.fi/en/organisation/documents/AMS/ams_documents_series.html (25.4.2017)

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments:

17. Comments/feedback

Minimum Required Statement of Compliance:

0. N/A: Not Applicable.

Applicant Entry

Statement of Compliance:

3. In progress: We are in the implementation phase.

Self-assessment statement:

R7: Please note that FSD is not working with DOIs because FSD uses URN:NBN identifiers as PIDs. The National Library of Finland manages the central URN system in Finland and collects the identifiers produced by other Finnish organizations. Because the National Library has provided FSD with an NBN sub-namespace of its own, allowing FSD to independently generate URN:NBNs, FSD has decided to operate with URN identifiers. Information concerning the use of PIDs at FSD can be found in sections 7. Data integrity and authenticity and 13. Data discovery and identification.

Reviewer Entry

Accept or send back to applicant for modification:

Accept

Comments: