

## DATA MANAGEMENT PLAN GUIDELINES

**Data management plan (DMP):** A document describing the manner in which research data will be treated during as well as after the completion of research projects. The purpose of the DMP is to ensure that CPUT comply with all the legal, ethical, and contractual obligations and promote best practice of managing research data.

### 1. Data Summary

- Define the data collection tools that will be implemented in the project. Data collection tools refer to the devices/instruments used to collect data, such as a paper questionnaire or computer-assisted interviewing system. Case Studies, Checklists, Interviews, Observation sometimes, and Surveys or Questionnaires are all tools used to collect data.
- Define the data collection methods that will be used in the project e.g. Qualitative/Quantitative Research Method. Data collection is a methodical process of gathering and analysing specific information to proffer solutions to relevant questions and evaluate the results. It focuses on finding out all there is to a particular subject matter. Data is collected to be further subjected to hypothesis testing which seeks to explain a phenomenon.
- Clearly state the purpose of the data collection and its relation to the objectives of the project.
- Identify the types and formats of data that will be generated e.g. Observational Data, Experimental Data, Derived / Compiled Data etc.
- Identify the expected size of the data to be collected and identify whom might this data be useful to.

### 2. Data Compliance policies

The researchers need to comply with the following data protection policies:

- **POPIA:** The purpose of the Protection of Personal Information Act (POPIA) is to protect people from harm by protecting their personal information. To stop their money being stolen, to stop their identity being stolen, and generally to protect their privacy, which is a fundamental human right. Effective from 1 July 2020.

**N.B** If the researcher will collect data from people in the EU this policy should be observed:

- **GDPR:** European Union (EU) General Data Protection Regulations (GDPR), effective from 25 May 2018.

### 3. Definitions

- **Data management plan (DMP):** A document describing the manner in which research data will be treated during as well as after the completion of research projects.
- **Data subject:** Any individual person who can be identified, directly or indirectly, via an identifier such as a name, an ID number, location data, or via factors specific to the person's physical, physiological, genetic, mental, economic, cultural or social identity.
- **Data transfer agreement (DTA):** A contract between the providing and recipient institutions that governs the legal obligations and restrictions, as well as compliance with applicable laws and regulations, related to the transfer of such data between the parties and the use thereof.
- **Data steward:** Responsible for data management, the expert handling of data processing, administering in compliance with policy and regulatory obligations. The data steward knows how the data is collected, maintained, and interpreted. CPUT automatically assigns the Principal Investigator (PI) as steward of the data.
- **Data sharing:** Peer-to-peer transmission of data privately between researchers and other parties.
- **Coded or de-identified data:** Data of which the identifiers have been replaced with a unique number or code and a key exists to decipher the code, allowing the code to be traced back to a specific participant or donor.
- **Anonymous data:** Data collected by researchers without any identifying information and without a link to a specific participant or donor.
- **Administrative data:** Data which are derived from the operation of administrative systems at the university (e.g. data collected for the purposes of registration, transaction and record keeping).
- **Consent:** Any voluntary, specific and informed expression of will in terms of which permission is given for the processing of personal information (POPIA, 2013).

### 4. FAIR data principles:

The CPUT data management plan will follow the FAIR data principles:

The research data must be:

**F- Findable**

**A- Accessible**

**I- Interoperable**

**R- Reusable**

#### **4. 1. Making data findable, including provisions for metadata**

- Is the data produced and/or used in the project discoverable with metadata, identifiable and locatable by means of a standard identification mechanism (e.g. persistent and unique identifiers such as Digital Object Identifiers)?
- What naming conventions do you follow?
- Will search keywords be provided that optimize possibilities for re-use?
- Do you provide clear version numbers?
- What metadata will be created? In case metadata standards do not exist in your discipline, please outline what type of metadata will be created and how.

#### **4.2. Making data openly accessible**

- Which data produced and/or used in the project will be made openly available as the default? If certain datasets cannot be shared (or need to be shared under restrictions), explain why, clearly separating legal and contractual reasons from voluntary restrictions.
- Note that in multi-beneficiary projects it is also possible for specific beneficiaries to keep their data closed if relevant provisions are made in the consortium agreement and are in line with the reasons for opting out.
- How will the data be made accessible by deposition in a repository e.g. Figshare?
- What methods or software tools are needed to access the data?
- Is documentation about the software needed to access the data included?
- Is it possible to include the relevant software (e.g. in open source code)?
- Where will the data and associated metadata, documentation and code be deposited? Preference should be given to certified repositories which support open access where possible.
- Have you explored appropriate arrangements with the identified repository? If there are restrictions on use, how will access be provided?
- How will the identity of the person accessing the data be ascertained?

#### **4.3. Making data interoperable**

- Are the data produced in the project interoperable, that is allowing data exchange and re-use between researchers, institutions, organisations, countries.
- What data and metadata vocabularies, standards or methodologies will you follow to make your data interoperable?
- Will you be using standard vocabularies for all data types present in your data set, to allow inter-disciplinary interoperability?
- In case it is unavoidable that you use uncommon or generate project specific ontologies or vocabularies, will you provide mappings to more commonly used ontologies?

#### **4.4. Increase data re-use (through clarifying licences)**

- Clarify how will the data be licensed to permit the widest re-use possible.
- When will the data be made available for re-use? If an embargo is sought to give time to publish or seek patents, specify why and how long this will apply,

bearing in mind that research data should be made available as soon as possible.

- Are the data produced and/or used in the project useable by third parties, in particular after the end of the project? If the re-use of some data is restricted, explain why.
- How long is it intended that the data remains re-usable?
- Describe data assurance processes.

## **5. Allocation of resources**

- Who will be responsible for data management in your project?
- Are the resources for long term preservation discussed e.g. cost of data storage and potential value?
- Who decides and how what data will be kept and for how long?

## **6. Data security**

- What provisions are in place for data security (including data recovery as well as secure storage and transfer of sensitive data)?
- Is the data safely stored in certified repositories for long term preservation and curation?

## **7. Ethical aspects**

- Are there any ethical or legal issues that can have an impact on data sharing? These can also be discussed in the context of the ethics review.
- Is informed consent for data sharing and long-term preservation included in questionnaires dealing with personal data?

## 8. DMP CREATION/COMPLETION GUIDE

### 8.1. How to log in

1. Go to the homepage of the “CPUT Libraries” website, click on “Research Support”, click on Data management plan tool at:

Follow the link this direct link: <https://www.cput.ac.za/lib/research-support>

2. Click on the Data management plan tool icon.
3. Use your institutional single sign on credentials to log in.
4. You will be taken to the SAFIRE single sign on screen the first time you log in.

8.2. Click on “create plan”. Note that after completing each section you can **save** the form.

The screenshot displays the 'Data Management Plan' interface for Cape Peninsula University of Technology. At the top, there is a navigation bar with the title 'Data Management Plan' and the university name. Below this, a notification states: 'Notice: Successfully authenticated from Your institution credentials account.' The main section is titled 'My Dashboard' and includes a brief description: 'The table below lists the plans that you have created, and that have been shared with you by others. You can edit, share, download, make a copy, or remove these plans at any time.'

Project Title	Template	Edited	Role	Test	Visibility	Shared	
Higher Education	CPUT DATA MANAGEMENT PLAN	24-11-2020	Owner	<input checked="" type="checkbox"/>	N/A	Yes	Actions

At the bottom left of the dashboard, there is a 'Create plan' button. A callout bubble points to this button with the text: 'Click on "create plan"'

### 8.3. Complete the Data management plan.

Data Management Plan

Cape Peninsula University of Technology

### Create a new plan

Before you get started, we need some information about your research project to set you up with the best DMP template for your needs.

\* What research project are you planning?

Higher Education  mock project for testing, practice, or educational purposes

\* Select the primary research organisation

Cape Peninsula University of Technology  No research organisation associated with this plan or my research organisation is not listed

\* Select the primary funding organisation

Self-funding  No funder associated with this plan or my funder is not listed

Create plan Cancel

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8.4. Please note that under “**Data contact Person**” field you have an option to select the Principal Investigator and add the contact details. If you do not tick the form, you will be required to capture the data contact person details.

Cape Peninsula University of Technology

Notice: Successfully created the plan.  
This plan is based on the Cape Peninsula University of Technology: 'CPUT DATA MANAGEMENT PLAN' template.

## test

Project Details Plan overview Data Management Plan Medical Research Council (MRC) Share Download

\* Project title

test  mock project for testing, practice, or educational purposes

Funder

Grant number

Grant number:

Project abstract

ID

312

Principal Investigator

Name

Xesi Xabiso

ORCID ID

Email

xabisox@cput.ac.za

Phone

Data Contact Person

Same as Principal Investigator

Save

Select Guidance

There is no additional guidance for this template.

If you are the Principal Investigator you can tick the form

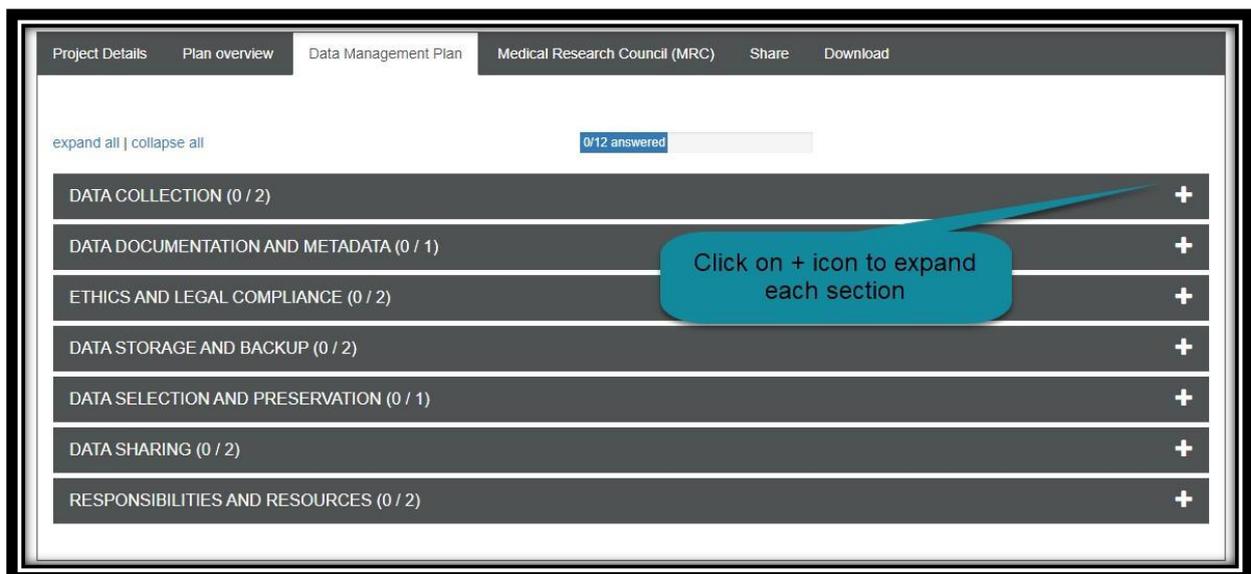
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UC3

**8.5.** Click on the plus button to expand the form. Then you can click on the “write” button on the top right corner on your screen



**8.6.** Click on the + button to expand each section of the form.



8.7. Answer the data collections questions and save the answers. Please note that you have an option to make comments whereby you can share them with your collaborators.

8.8. The researcher can invite other collaborators and grant the preferred user rights. A system generated email will be sent to your collaborators when captured on the place holder. The researcher can also removed collaborators if they are no longer part of the research and the system send a notification to the ex-collaborator.

Email address	Permissions	
xabisox@cpu.ac.za	Owner	
xesi.xp@gmail.com	Co-owner	Remove

**8.9.** When done completing the Data Management Plan you can click on the “submit” button.

The screenshot shows a web interface with a navigation bar at the top containing: Project Details, Plan overview, Data Management Plan, Medical Research Council (MRC), Share, and Download. The main content area is divided into three sections:

- Set plan visibility**: A heading followed by a paragraph explaining visibility options. Below are three radio button options:
  - Private: visible to me, specified collaborators and administrators at my organisation
  - Organisation: anyone at my organisation can view
  - Public: anyone can view
- Manage collaborators**: A heading followed by a paragraph: "Invite specific people to read, edit, or administer your plan. Invitees will receive an email notification that they have access to this plan." Below is a table:

Email address	Permissions
xabisox@cput.ac.za	Owner
- Invite collaborators**: A heading followed by a form with two fields:
  - \* Email**: A text input field.
  - \* Permissions**: Three radio button options:
    - Co-owner
    - Editor
    - Read onlyBelow the form is a **Submit** button. A teal callout bubble with the text "Click on 'submit'" points to this button.