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| Data Management Plan |
| Research project grant for Digitisation and accessibility of cultural heritage collections, 2020 |

# Data management and the Data Management Plan

Research data is material that is collected or created in a research project to be used as a basis for analyses and validation of research results. Research data can consist of both analog and digital information and digital data can consist of everything from measurement results and observations to data code, images and audio files.

The international FAIR principles[[1]](#footnote-1) state that research data or information about research data (metadata) should be handled in a way that makes research data Findable, Accessible, Interoperable and Reusable. In recent years, the FAIR principles have had a strong impact and have become the guiding principle for good data management and open access to research data. For the sake of clarity, it should be emphasized that all research data may not be fully accessible, for example, the protection of personal data and copyright must be considered. This is clarified by something that has come to be a devise in the context; "as open as possible, as closed as necessary"[[2]](#footnote-2).

Data management refers to how research data are handled, organized and structured throughout the project. To simplify the data management work, a data management plan (DHP) should be created at the start of the project. A DHP is a formal document that provides a framework for what will happen to the data material during and after the research project. The content of the data management plan depends on the research area, the type of data material and in what phase of the research process the project is in. Management of the data material develops over time in response to changes and new situations that arise during the course of the project.

Thus, a DHP acts as a "living" document that changes over time, throughout the project. For the individual researcher and the research group, a DHP is an effective way to gain control over how the material is handled, stored and retrieved and what costs may be associated with it, and to ensure that the project complies with applicable regulations, legal and ethical aspects and is prepared for archiving at the end of the project. A DHP may look slightly different depending on the subject area, type of data and any specific requirements from research funders. A DHP focuses on the management of digital data.

A completed DHP is considered when the review panel assesses the project's feasibility, where there must be a realistic, relevant and anchored DHP that extends beyond the end of the project period.

Data publishing

For the purposes of this document, data is considered published with open access if:

1. Data is assigned with a clarification on use and re-use (as PDM, CC0 or CC-BY licenses).
2. Data is assigned a globally unique and persistent identifier via which they can be retrieved.
3. Data is described by rich metadata, and the metadata is registered in a searchable web resource.
4. Data is available via a service specifically designed to facilitate the distribution of research data, where the owner of the service is committed to maintaining the service beyond the end of the current project.

If data cannot be published, at least metadata should be made available according to the description above (1-3).

How to write a Data Management Plan

To create a data management plan required for the call *Research project grant for Digitisation and accessibility of cultural heritage collections, 2020*, please go through the sections below and follow the instructions. Use the check boxes to answer yes or no, and enter text to answer the questions. **When you are finished -** **create a pdf that you attach to the application in Prisma.**

More information about Data Management Plans

Producing a data management plan, Swedish Research Council: <https://www.vr.se/soka-finansiering/krav-och-villkor/ta-fram-en-datahanteringsplan.html>

Digisam – collaboration for digital cultural heritage: <http://www.digisam.se/>

Instructions for Data Management Plan, Swedish National Data Service (SND): <https://snd.gu.se/en/data-management/data-management-resources/datahanteringsplan>

FAIR principles: <https://www.go-fair.org/fair-principles/>

DMPonline: <https://dmponline.dcc.ac.uk/>

General information

|  |  |
| --- | --- |
| Project titel | [Click to enter text] |
| Project leader | [Click to enter text] |
| Version[[3]](#footnote-3) | [Click to enter text] |
| Date | [Click to enter text] |

1. Description of data

How will data be collected, created and reused?

Will existing data be collected?

YES [ ] NO[ ]

If yes, who owns or is responsible for the management of this data (person, foundation, institution, authority, etc.)?

[Click to enter text]

Short description of existing data:

[Click to enter text]

Will existing analogue information, collected from different actors, be converted into data?

YES [ ] NO[ ]

If yes, who will own and have management responsibilities for these data?

[Click to enter text]

Short description of analoguecollections:

[Click to enter text]

Will new data be created during the research project time?

[Click to enter text]

YES [ ] NO[ ]

If yes, who will own and have long-term management responsibility for this new data?

[Click to enter text]

Short description of new data that will be created during the research project:

[Click to enter text]

Other/comment:

[Click to enter text]

What types of data will be created and collected in terms of data format, amount and volume of data[[4]](#footnote-4)?

Items, objects and works of art in number

- digital records:

- pictures:

- file format[[5]](#footnote-5):

[Click to enter text]

Printed material in number

- digital records:

- pictures:

- file format:

[Click to enter text]

Photographs, map sheets and posters in number

- digital records:

- pictures:

- file format:

[Click to enter text]

Moving images in number

- digital records

- minutes:

- format:

[Click to enter text]

Audio recordings in number

- digital records:

- minutes:

- file format:

[Click to enter text]

(Other) archival material in number

- digital records:

- pictures:

- file format:

[Click to enter text]

Total amount of information and volumes, indicated in byte:

[Click to enter text]

If open and/or widely accepted formats are not used, please explain why:

[Click to enter text]

Other/comment:

[Click to enter text]

2. Documentation and data quality

How will the material, including metadata, be documented and described?

How will data be structured during the research process (database formats, APIs or other available technical solutions, etc.)?

[Click to enter text]

Are there existing, open and/or widely accepted standards and formats for descriptive metadata[[6]](#footnote-6) in the research area and the domain referred to?

YES [ ] NO[ ]

If yes, will these be used?

YES [ ] NO[ ]

If no, please explain why:

[Click to enter text]

Which standards will be used?

[Click to enter text]

Are there existing open and/or widely accepted standards and/ formats applicable to metadata that will be made available on the Internet?

YES [ ] NO[ ]

If yes, will these be used?

YES [ ] NO[ ]

If no, please explain why:

[Click to enter text]

What standards will be used?

[Click to enter text]

Describe the collection methodology:

[Click to enter text]

How will data quality be safeguarded and documented during the research project time (for example by repeated measurements, validation of data input, through documentation of how databases, APIs, formats, software and terminologies are structured, etc..)?

[Click to enter text]

3. Storage and backup

How is storage and backup of data and metadata safeguarded during the research project time?

Has contact been established with the data owner or the data manager concerning storage and backup?

YES [ ] NO[ ]

If yes, has storage and backup of data and metadata been secured during the research process together with the data owner or the data manager?

YES [ ] NO[ ]

Will data be stored via (select option):
 - The institution’s internal storage capacity.
 - An external service or infrastructure provided by, or otherwise approved by, the institution.

[Click to enter text]

Other type of approved or certified data service or infrastructure, please specify:

[Click to enter text]

Other/comment:

[Click to enter text]

How is data security and controlled access to data safeguarded (for example in relation to handling of sensitive and personal data)?

Has contact about these issues been established with the data owner/data manager?

YES [ ] NO[ ]

If yes, is there an agreement with the data owner/data manager on responsibility and technical support regarding data security and controlled access to data?

YES [ ] NO[ ]

Other/comment:

[Click to enter text]

4. Legal and ethical aspects

How is data handling safeguarded according to legal requirements (for example in relation to handling of personal data, confidentiality and intellectual property rights)?

Has contact with legal support been established concerning these legal requirements (e.g. a legal representative at the university or likewise)?

YES [ ] NO[ ]

How is data management ensured in terms of method, responsibility and technical support, according to the legal frameworks that applies?

[Click to enter text]

Other/comment:

[Click to enter text]

How is correct data handling safeguarded according to ethical aspects?

Does the data contain information that requires application for ethical review?

YES [ ] NO[ ]

Has contact about these issues been established with the data owner or the data manager for an evaluation of the material?

YES [ ] NO[ ]

How are ethical aspects handled in terms of method, responsibility and technical support?

[Click to enter text]

Other/comment:

[Click to enter text]

5. Accessibility and long-term storage

How, when and where will research data or metadata be made accessible? Are there any conditions, embargoes and limitations on the access to and reuse of data to be considered?

Will data be made publicly available on the internet?

YES [ ] NO[ ]

If yes:

* When will data be made available on the Internet?
* Out of the total data volume and sets, how much data will be made available, in byte?
* Will both the descriptive metadata and the data be made available?
* Under what rights statements or license will metadata and data be made available (PDM, CC0, the CC licenses[[7]](#footnote-7) or other)?
* When will metadata and data be made available?

[Click to enter text]

If no:

* Please explain why.
* Will the data be made available in a different way, or with certain restrictions?
* Will there be open access to data in the long run?

[Click to enter text]

Other/comment:

[Click to enter text]

In what way is long-term storage safeguarded, and by whom? How will the selection of data for long-term storage be made?

Has contact been established with the data owner/data manager concerning these issues?

YES [ ] NO[ ]

If yes, is there an agreement with the data owner or the data manager on responsibility and technical support regarding long-term preservation and selection of data?

YES [ ] NO[ ]

In case a division of responsibility for different data sets is required, please explain why:

[Click to enter text]

Will specific systems, software, source code or other types of services be necessary in order to understand, partake of, or use and analyse data in the long term?

YES [ ] NO[ ]

If yes, will these be documented and available as open access?

YES [ ] NO[ ]

If no, please explain why:

[Click to enter text]

Other information:

[Click to enter text]

How will the use of unique and persistent identifiers, such as a Digital Object Identifier (DOI), be safeguarded?

Has contact been established with the data owner or the data manager concerning these issues?

YES [ ] NO[ ]

Is an established system, service, method, and format used for designing PIDs?[[8]](#footnote-8)

YES [ ] NO[ ]

If yes, which system, service, method, and format is used?

[Click to enter text]

If no, please explain why:

[Click to enter text]

6. Responsibility and resources

Who is responsible for data management and supports the work during the research project time?

Has contact been established with the data owner or the data manager concerning these issues?

YES [ ] NO[ ]

If yes, is there an agreement with the data owner or the data manager on responsibility and technical support regarding data management during the research project?

YES [ ] NO[ ]

Are there more actors supporting the work and if so, which (e.g., infrastructures, data services)?

[Click to enter text]

Other information:

[Click to enter text]

Who is responsible for data management, ongoing management and long-term storage after the research project time has ended?

Has contact been established with the data owner or the data manager concerning these issues?

YES [ ] NO[ ]

If yes, is there an agreement with the data owner or the data manager on responsibility and technical support regarding continued data management and long-term preservation after the research project time has ended?

YES [ ] NO[ ]

Other/comment:

[Click to enter text]

What resources, such as costs or labour input, will be required for data management including storage, backup, provision of access and processing for long-term storage?

Is there an estimation of resources for data management in the project budget?

YES [ ] NO[ ]

If yes, please provide a reference to relevant paragraph(s) in the application:

[Click to enter text]

If no, please explain why:

[Click to enter text]

Other comments:

[Click to enter text]

What resources will be needed to ensure that data fulfil the FAIR principles?

Will data created within the project fulfil the FAIR principles?

YES [ ] NO[ ]

If no, what would be needed in order to fulfil the FAIR principles?

[Click to enter text]

1. https://www.force11.org/group/fairgroup/fairprinciples [↑](#footnote-ref-1)
2. https://www.vr.se/analys-och-uppdrag/vi-analyserar-och-utvarderar/alla-publikationer/publikationer/2018-12-07-kriterier-for-fair-forskningsdata.html. [↑](#footnote-ref-2)
3. As the DMP should be updated regularly the granted project will have to submit a new version of the DMP at every reporting date. [↑](#footnote-ref-3)
4. Estimate in terms of created digital material [↑](#footnote-ref-4)
5. File format refers to the internal structure of digital data files, such as TIFF, JPEG, PDF, etc. [↑](#footnote-ref-5)
6. See for example <http://www.digisam.se/om-standarder/> [↑](#footnote-ref-6)
7. See, e.g., https://creativecommons.org/ and http://www.creativecommons.se/om-cc/licenserna [↑](#footnote-ref-7)
8. See Digisam’s check list, <http://www.digisam.se/wp-content/uploads/2015/06/Checklista_bestandiga_identifierare.pdf> as well as information on DOI from SND <https://snd.gu.se/sv/om-oss/tjanster/pid>

 [↑](#footnote-ref-8)