

## LCRDM criteria for a Data Management Plan (DMP)

### Introduction

Universities, colleges of higher vocational education, research institutes and research financiers<sup>1</sup> use many different DMP templates. The LCRDM's [Onderzoeksondersteuning en Advies \(Research Support and Advice\) workgroup](#) does not wish to add a new template to that list. However, the workgroup does want to establish national consensus on what constitutes a 'good' DMP template. To that end this document lists a number of basic criteria a DMP template must comply with. The criteria can be used by institutes who wish to develop or improve a DMP template<sup>2</sup> and researchers who need to select one. How a template relates to FAIR is also indicated.

### The added value of a DMP

The use of a DMP offers researchers added value in different ways:

1. Tool: a good DMP is primarily an aid for researchers. It stimulates researchers to consider all aspects of collecting and storing their research data, provides information and refers to helpful sources.
2. Legitimacy: by using a DMP, a researcher can show various parties involved with the research (the own institute, financiers, possible partners) that he or she is using funds and/or data made available for the research project in a responsible way.
3. Budget: thinking about data management in the project application phase gives insight in possible costs that need to be evaluated.
4. Quality: taking into consideration the questions posed by a DMP and following the advice provided, contributes to a high quality data set. However in itself, a filled-out DMP does not guarantee quality; the plan must be followed through.
5. Support: a completed DMP helps a researcher gain a clear picture of what support is needed (ICT, library, legal, ...). Vice versa, research support services can better coordinate their assistance and capacity to the research<sup>3</sup> being undertaken.

The sooner one considers data management, the more value a DMP has. It is advisable to draw up an initial paragraph to accompany a research application and a completed DMP should be added to a definite research plan. The scope of a DMP must be proportionate to the size and nature of the project: for a short, half-year study, one page should suffice, while a large-scale, multi-year project requires a more detailed DMP.

Just like a research plan, a DMP's added value is best utilized as a living document that can be amended at different points in time. Questions that are not relevant or cannot be answered at the start of the research, could well be topical in a later version.

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<sup>1</sup> Over time various inventories have been made, you can find a summary [here](#)

<sup>2</sup> For easy reading we will use the general term 'DMP'. The context will make clear if a template or a completed plan is referred to.

<sup>3</sup> Expectations are that in the future the processing of DMP's will be aided by increasingly more tools, including convenient links to, for example, ICT planning or data repositories.

## Criteria

The following table lists the criteria for a good DMP. The sequence of data can differ from one DMP to the next.

Table 1: Criteria for a data management plan

Subject	Criterion	Relation with FAIR
General data	The DMP contains questions about the research project and the researcher concerned. If the template is part of a digital tool, it is possible to formulate different versions of the plan over the course of time. The DMP asks who is responsible for the data management and (ideally) in which way the DMP remains topical.	Not applicable
Planning	The DMP contains questions about the data management activities that need to be carried out prior to the research, like planning, budget, organization (how are roles and responsibilities concerning data management delegated?), schooling and applicable guidelines.	Not applicable
Costs	The DMP inventorizes if costs for data management should be included in the project budget, for example expenses for facilities, training and archiving after completion of the project.	Not applicable
Collecting data/reuse of existing data	The DMP asks if existing data are reused in the project. The DMP also contains further questions about different aspects of data collection, like the different sorts of data, how data is created, size, which formats are used, quality assurance and reproducibility. In addition, DMP asks after tools used and developed software (software sustainability).	Formats and used tools: (Interoperability)
Documentation (meta data)	The DMP contains questions about how the researcher plans to describe the data so that future users can understand and apply it. Depending on the type of data and field of discipline, this may refer to meta data standards (e.g. Dublin Core) and/or machine interoperability.	F(indable) I(nteroperable) R(eusable)
Storage	The DMP contains questions about the utilized storage facilities, backup, file names, directory structure and version control.	Nomenclature, structure, versions: R(eusable)
Access	The DMP contains questions about how <u>during</u> research, data is made accessible to <u>research partners</u> and how it is safeguarded.	Not applicable. (see 'Sharing')
Sharing	The DMP contains questions about the sharing of research data with the outside world during and after the research, for example who is interested in the data, how it can be found and how sharing takes place.	F(indable) A(ccessible)
Archiving	The DMP contains questions about the archiving of data: how data is selected/reduced, according to which retention period, under which license and in which repository. The DMP also asks in which way the data set can be uniquely identified for reference in publications.	A(ccessible) I(nteroperable) if kept up-to-date
Ethical/legal	The DMP contains questions about ethical and legal preconditions (including privacy and intellectual ownership) that play a role in the collection, storage, sharing and archiving of data.	Limits to A(ccessibility)
Help	The DMP contains information about the questions posed with possible references to helpful sources (information, supportive partners). If possible, optional answers will be provided along with the questions that clarify the required standard and steer the researcher in the right direction. Ideally this information focuses on the domain and the institute where the researcher is active.	FAIR clarification but not further applicable

