

Research Data Management

Data Management Plan



Cyprus
University of
Technology

MEMBER OF



EUROPEAN
UNIVERSITY OF
TECHNOLOGY

This guide was developed to present the fundamental concepts that fall under the term Research Data Management, in order to be used as a tool in the preparation of Data Management Plans.

Research data are the information collected during a research study. This information may include documents, spreadsheets, laboratory notes, interview transcripts, images or videos, samples, codes, or algorithms. They may also relate to observational data, experimental data, or simulations.

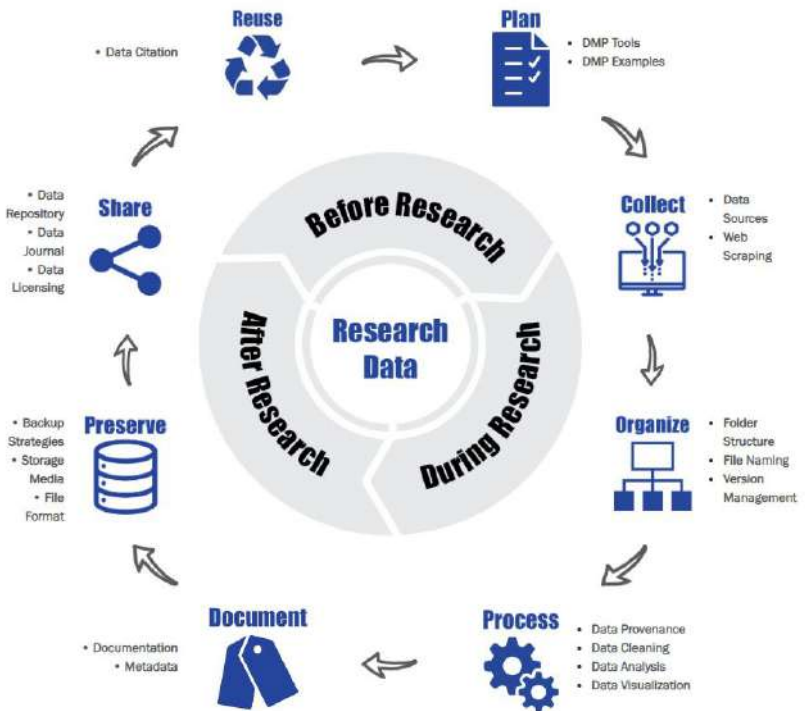
- The term Research Data Management (RDM) refers to the activities and best practices that should be considered during the conduct of research.
- These activities aim to preserve, provide access to, and enable the effective use of research data.
- The adoption of best practices ensures that valuable research data is well organised, understandable, and reusable.



Research Data Management involves a range of activities that take place before, during, and after the completion of a research project that generates data.

The research data lifecycle presented below identifies eight key stages of research data management: **planning, collection, organisation, processing, documentation, preservation, sharing, and reuse.**

Research Data Management is not always a linear process. In practice, it may be necessary to revisit certain stages and repeat specific processes during the implementation of a project.



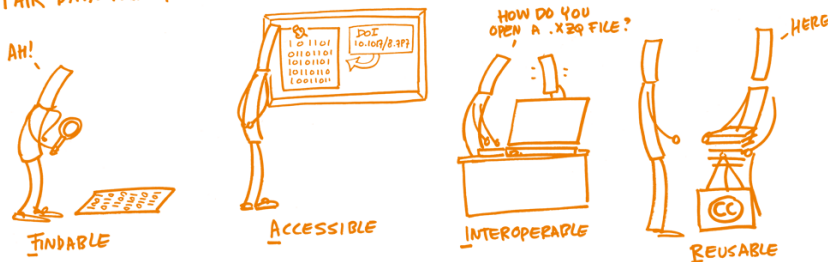
The management and sharing of research data:

- **Increases the impact of your research**
Making research data available to other researchers can enhance the use and significance of your research.
- **Saves time**
Early planning of research data management will save you time and resources.
- **Preserves your data**
Depositing your data in a trusted repository protects the investment of your time and resources in your research and ensures that your findings remain accessible and reusable for future studies.
- **Ensures the integrity of your data**
Proper management and documentation of your data throughout its lifecycle will enable you and others to understand and use it in the future.
- **Meets funder requirements**
Many funders now require the deposition of research data collected within the framework of a research project.
- **Promotes new discoveries**
Sharing your research data may lead to new and unforeseen discoveries while providing research material to those with limited or no funding.
- **Supports open access**
The sharing of research data significantly contributes to research and discovery, while also supporting open access.

What Are FAIR Data?

In order for your research data (and metadata) to be useful they should be as **FAIR** as possible. The acronym **FAIR** stands for **F**indable, **A**ccessible, **I**nteroperable, and **R**eusable. These are a set of guiding principles aimed at optimising the discoverability and reuse of Research Data.

FAIR DATA PRINCIPLES



Source: FOSTER Open Science Training Handbook

The FAIR principles provide the framework for managing the Research Data you intend to share, so that other researchers can locate, understand, and reuse them effectively. Below is a simplified description of what FAIR means. However, we encourage you to consult the original [document](#) for further details.

– Findable

Ensure that your data are discoverable by third parties, that they are accompanied by comprehensive descriptive metadata, and that they have been assigned a persistent identifier, e.g., DOI or Handle.

– Accessible

Both data and metadata should be retrievable through a standardised protocol. They should be understandable to both humans and machines, and stored in a trusted repository through which they can be accessed. If the data cannot be made openly available, at a minimum, the metadata should remain publicly accessible.

– Interoperable

Data and metadata should be interpretable by different tools, applications, and systems through the use of a common, widely recognised language or a standardised protocol for knowledge representation, thereby enabling the exchange and reuse of data among researchers, institutions, organisations, or countries.

– Reusable

A clear license (CC) should be provided that defines the conditions under which third parties may reuse the data. Depositing your research data in the *Institutional Repository KTISIS*, or another repository specified by the project funder, is a good way to help make your data FAIR, as such repositories typically assign a **DOI or Handle**, complete the metadata, and help you define the appropriate license for the reuse of the data.

Does “Open Data” Mean “FAIR Data”?

Although data can be openly available, they are not necessarily FAIR.

Open data allow everyone to **access, use, and share them without restrictions** arising from usage licenses (CC), copyright, or patents. However, in order for more people to benefit from the data we share, we can, for example, assign persistent identifiers (e.g., DOI, Handle), describe them with appropriate metadata, present them in a standardised format, and specify terms for data reuse. Therefore, to maximise the value of the data we share, the data should be FAIR.

On the other hand, **FAIR data do not necessarily have to be openly available to everyone**. Restrictions may apply when data involves commercial interests, personal data, national security issues, or public interest. In such cases, the metadata of the data should still be publicly available, while always including the necessary information that defines the conditions for accessing the research data.

- A Data Management Plan (DMP) is an **official document** created during the proposal phase of a research project, describing how Research Data will be collected, managed, documented, preserved, and shared.
- A well-prepared DMP ensures that your research results remain available and accessible after the completion of the project. In addition, their publication will enhance the value of your research and increase the likelihood of it being used by other researchers.

Why Is a Data Management Plan Necessary?

Data Management Plans (DMPs) ensure that the Research Data of a project are created, managed, documented, shared, and preserved in a way that allows them to be easily understood and reused. Thus, a “roadmap” is created that describes the path of the Data from planning to preservation, always based on good practices.

It is now a fact that an increasing number of funding agencies require researchers to prepare a DMP and submit it together with the research proposal. This ensures that the valuable data collected in funded projects can be reused by other research teams, thereby maximising the return on investment.

Moreover, considering that open-access articles with associated data receive more citations, many journal publishers require researchers to deposit the supporting data of their articles in an open repository in order to enhance their accessibility and impact.

Although in many cases the creation of a DMP is not mandatory, it can still **serve as a valuable** tool that will assist you in the following ways:

- **A useful reference point for you**
A DMP can serve as a document that supports planning and decision-making regarding the management of research data.

– **Consistency of research practices across the team**

A DMP ensures consistency in the way data are handled among all project members.

– **Facilitating data sharing with others**

A DMP allows you to plan, from the early phases of your project, the format, structure, storage, and sharing of data, thereby facilitating their exchange with your collaborators as well as with other potential users/researchers in the future.

DMP Best Practices



PREPARE YOUR DMP EARLY

It is preferable to prepare your DMP at the beginning of the research project. However, it is never too late to start during the research process – better late than never.



A DMP IS A DYNAMIC DOCUMENT

A DMP needs to be reviewed regularly – reassessed, updated, and improved according to the actual needs that arise as the project progresses.



A DMP DOES NOT NEED TO BE COMPLICATED

Keep your DMP practical and simple so that it reflects the way you will manage your data. Use online tools for your convenience to create a DMP.

**BE MINDFUL OF DMP LENGTH CONSTRAINTS**

Some funders may impose length limitations on a DMP. You can use the funder's DMP template as a model while also developing additional sections with more information for your team's reference.

**DEVELOP AN IMPLEMENTATION PLAN FOR THE DMP**

It is good to include policies in the DMP, but it is more important to state how these policies will be implemented.

**SEEK ADVICE FROM YOUR PEERS**

A DMP can be improved through collaboration. You can obtain valuable feedback to improve your DMP by asking for the opinion of a second person.

Writing a DMP

Depending on the project, a DMP can be very simple (one page or less) or very detailed (several pages).

In a DMP that is part of a funded project, you can budget expenses that contribute to improving the management, sharing, and preservation of research data. For example, this may include staff time, software, technology, and resources aimed at making the data openly available.

Key Elements of a Data Management Plan

CATEGORY	QUESTIONS/ CONTENT
Data Description	<ul style="list-style-type: none"> – What data will be collected, created, or generated? – Data formats (e.g., text, images, audio, video, spreadsheets, databases) – Estimated data volume
Standards and Metadata	<ul style="list-style-type: none"> – Which metadata standards or schemas will be used? – How will the data be described (e.g., naming conventions, vocabularies, data dictionaries)? – Is there any controlled vocabulary or ontology?
Data Storage and Security	<ul style="list-style-type: none"> – Where and how will the data be stored during the project? – Backup procedures? – Security measures (e.g., encryption, access control) – Who will have access to the data?
Access and Sharing Policies	<ul style="list-style-type: none"> – Will the data be shared? If yes, how and when? – Are there any restrictions (e.g., privacy, legal constraints, copyright)? – Licensing terms (e.g., Creative Commons)

Key Elements of a Data Management Plan

CATEGORY	QUESTIONS/ CONTENT
Responsibilities and Resources	<ul style="list-style-type: none">– Who is responsible for data management?– What resources are required (e.g., storage space, software, personnel)?
Archiving and Preservation	<ul style="list-style-type: none">– Where and how will the data be stored long-term?– Which data will be preserved and for how long?– Selected file formats for preservation
Ethical and Legal Compliance	<ul style="list-style-type: none">– How will compliance with ethical and legal requirements be ensured?– How will consent, anonymisation, or protection of sensitive data be ensured?



EDITING

Anna Charalampous
Library and Information Services

GRAPHIC DESIGN & LAYOUT

Stephani Stylianou
EUT+ Coordination Center

PRODUCTION

EUT+ Coordination Center

Copyright © 2026 – Cyprus University of Technology



LIBRARY AND INFORMATION SERVICES

Anna Charalambous

anna.charalambous@cut.ac.cy

library.cut.ac.cy/