**Federation University Australia**

**Data Management Planning**

Guide and Plan Template

Prepared by:

Federation University Australia

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**About the data management planning guide and plan template**

Sound data management is an important part of the responsible conduct of research. Data that you create or collect during your research is considered to be a valuable asset which needs to be managed throughout the research project and cared for in the future.

You will benefit from having in place robust and easy to use data management practices by being better organised and working more efficiently. For example you can:

* find and understand your data when you need to use it;
* avoid unnecessary duplication of effort;
* ensure continuity of the research if project staffing changes;
* maintain the data underlying publications which allows for the validation of your findings;
* ensure you data can be readily shared which can facilitate research collaboration;
* meet data management obligations under the [Australian Code for the Responsible Conduct of Research](https://www.nhmrc.gov.au/research-policy/research-integrity/2018-australian-code-responsible-conduct-research); and
* avoid catastrophes such as the loss of data or violations of privacy.

A Data Management Plan describes the activities that will be associated with the data other than the direct use of the data and may include: data organisation, storage, retention and disposal, long-term preservation and provisions for access, data sharing and reuse.

This document is a guide to help structure and inform your planning process. It is set out in such a way that it can be also used as a template to prepare a written Data Management Plan.

**Before you start to use the guide and plan template**

As you begin data management planning, it is recommended that you read and understand these key national and institutional documents:

* Australian Code for the Responsible Conduct of Research (Section Two);
* Federation University Australia Code of Responsible Conduct of Research Policy; and
* Federation University Australia (Draft) Data Management Policy [when available].

If you use the template to prepare a written Data Management Plan, adapt it to suit your specific data management needs. Not all sections and/or questions will be relevant to your research project. Other sections can be expanded and supplementary material attached where relevant. The detail should be clear, concise and proportionate to the scale of the datasets generated and anticipated level of value to the research community.

Different disciplines have different conventions so in order to facilitate data linkage and interoperability, you should ensure that your data management is compatible with any recognised data standards in your discipline, for example, in relation to file formats and metadata standards.

Your Data Management Plan will be a living document so regularly revisit the content of your Plan and update it as necessary as the project evolves and progresses. It should be stored as part of your consolidated research documentation.

**For HDR students**

You will gain the most benefit from this exercise if you complete your data management planning early on in your project. Ensure that you talk through the guide with your Principal Supervisor and, where appropriate, other research partners, and create a written Data Management Plan. Ensure you give consideration to the people and skills, infrastructure, tools and other resources you may need to deliver your Plan.

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| **Document history** |
| **Document Status – Version - Date:** |  |
| **Document Author:** |  |
| **Contributors to this document:** |  |
| **Location of this document:** |  |

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| **About the research project** |
| **Research Project or Thesis Title:** |  |
| **Project or Thesis Description:** |  |
| **Name of Principal Investigator:** |  |
| **Contact Details:** |  |
| **Name of Principal Supervisor:**(if applicable) |  |
| **Project Duration:**  |  |
| **Funding Source and Budget:** |  |

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| **Ethics, copyright and intellectual property**  |
| This section should include:* Any ethics approvals that will be required or have been obtained through governing ethics committees for your research project and an outline of the measures to be taken to manage and protect sensitive, confidential or private information.
* An indication of whether the dataset created will be covered by copyright and, if so, specify the parties that will own the copyright and other intellectual property. This will be an important consideration for research conducted in collaboration with external organisations and where third-party data will be used. Detail any licensing arrangements and restrictions.

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| Remember to attach or reference any related policies, agreements or supporting information (e.g. ethics ‘Notification of Outcome’) that have a bearing on ethics and ownership. |
| For further information:* Refer to the [Copyright Procedure](http://policy.federation.edu.au/corporate_governance/general/copyright/ch01.php) and contact [Copyright Services](https://federation.edu.au/library/staff-resources/copyright-for-teachers/copyright) if assistance is required.
* Refer to [FedUni Statute 8.2 – Intellectual Property](https://federation.edu.au/__data/assets/pdf_file/0017/45008/s82_intell_prop.pdf) and contact the [Legal Office](https://federation.edu.au/staff/governance/legal) if assistance is required.
* Refer to the [Human Research Ethics Committee](https://federation.edu.au/research/support-for-students-and-staff/ethics/human-ethics/human-ethics7) or [Animal Ethics Committee](https://federation.edu.au/research/support-for-students-and-staff/ethics/animal-ethics) information if appropriate and contact the Ethics Officer for advice regarding whether a project requires approval.
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| **Data creation and formats**  |
| This section should include:* A short description of the data content and data types your project will create or capture and an estimation of the volume for each data type (expressed as MB, GB, TB etc).
* A list of file formats that you will use for your data indicating whether they are widely available, community accepted, likely to last until the end of the retention period, and open (not requiring proprietary software to interpret).
* Details of the resources (e.g. hardware or software) required to create/process/visualise the data.

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| Remember to attach or reference any policies or agreements that dictate the sort of data you will be dealing with, as well as any standards-based documentation that should accompany the data. Choices you make can affect the ease with which you can share and preserve your data.  |
| For further information the:* ANDS website has both [awareness level](http://ands.org.au/guides/file-formats-awareness.html) and [working level](http://ands.org.au/guides/file-formats-working.html) documents that give advice on choosing the appropriate file format.
* UK Data Archive has a [table](http://www.data-archive.ac.uk/create-manage/format/formats-table) listing formats to consider for various types of data.
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| **Storage and backup** |
| This section should include:* The location digital data will be stored during the life of the project and details of the backup strategy, e.g. where data will be backed up, the frequency of backup and responsibility for backup. Consider network drives, external hard drives, PC/laptop hard drives and other storage media, e.g. USB, CD, and smartphone.
* How and where non-digital data will be stored, including any security and environmental requirements needed to safeguard non-digital data, and details of a backup strategy.

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| This is an essential component of data management to avoid loss or corruption of data. Consider off-site storage and automated backup processes as appropriate.  |
| For further information:* The [FedUni Information Security Policy](http://policy.federation.edu.au/information_technology/it/ch02.php) strongly advises users save work to network drives and discourages the use of email facilities for permanent storage.
* Contact the servicedesk@federation.edu.au for ICT support and advice.
* The Joint NHMRC/AVCC statement and guidelines on research practice have a statement on data storage and retention.
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| **Documentation and metadata** |
| This section should include:* An outline of the metadata, documentation or other supporting material that is needed to make the data created meaningful and allow it to be interpreted correctly, e.g. data dictionaries, codebooks, lab notebooks and methodology reports.
* The processes in place to document and organise the data, e.g. version control strategies, file and folder structures and naming conventions, and physical filing systems.

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| Remember to reference any metadata standards to be used. Metadata and contextual documentation helps others make sense of the data and assists later reuse. This is important if you anticipate that your data may have value to others and can be shared.  |
| For further information:* The FedUni [Records Management](http://policy.federation.edu.au/information_management_and_infrastructure/records_management/records_framework/ch01.php) policy has some useful information about organising documents and data.
* FedUni Library has expertise in creation of metadata – contact dm@federation.edu.au
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| **Access, data sharing and reuse** |
| This section should include:* A list of the people or entities that have access to the data during the life of the project, e.g. solely the researcher, internal FedUni staff and student access, external people/entities such as external co-supervisor/researcher, and funding agency.
* An indication of whether and how the data can be shared and reused by other researchers, e.g. will the data be freely available and if so how? If not freely available can mediated access be arranged? Are there any ethical, privacy or copyright restrictions on the reuse of the data?
* An indication of how soon after the initial project data sharing can take place.
* A note any anticipated costs associated with enabling data to be shared.
* A statement which indicates the reasons why the data cannot be shared, if appropriate.

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| Remember to attach or reference any restrictions that might apply to sharing your data, such as ethics approvals etc.  |
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| For further information:* The [Australian National Data Service](https://www.ands.org.au/) and [Research Data Australia](http://researchdata.ands.org.au/) websites are good to explore the usefulness of data sharing and reuse. Further information regarding the potential benefits of making your data discoverable via Research Data Australia is available by emailing rdm@federation.edu.au
* The Joint NHMRC/AVCC statement and guidelines on research practice discuss the requirements for sharing data – it is available here as part of the FedUni HDR Handbook.
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| **Data retention and disposal** |
| This section should include:* The retention period for the data.
* Any requirements for data disposal, e.g. if required for ethical approval.
* The methods by which sensitive or confidential data will be disposed, if applicable.
* The date of disposal and person/position responsible for disposal.

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| Remember that the minimum period for retaining research data is usually five years from the completion of the project or the time that the results of the research is published (whichever is later). In some cases a much longer or indefinite retention period is required. Aside from any legal, funding or publisher obligations, there may also be discipline/profession based conventions to consider.  |
| For further information:* Check with your funding agency or publisher to determine which data and materials should be retained, if relevant.
* The Victorian Public Records Office lists retention requirements for some research data in their [General retention & disposal authority for the records for Higher and Further Education Institutions (Version 2012)](https://prov.vic.gov.au/sites/default/files/2017-01/1607_0.pdf) (p. 41).
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| **Long term preservation** |
| This section should:* Indicate the person/position responsible for the data at the end of the project, e.g. the principal researcher, or some other person / body.
* Describe where the data will be archived for the retention period, e.g. a FedUni repository, server or locked cabinet within a School/organisational unit.
* A listing of the final format of the data, and any supporting documentation that will need to be stored with the data to enable future reuse.

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| Remember to consider the durability of different storage formats and security of locations.  |
| For further information:* Visit [FedUni ResearchOnline](https://researchonline.federation.edu.au/vital/access/manager/Index), FedUni’s institutional repository.
* Read the [NHMRC’s](https://www.nhmrc.gov.au/guidelinesforguidelines/implement/dissemination) and [ARC’s](https://www.arc.gov.au/policies-strategies/policy/arc-open-access-policy) policies on the deposit of research findings.
* Both the [ANDS](http://ands.org.au/datamanagement/storage.html) and [RDSI](http://rdsi.edu.au/) projects have some information on long-term data storage and preservation.
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