



argos

Data Management Plans – Part 1

Elli Papadopoulou
ARGOS Product Manager

argos

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EPIsciences

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zenodo

+ MONITOR

open @ppc

OpenPlato

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amnesia



@openaire_eu



Data Management Plans: what's the hype?



What is a DMP?

A document that outlines the necessary activities, means, and effort required to manage research data effectively

“Living document”	Project Deliverable
The content of the DMP is modified according to the data developments until the project ends.	Public funders increasingly require DMPs to be produced and delivered by beneficiaries as part of their grant obligations.

Why do we need DMPs?

- To better **plan** and **track** data activities: collection, storage, sharing, preservation.
- To **comply** with institutional, funder, and ethical requirements.
- To make data **reproducible** and increase their impact in society.



DMPs and RDM

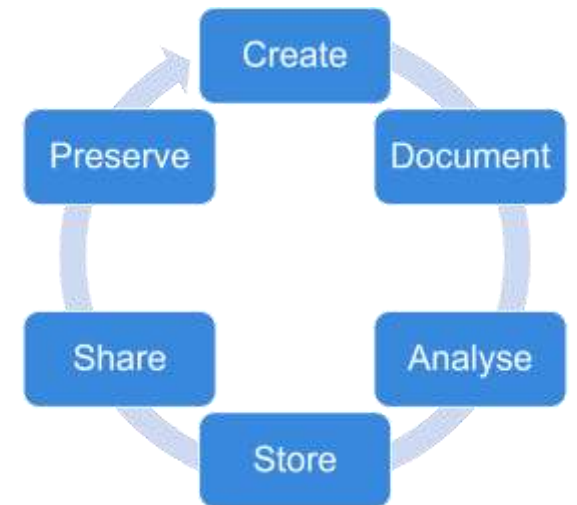
RDM (Research Data Management) is the process of *organising, storing, preserving, and sharing* data in a research project. Data might be collected, generated or re-used (secondary) throughout research.

DMPs in RDM - First stage of RDM

DMPs are drafted at the beginning of the project and implemented throughout its lifetime.

DMPs for RDM - Describe RDM activities

DMPs outline and contain information about all RDM activities to be followed in the project.



<https://www.openaire.eu/rdm-in-horizon-europe-proposals>

DMPs content

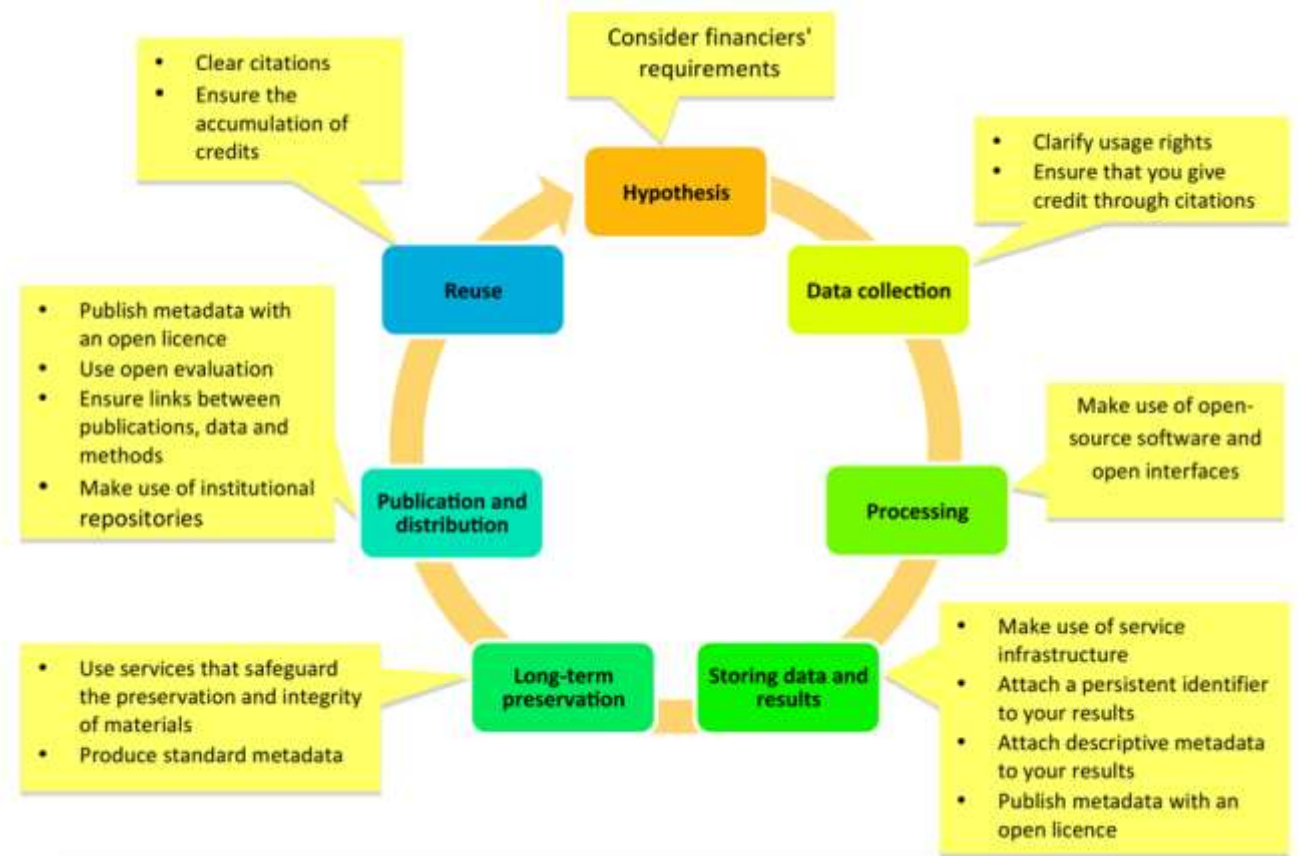
USE – MAKE – SHARE Framework

[Use] What tools and resources will I use?

[Make] What outputs will I produce?

[Share] How am I going to share them?

[Ref: NASA TOPS Open Science Curriculum, 2023]

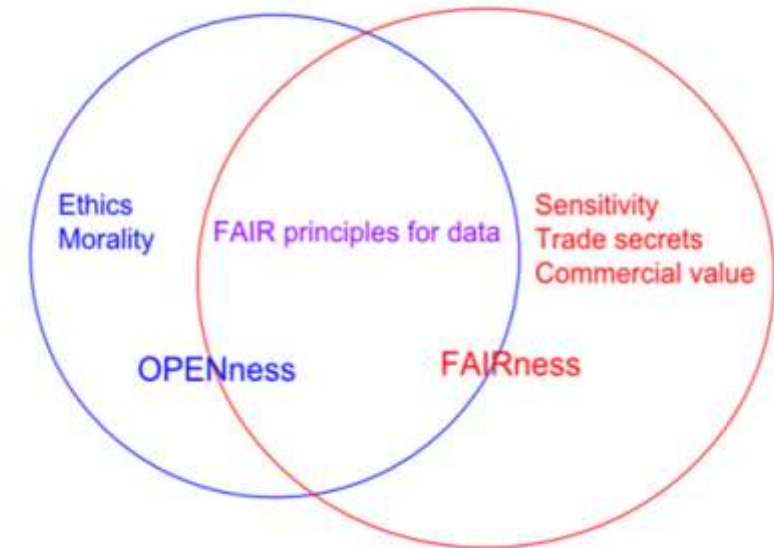


[Ref: Open Science and Research Initiative, 2014]

FAIR Principles vs Open Access



[Ref: Wilkinson, M. et.al., 2016]



[Ref: <https://eoscpilot.eu/content/d32-eosc-open-science-monitor-specifications>]

What is a DMP Template?

A DMP Template is a prototype file with questions and guidance to support researchers with filling in the DMP with content.

-> Templates offer researchers a more structured way to provide input in their DMPs.

DMP Templates may be provided by funders and institutions that have RDM policies in place; Librarians, data stewards and support staff might also create DMP Templates to help researchers.

What are the key topics and questions?

- **1. Data description and collection or re-use of existing data**
 - a. How will new data be collected or produced and/or will existing data be re-used?
 - b. What data (for example the kinds, formats, and volume) will be collected or produced?

- **2. Documentation and data quality**
 - a. What metadata and documentation (for example methodology of data collection and way of organizing data) will accompany data?
 - b. What data quality control measures will be used?

- **3. Storage and backup during the research process**
 - a. How will data and metadata be stored and backed up during the research process?
 - b. How will data security and protection of sensitive data be taken care of during the research?

- **4. Legal and ethical requirements, codes of conduct**
 - a. If personal data are processed, how will compliance with legislation on personal data and on data security be ensured?
 - b. How will other legal issues, such as intellectual property rights and ownership, be managed? What legislation is applicable?
 - c. How will possible ethical issues be taken into account? What codes of conduct followed?

- **5. Data sharing and long-term preservation**
 - a. How and when will data be shared? Are there possible restrictions to data sharing or embargo reasons?
 - b. How will data for preservation be selected, and where will data be preserved long-term (for example a data repository or archive)?
 - c. What methods or software tools will be needed to access and use the data?
 - d. How will the application of a unique and persistent identifier (such as a Digital Object Identifier (DOI)) to each data set be ensured?

- **6. Data management responsibilities and resources**
 - a. Who (for example role, position, and institution) will be responsible for data management (i.e. the data steward)?
 - b. What resources (for example financial and time) will be dedicated to data management and ensuring that data will be FAIR (Findable, Accessible, Interoperable, Re-usable)?

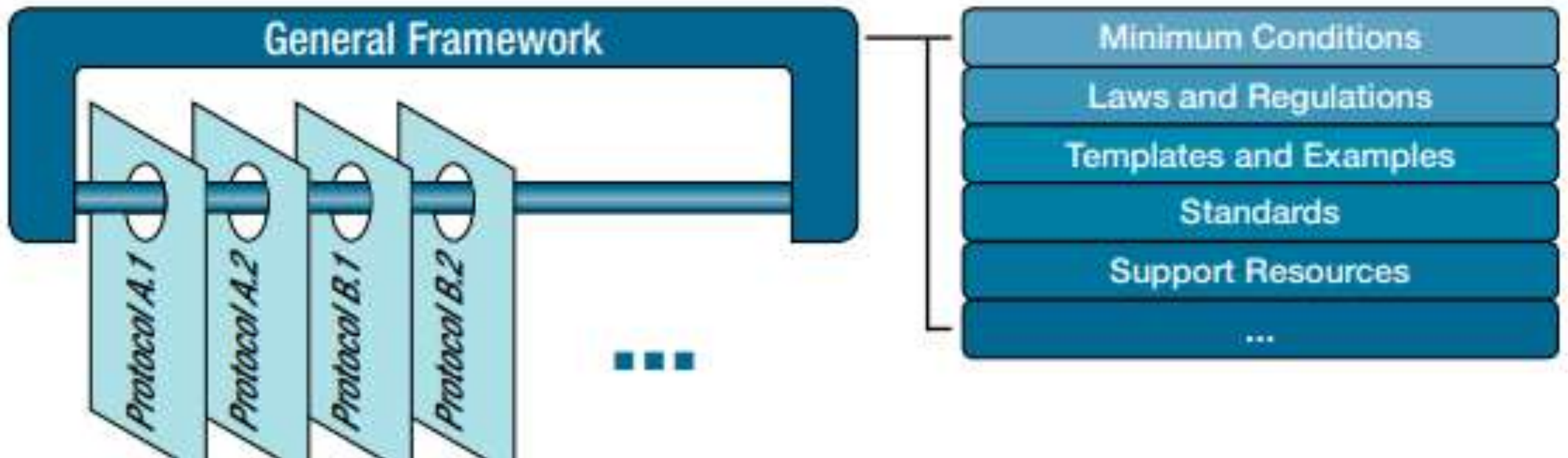


Checklist

- **Clarity:** Questions should be straightforward and easy to understand.
- **Relevance:** Tailor questions to the specific context of the research project.
- **Compliance:** Ensure alignment with funding agency requirements and institutional policies.
- **Completeness:** Cover all aspects of data management, from creation to sharing and preservation.
- **Specificity:** Use precise language to avoid ambiguity.

What are Domain Data Protocols?

- Tailored to the context



Costing DMP activities

Plan data management of research activities following research data lifecycle steps

❑ Costing RDM

- ❑ **Preparing (DMP)**
- ❑ **Data collection**, eg database, formatting, transcription, etc
- ❑ **Data documentation**, eg data description, metadata
- ❑ **Data storage and back-up**
- ❑ **Data access and security**, eg TTP, encryption
- ❑ **Data sharing & reuse**, eg anonymization, copyright, cleaning, digitization
- ❑ **Overall**, eg roles & responsibilities



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What will it cost to manage and share my data?

✓ What to cost in?

- Infrastructure costs**
 - Digitisation
 - Storage
 - Licensing and Security
 - Sharing and Re-use
 - Archiving
- Skills costs**
 - Data wrangling
 - Description and Documentation
 - Metadata generation
 - Formatting and Cleaning
 - Consent and Anonymisation

A Data Management Plan (DMP) can help to identify activities and potential costs at the outset of your project. Identifying RDM costs before you begin the project ensures that you will be able to request adequate funds to support good data management and enable data sharing.

Things to consider...

- Eligible costs:** When applying for funding, remember that there are typically two types of eligible costs: 'Direct costs', usually referring to staff time, travel, equipment, etc., and 'Indirect costs', generally covering things like administrative and financial management.
- Avoid 'double dipping':** Most funders will cover justifiable costs related to RDM. However, if something is covered by indirect costs (e.g. institutional storage) you can't also claim it as a direct cost. Check with your institution on how best to include these in grant proposals.

Useful costing guides:

- OpenAIRE: How to identify and assess Research Data Management (RDM) costs
- LCRDM: Guide Research Data Management and Costs
- Horizon 2020 Costing Guide
- UK Data Service: Data management costing tool and checklist

✓ Who can help you to estimate costs?

What is a good DMP?



THANKS

Email

elli.p@athenarc.gr

Twitter

[@elli_lib](https://twitter.com/elli_lib)

ORCID

[0000-0002-0893-8509](https://orcid.org/0000-0002-0893-8509)