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RESEARCH DATA MANAGEMENT POLICY UNIVERSITY OF TWENTE

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1 INTRODUCTION

Good research data management (RDM) makes scientific processes and output more transparent and improves scientific integrity and societal trust. Stemming from the Dutch National Coalition Agreement in 2017, Open Science is considered as normative for research output generated in the Netherlands. This was emphasized in the launch of the 'Regieorgaan Open Science NL' in 2023 as a governance and funding organ for Open Science initiatives. The guiding principle of Open Science is that all scientific output should be shared 'as openly as possible, as closed as necessary'. Regarding research data, the University of Twente (UT) is committed to the <u>FAIR principles</u>, ensuring data's Findability, Accessibility, Interoperability and Reusability.

The UT RDM policy aims to create a culture where responsible and transparent research data management is at the forefront. In this culture, all employees involved in research at the UT, either on operational or strategic level, are aware that RDM is crucial for advancing science in general. Furthermore, good RDM enables verifiable and reproducible research and improves visibility and impact of the academic work of UT researchers.

This policy serves as a framework for proper and responsible handling of research data and further outlines the basic principles and regulations of RDM. It also acts as an overarching policy in support of faculty specific RDM policies (formulated for faculty-specific disciplines, roles and responsibilities). In case of inconsistencies or updates, this overarching UT RDM policy supersedes faculty <u>policies</u>.

Comprehensive definitions of main terms can be found in the glossary (in alphabetical order).

General information and detailed practical guidance on managing research data can be found at <u>Research Data Management | Service Portal | University of Twente (utwente.nl).</u>

2 PRINCIPLES

This policy departs from the following principles regarding research data management.

FAIR-Principles Adoption: In line with FAIR principles, research data must be organized and documented in a way that makes it easy to find, access, use across different platforms, and with a goal of reuse.

Public Data Classification: Unless specific confidentiality requirements apply, research data is considered public domain. However, exceptions to this might arise from situations such as safeguarding proprietary information from collaborating entities, data pertaining to human subjects requiring ethical protection, etc.

Data Sharing Culture: Open Science means that researchers are encouraged and recognized for their commitment to data sharing. Sharing research data is a fundamental aspect of scholarly collaboration.

Third Party Involvement: In case of third-party involvement, roles and responsibilities regarding research data management must be included in agreements. Good research data management is the shared responsibility of all parties involved. When a set of research data is protected by intellectual property rights (e.g. copyrights or database law), such rights shall vest in the UT, unless otherwise stated in the consortium agreement.

3 **REGULATIONS**

Guided by the basic principles of research data management described above, this section is dedicated to the policy regulations for effective research data management. Practical information regarding each regulation can be found by following the links under each section.

3.1 AWARENESS, KNOWLEDGE AND PLANNING

- Awareness and Knowledge: Every PhD candidate follows the <u>TGS-course</u> as preparation for writing a <u>data management plan (DMP)</u>.
- Planning: Every research project must have a DMP, based on specific RDM regulations and procedures at the nearest organizational level in the faculty. The DMP should be kept up-to-date.

Practical information on RDM planning and preparation can be found <u>here</u>.

3.2 PERSONAL DATA

 When working with personal data (data related to identified or identifiable natural living persons) the researcher must adhere to the <u>General Data Protection Regulation (GDPR)</u>, in Dutch: Algemene Verordening Gegevensbescherming (AVG) and the UT <u>Research Ethics Policy</u>.

Practical information on personal data in research and GDPR registration can be found here.

3.3 DATA STORAGE AND SAFETY

- All collected and generated research data, including related materials (e.g. protocols, models or questionnaires), must be stored in ISO 27001- and NEN 7510-certified facilities offered by UT-ICT services (LISA).
- Personal, confidential or classified research data and related materials, such as consent forms, must be stored in accordance with relevant Dutch legislation and European regulation and the <u>VSNU Conduct code for the use of personal data in scientific research</u> on the certified UT facilities mentioned above.
- Non-digital research data and related materials, such as physical samples and lab notebooks, must be stored in accordance with clearly described procedures within the organizational unit and/or project.
- Digital and/or non-digital research data access management must be arranged in such a way that apart from the researcher, it can be accessed by at least one other member of the organizational unit.
- Non-certified storage facilities, such as local drives, should be used for work copies only. Local drives must be encrypted to prevent data breach (as much as possible).

Practical information on data storage can be found <u>here</u>.

Practical information on data safety can be found at Protecting data and Data Breach.

Practical information on handling physical (human/biological) materials can be found at <u>TechMed</u> <u>Centre | Research Support</u>.

3.4 DATA SHARING

• In the event of contractual agreements with third parties, such as Non-Disclosure Agreement

and Data Sharing Agreement, arrangements must be made about sharing data, for verification and reproducibility purposes.

• Personal, confidential or classified research data and related materials, such as consent forms, must be shared in accordance with relevant Dutch legislation and European regulation and the <u>VSNU Conduct code for the use of personal data in scientific research</u>.

Practical information on data sharing can be found <u>here</u>.

3.5 DATA PUBLISHING

- Whenever possible, research data, accompanied by metadata and documentation, should be published in a trusted data repository.
- Datasets underlying PhD theses must be published in a trusted repository, with due observance of the law and regulations concerned and possible limiting conditions in agreements with third parties.

Practical information on data publishing can be found <u>here</u>.

3.6 DATA PRESERVATION (OR ARCHIVING)

- Selected digital and non-digital static research data and related materials, accompanied by metadata and documentation, must be archived in secure UT-facilities for at least 10 years, unless otherwise indicated by legal or contractual regulations. (see Netherlands Code of Conduct for Scientific Practice and NWO funding requirements)
- Datasets underlying a PhD thesis must be preserved in UT-facilities. (see <u>Doctoral Regulations</u>, <u>article 17c</u>)
- In the event of contractual agreements with third parties, such as Non-Disclosure Agreement and Data Sharing Agreement, arrangements must be made for archiving data, for verification and reproducibility purposes.

Practical information on data preservation can be found <u>here</u>.

3.7 DATA REGISTRATION

In addition to being preserved (archived) or published, selected digital and/or non-digital
research data must be registered and described with metadata, including a link or reference
to its location. At UT, this is facilitated through registration in the Pure Research Information
System. Questions regarding correct registration should be directed to the <u>Pure faculty
managers</u>.

Practical information on data registration via Pure can be found <u>here</u>.

4 ROLES AND RESPONSIBILITIES

This section provides a comprehensive view of roles and responsibilities of stakeholders involved in research data management.

4.1 RECTOR MAGNIFICUS

- ensures the establishment and maintenance of the UT RDM policy which contributes to scientific integrity and societal trust, and
- facilitates and monitors the implementation of the UT RDM policy as a framework for good

research data management on other levels in the university.

4.2 FACULTY BOARD

- ensures the existence of RDM regulations and procedures at one or more organizational levels in the faculty as implementation of the UT RDM policy, and in accordance with legal, contractual and ethical rules and regulations,
- ensures the execution and updating of the RDM regulations and procedures in the faculty in accordance with legal, policy and ethical rules and regulations,
- ensures the availability of the necessary resources, facilities and support for data management in the faculty, and
- ensures awareness and knowledge of RDM regulations and procedures in the faculty at the desired level.

4.3 HEAD OF THE RESEARCH GROUP

- ensures that every research project under their supervision has an associated DMP, which needs to be regularly updated and followed by all project members,
- creates awareness and retains knowledge of the group or other relevant RDM regulations and procedures in the faculty, and data management in general, in the research group at the desired level,
- ensures the existence of RDM regulations and procedures on the level of his or her own research group or disseminating information in the group about RDM regulations and procedures on other level(s) in the faculty,
- ensures the proper execution and updating of the group RDM regulations and procedures (if available),
- ensures the execution of data management in the research group in accordance with the group regulations and procedures or other relevant RDM regulations and procedures in the faculty and with legal, policy and ethical rules and regulations,
- ensures the proper selection and persistent availability of data of all projects of the research group for the purpose of verification/ reproducibility and reuse, and
- ensures the availability of the necessary resources, facilities and support for data management in the research group.

4.4 SUPERVISOR

- ensures that every research project under their supervision has an associated DMP, which needs to be regularly updated and followed by all project members,
- ensures the compliance of the DMP and monitors the execution and updating of the DMP in accordance with the relevant RDM regulations and procedures in the faculty/university, and with legal, contractual and ethical rules and regulations,
- ensures that PhD candidates make all data and code underlying their completed PhD thesis available and accessible for at least 10 years after the end of the project (unless there are valid reasons which make research data unsuitable for sharing),
- checks the availability of the collected or generated digital and non-digital research data and

related materials,

- ensures that any agreements with external funding agencies, commercial companies or other third parties allow compliance with the relevant RDM principles as described above in this policy, and
- ensures the availability of the necessary resources, facilities and support for data management within the research project.

4.5 RESEARCHER

- obtains and maintains knowledge of research data management,
- writes a data management plan (DMP) associated with their research project, in accordance with the RDM regulations and procedures of the nearest organizational unit in the faculty,
- guarantees the availability of the collected or generated digital and non-digital research data and related materials (unless there are valid reasons not to do so),
- ensures proper documentation of research data in accordance with the FAIR principles,
- acts in accordance with the Personal Data Protection Act (GDPR) and other legal, contractual and ethical rules and regulations (if applicable), and
- budgets the costs and time investment for data management, develops and adopts appropriate procedures and processes for collecting, documenting, storing, processing, using, accessing and sharing of the collected or generated research data and for selecting and archiving the research data.

RDM SUPPORT RESPONSIBILITIES

On all levels, the execution of the RDM policy and operational RDM responsibilities are supported by members or organizational units within the faculties, in certain cases in cooperation with the service departments. Service departments have different and, in some cases, shared responsibilities for RDM support. Faculty specific RDM support responsibilities are addressed within the faculty policies.

4.6 FACULTY DATA STEWARD

- acts as the first contact point for all research data management related questions and, when necessary, refers researchers to other research support staff holding the appropriate expertise,
- creates awareness and supports with research data management related issues,
- supports the development and implementation of data policy or guidelines and procedures on faculty and research group level,
- supports in research data management requirements of funders,
- keeps up to date with national and international RDM developments,
- provides information and training sessions tailored to researchers' needs, and
- provides information, reviews and advises researchers in completing a DMP. *Note: The data steward is not responsible for the completion, accuracy and/or implementation of DMPs, nor for GDPR-compliance.*

4.7 SERVICE DEPARTMENT LISA

- coordinates central research data management support,
- keeps up to date with and disseminates national and international RDM developments, such as funders' requirements,
- develops, maintains and facilitates the implementation of data policies, procedures and guidelines,
- organizes RDM events and training,
- advises with legal issues related to the collection, storage, access, sharing and archiving of research data,
- investigates and registers data breaches, and
- provides and maintains infrastructure facilities for RDM.

5 REVIEW OF THIS POLICY

This policy will be reviewed at least every three years at the initiative of the manager of the Digital Competence Center (DCC) and the head of department for Embedded Information Services (EIS) in Library, ICT Services, and Archive (LISA). If an interim evaluation provides the grounds for a modification, the policy will be reviewed sooner.

The manager of the DCC in LISA-EIS is responsible for this policy.

This policy is established by the LISA Management Team, the University Committee on Research (UC-R), and the UT Executive Board (EB).

6 GLOSSARY

Data preservation (or archiving)

Specific way of storing research data, mostly static, and aimed at long-term preservation (in general at least 10 years) for verification and reuse. Data archiving should always be accompanied by proper metadata and documentation. It is planned (such as where, how, rights and responsibilities of having and/or giving access) at the start of the project, although in general implemented by the end of the project. Data archiving is bound to legal constraints, such as privacy law and contract law.

Data publishing

Specific way of sharing research mostly static data, accompanied by assigning at least bibliographic metadata and a DOI and aimed at visibility, recognition, etc. Data publishing is bound to legal constraints, such as privacy law and contract law.

Data sharing

Sharing research data is the most general term for giving one or more individuals or even public access to the data by the creator. Data can be dynamic or static, and the purpose of sharing can be multiple: reuse, collaboration, verification, etc.

Data storing

Storing research data is a general term for keeping research on a device, or in a physical location. The purpose is to keep the data readily available for processing, analysis, etc. during the project. The research data is still dynamic, but as soon as it becomes stable and static, it should be archived for <u>long-term preservation</u>, see above: Data preservation (or archiving).

Employee

The term 'employee' refers to any person who has a contract with the University (academic or support staff).

Personal Data

Personal data means any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.

More information on GDPR and personal data can be found here.

Research Data

Research data is evidence that underpins answers to research questions and is necessary to validate research findings. In the context of research data management, it also includes elements that make the data reusable or re-workable, e.g. documentation of the research process (e.g. in lab- or notebooks), or algorithms and scripts needed to access and interpret the data.

More information on research data can be found here. NWO Research data management | Scope

Trusted digital repository

Also: trusted repository, trustworthy repository

A trusted digital repository is a <u>Coretrustseal</u> certified repository and recognized in the international community as a reliable and trustworthy source of data.