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European Research Infrastructure Consortium

Love data management

Webinar on the Expert tour guide on Data Management




Love Data Week

16 Feb 2018

Veerle Van Den Eynden (UKDS)
Ellen Leenarts (DANS)
Ulf Jakobsson (SND)
Gunn Inger Lyse (NSD)

www.cessda.eu/DMGuide

Overview

- Introduction to CESSDA-ERIC, the CESSDA Training Working Group and speakers – Veerle Van den Eynden (UKDS)
- Expert tour guide, the project and future - Ellen Leenarts (DANS)
- Data management planning and how the module can help – Ulf Jakobsson (SND)
- Using the Expert tour guide for self-study and training - Gunn Inger Lyse (NSD)
- Q&A – Veerle Van den Eynden (UKDS)

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CESSDA-ERIC

CESSDA = Consortium of European Social Science Data Archives

ERIC = European Research Infrastructure Consortium

- Large-scale, integrated and sustainable data services to the social sciences
- Network of social science data archives across Europe
- Sustainable research infrastructure enabling the research community to conduct high-quality research in the social sciences contributing to the production of effective solutions to the major challenges facing society today and to facilitate teaching and learning in the social sciences.

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CESSDA Training Working Group

Three pillars:

- Technology: products, services and tools for social science research based on data reuse
- Trust: CESSDA Service Providers as ‘trusted repositories’ to ensure quality of data and safe and secure access
- Training: for researchers and to ‘train the trainers’

- Training Working Group started 2016, experts across all CESSDA archives, focus on
  - Data Discovery: finding and accessing data across Europe
  - Research Data Management: good practices in making data findable, understandable, sustainably accessible and reusable

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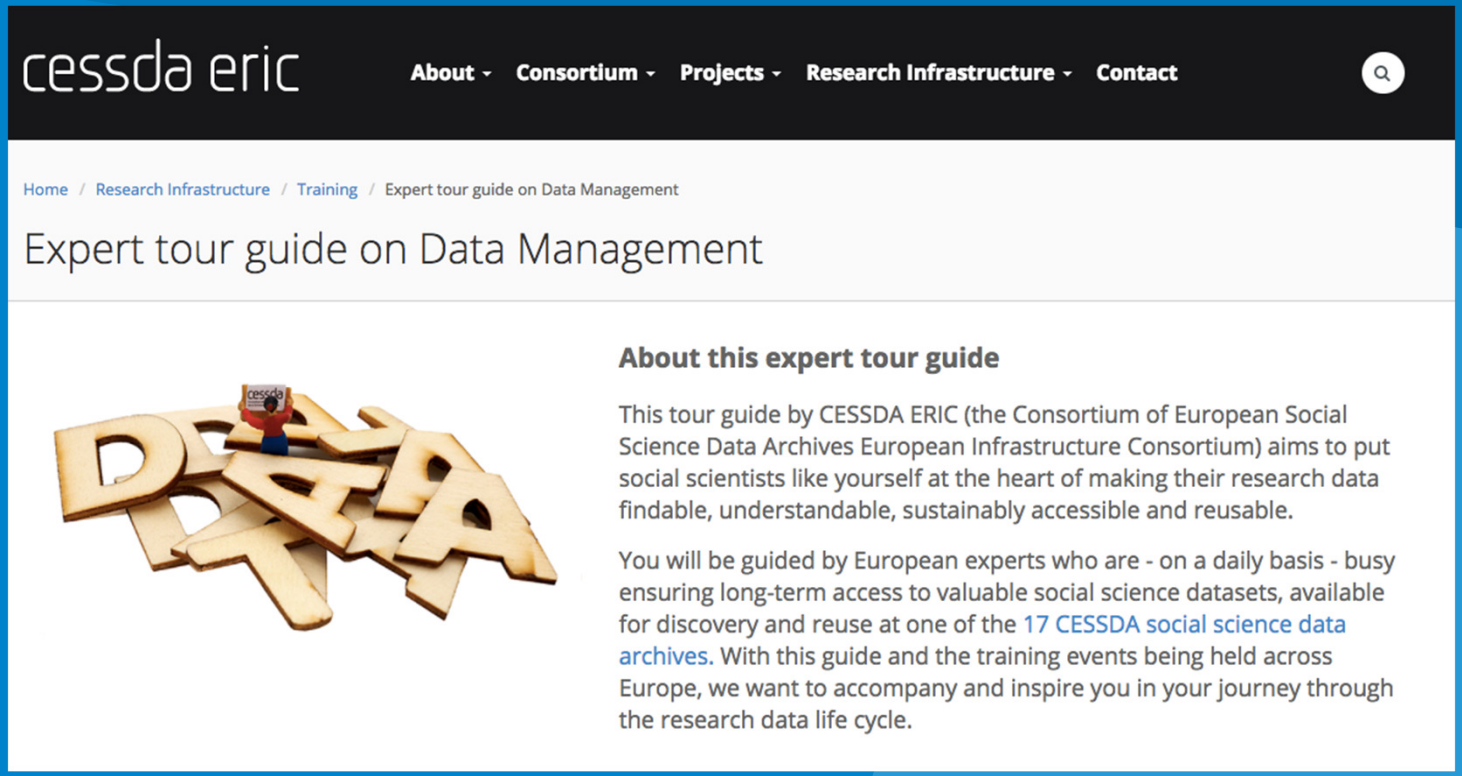
Expert tour guide on Data Management – the project



Ellen Leenarts (DANS)

Why a CESSDA online module on RDM?

- Local face to face workshops on RDM in various countries by CESSDA partners
- Share good training practices, examples and content
- Growing demand for DMPs by funders (Horizon2020 and local funders)
- Domain specific support on RDM, see also:

  Marjan Grootveld, Ellen Leenarts, Sarah Jones, Emilie Hermans, & Eliane Fankhauser. (2018). OpenAIRE and FAIR Data Expert Group survey about Horizon 2020 template for Data Management Plans (Version 1.0.0) [Data set]. Zenodo. http://doi.org/10.5281/zenodo.1120245

Online module:

- Create opportunity for individual early career researchers for self-study
- Blended learning opportunity for local workshops
- The guide can be centrally updated and enriched

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Timeline of the ‘one year’- project

- **Dec 2016:** Kick off
- **January – April 2017:** Developing content ideas, decision Course or Guide
- **May 2017:** Content workshop, feedback on the provisional content by target audience (early career researchers)
- **May - Sept 2017:** Hard work on the content, editing, styling and implementation online
- **Oct 2017:** Feedback period for researchers, DM specialists and trainers
- **Nov – Dec 2017:** Improve content, starter package for trainers, launch of the website

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PRODUCT STATEMENT

FOR social scientists who are in an early stage of practicing RDM

the CESSDA expert tour guide to data management IS A

an openly licensed learning tool/ learning bouquet WHICH

PROVIDES discipline specific, hands-on guidance from a European perspective with local expertise

UNLIKE MANTRA or Essentials 4 Data Support

WHICH have a more general/different audience and lack international perspective

The CESSDA expert tour guide to data management EXCELLS IN balancing simplicity (short, clear, practical) with richness. It is appealing because of it's fun factor and freshness (fluffyness)

LEARNING IS DESIGNED AS an online tour guide (based on the research data lifecycle) which is customisable for local use/training

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Content of the chapters

- Authors per chapter: ADP, CSDA, DANS, FSD, GESIS, SND, and UKDS
- Overall coordination, editing, styling and online implementation: DANS & Verbeeldingskr8
- Feedback and testing: ADP, AUSSDA, CSDA, DANS, FORS, NSD, So.Da.Net and UKDS

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Recurring elements in the chapters

Recurring elements:

- Expert tips
- European diversity
- Qualitative vs. Quantitative data
- Adapt your DMP

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Expert tips

Expert tip

How FAIR are your data?
Want to know how FAIR your data are? Have a look at the checklist by Jones and Grootveld (2017).

Expert tips

Any researcher who wishes to become proficient at doing qualitative analysis must learn to code well and easily. The excellence of the research rests in large part on the excellence of the coding | Strauss (1987).

+ Tip 1: Document the meaning of codes
+ Tip 2: Prevent coder variance

Expert tips

+ TIP 1. Documenting consent
+ TIP 2. Delivering informed consent in the best way possible
+ TIP 3. Consent for surveys
+ TIP 4. Research without consent

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European diversity

FINLAND | **NETHERLANDS** | NORWAY | SWITZERLAND | UK

Storage of raw research data for at least 10 years

For research conducted in the Netherlands, the raw research data are required to be stored for at least ten years. Additionally, this data must also be made available to other academic practitioners upon request (unless legal provisions dictate otherwise). Researchers who receive a Netherlands Organisation for Scientific Research (NWO) grant are required to disclose data even after ten years.

It is therefore important for researchers working on research projects in the Netherlands or collaborative projects which include research within the Netherlands to consider this in the Data Management Plan (DMP) and their project preparations, so as to ensure that they have a system in place to store the research data for at least ten years.

More information can be found in the Netherlands Code of Conduct for Academic Practice (Association of Universities in the Netherlands, 2014) and Research Data Netherlands (n.d.) can provide further guidance and advice on this requirement.

Data management requirements in Europe

There are many different local, national and international DMP templates and tools that you can use to create a DMP for your own research project. At this stage, it might be good for you to check for templates or tools that best fit your own specific situation. You can ask at your university or department whether they have their own DMP template. Or maybe your research funder requires a DMP in a specific format.

In the accordion below we sum up European diversity in funder requirements on Data Management Planning and link to DMP templates if they are available.

- EU
- Belgium
- Czech Republic
- Finland
- Germany
- Netherlands
- Norway
- Slovenia
- Sweden
- Switzerland
- UK

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Quantitative vs. Qualitative data

Minimising errors in survey data entry

In the accordion below a summary of recommendations on minimising errors in survey data entry is given (UK Data Service, 2017a; ICPSR, 2012; Groves et al., 2004).

- Check the completeness of records
- Reduce burden at manual data entry
- Minimise the number of steps
- Conduct data entry twice
- Perform in-depth checks for selected records
- Perform logical and consistency checks

Considerations in making high-quality transcriptions of qualitative data

The most common formats of qualitative data are written texts, interview data and focus group discussion data. In most cases, interview and discussion data are first digitally recorded and then transcribed. Transcription is a translation between forms of qualitative data, most commonly a conversion of audio or video recordings into text. If you intend to share your data with other researchers, you should prepare a full transcription of your recordings (Bucholtz, 2000).

There are several basic rules and steps in the process of making and checking a high-quality transcript from audio/video (Kuckartz, 2014):

Designing qualitative data files

Qualitative data files emerge from many different types of research material. Such data files are texts (transcribed interviews or focus group sessions, various types of written texts, such as newspaper and magazine material, diaries etc.) or photographs, audio files (recordings of speech) or video files. Unlike quantitative data, qualitative data are not presented in form of variables, numbers, data matrices etc. Alike, they must be organized and stored in an exact precise manner so they are easily managed and ready for use.

Usually, individual data collection events will be structured into individual files, e.g. one interview transcript, one image, one audio recording each time makes a single file. These single files are then organised into folders of similar files. Sometimes, qualitative information may also be organised into matrix structures, e.g. textual extracts from newspaper articles or diaries may be placed into a rectangular matrix, whereby further metadata and coding can be added alongside each entry

Designing a qualitative data structure comes down to:

- Thinking of ways to categorise data (see 'Qualitative coding');
- Developing a file naming strategy (see 'File naming and folder structure');
- Designing a comprehensive folder structure (see 'File naming and folder structure').

Designing quantitative data files

In quantitative research, the content of the data often results from numerical coding in standardised questionnaires (see 'Quantitative coding'). In addition, full-text answers or textual codes can be recorded into specific types of variables in quantitative data files. Quantitative researchers may also store other material, i.e. administrative data, data from social media or various texts. However in this chapter, when we speak about quantitative data, we usually mean survey data.

User Feedback

- First version was given to partners for feedback
- 30 people provided feedback

I love the interactive tables.

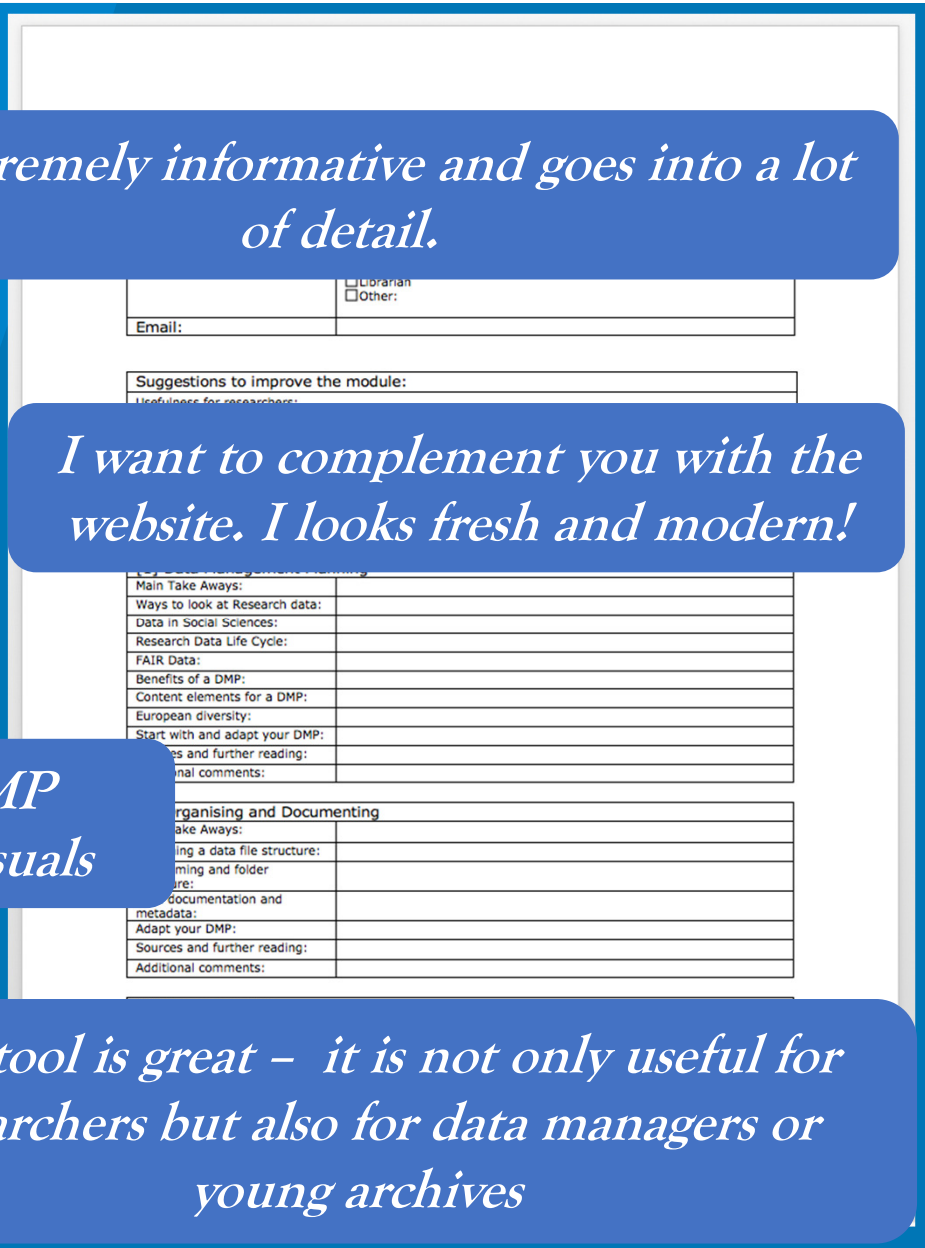
Excellent overview of DMP
Clear, concise, excellent visuals

Very detailed information for a wide range of topics, step-by-step guidance.

It is extremely informative and goes into a lot of detail.

I want to complement you with the website. I looks fresh and modern!

This tool is great – it is not only useful for researchers but also for data managers or young archives



Starter package for trainers

- Outlines for two possible workshops
  - 1-day general: Introduction to RDM
  - 1-day content-specific: Ethical and legal considerations in RDM
- Both use the content of the module + existing materials from partners
- Future updates: additional exercises, slides and explanation per chapter, overall background and structure of the module, checklist DMP, chapters in pdf, folder with all visualisations, evaluation form, etc.
- Contact ellen.leenarts@dans.knaw.nl or training@cessda.net to receive outlines and future additions to the starter package for trainers

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Launch of the module in December 2017

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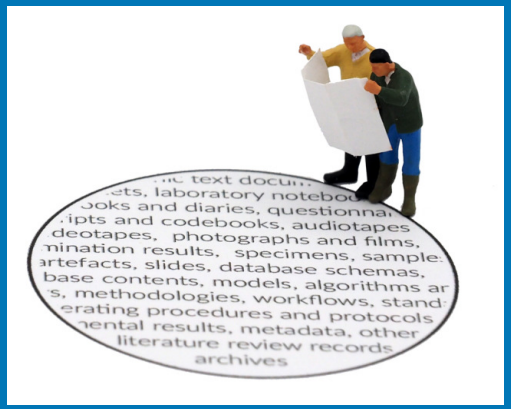
Activities 2018



Content:

- Add discovery chapter
- Add to the Starter package for trainers: Refining the two outlines, additional exercises, slides and explanation per chapter, overall background and structure of the module, checklist DMP, chapters in pdf, folder with all visualisations, evaluation form
- Adapt content (corrections English, chapter leads adding content based on feedback local workshops)

Events:

- CESSDA Train de trainer workshop - April 2018
- Local workshops

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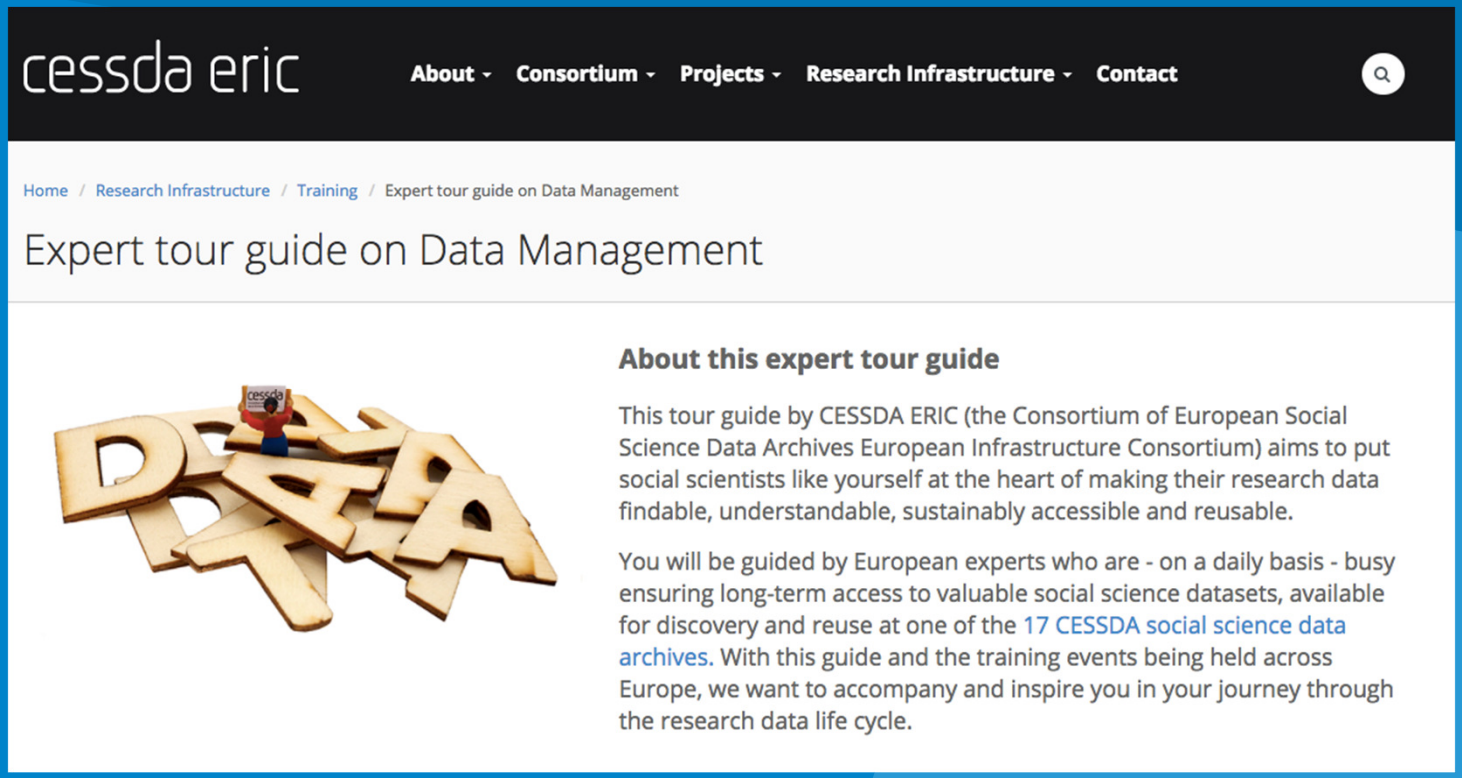
Expert tour guide on Data Management – DMP



Ulf Jakobsson (SND)

Benefits of data management

The concept of Data Management implies

- How to handle, organize, structure and store research data
- Takes into account technical, organizational, structural, legislative and sustainability aspects
- Clear structure of how data is going to be managed
- Might involve some additional work at an early stage

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The Data Management Plan (DMP)

- Is an important tool that will aid you as a researcher to structure the data management within your project.
- Can be seen as a formal document that outlines the frames for how to handle the data during and after the project.
- Is designed in accordance with the specific project

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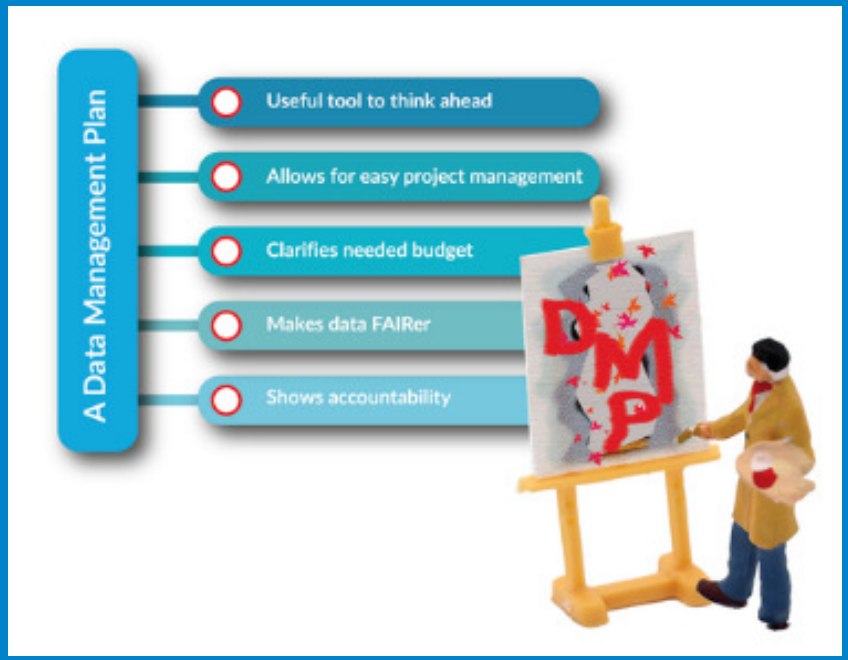
Added Value



- Discover possible problems at an early stage
- All information in one place
- Calculating cost for data management
- Allows early preparations
- Serious data management

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Why write a DMP?

- Easier for others to understand the material
- Enables further research after the project has ended
- Research results can be verified
- Prevents unnecessary data collection

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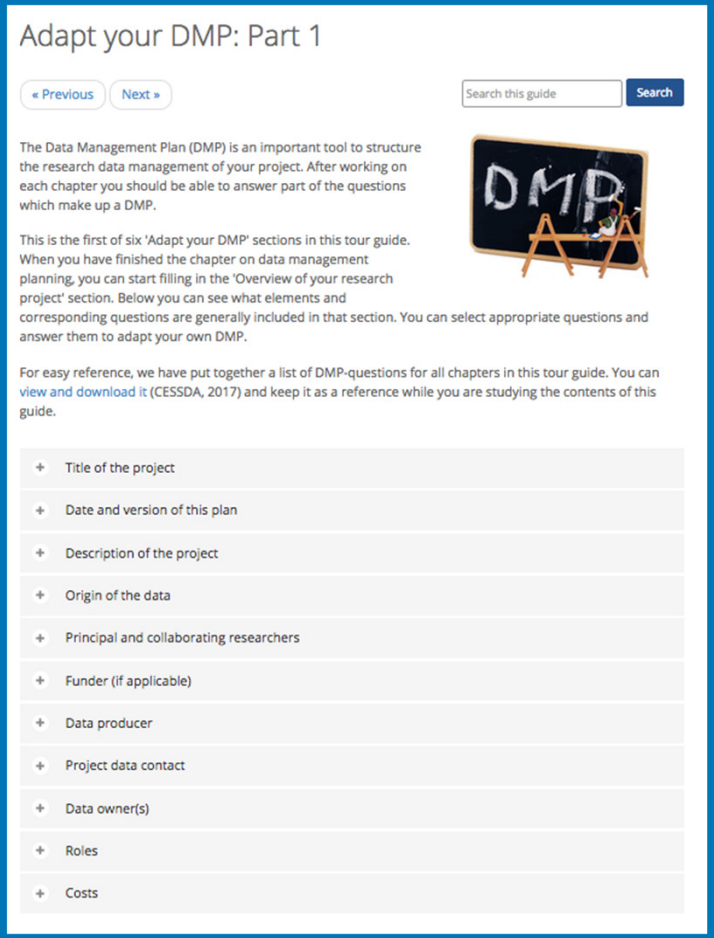
Writing your own DMP

Start with the DMP checklist

- Adapt your DMP section at the end of every chapter
- Corresponding questions to each chapter
- Reference list of DMP questions in first chapter



Downloadable DMP checklist

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Adapt your Data Management Plan

A list of Data Management Questions based on the Expert Tour Guide on Data Management

The CESSDA Expert Tour Guide on Data Management is available at https://www.cessda.eu/DMGuide

PLAN

Overview

Title of the project

Date of this plan

Description of the project
- What is the nature of the project?
- What is the research question?
- What is the project time line?

Origin of Data
- What kind of data will be used during the project?
- If you are reusing existing data: What is the scope, volume and format? How are different data sources integrated?
- If you are collecting new data can you clarify why this is necessary?

Principal researchers
- Who are the main researchers involved?
- What are their contact details?

Collaborating researchers (if applicable)
- What are their contact details and their roles in the project?

Funder (if applicable)
- If funding is granted, what is the reference number of the funding granted?

Data producer
- Which organisation has the administrative responsibility for the data?

Project data contact
- Who can be contacted about the project after it has finished?

Data owner(s)
- Which organisation(s) own(s) the data?
- If several organisations are involved, which organisation owns what data?

Roles
- Who is responsible for updating the DMP and making sure that it's followed?
- Do project participants have any specific roles?
- What is the project time line?

Costs
- Are there costs you need to consider to buy specific software or hardware?
- Are there costs you need to consider for storage and backup?
- Are potential expenses for (preparing the data for) archiving covered?

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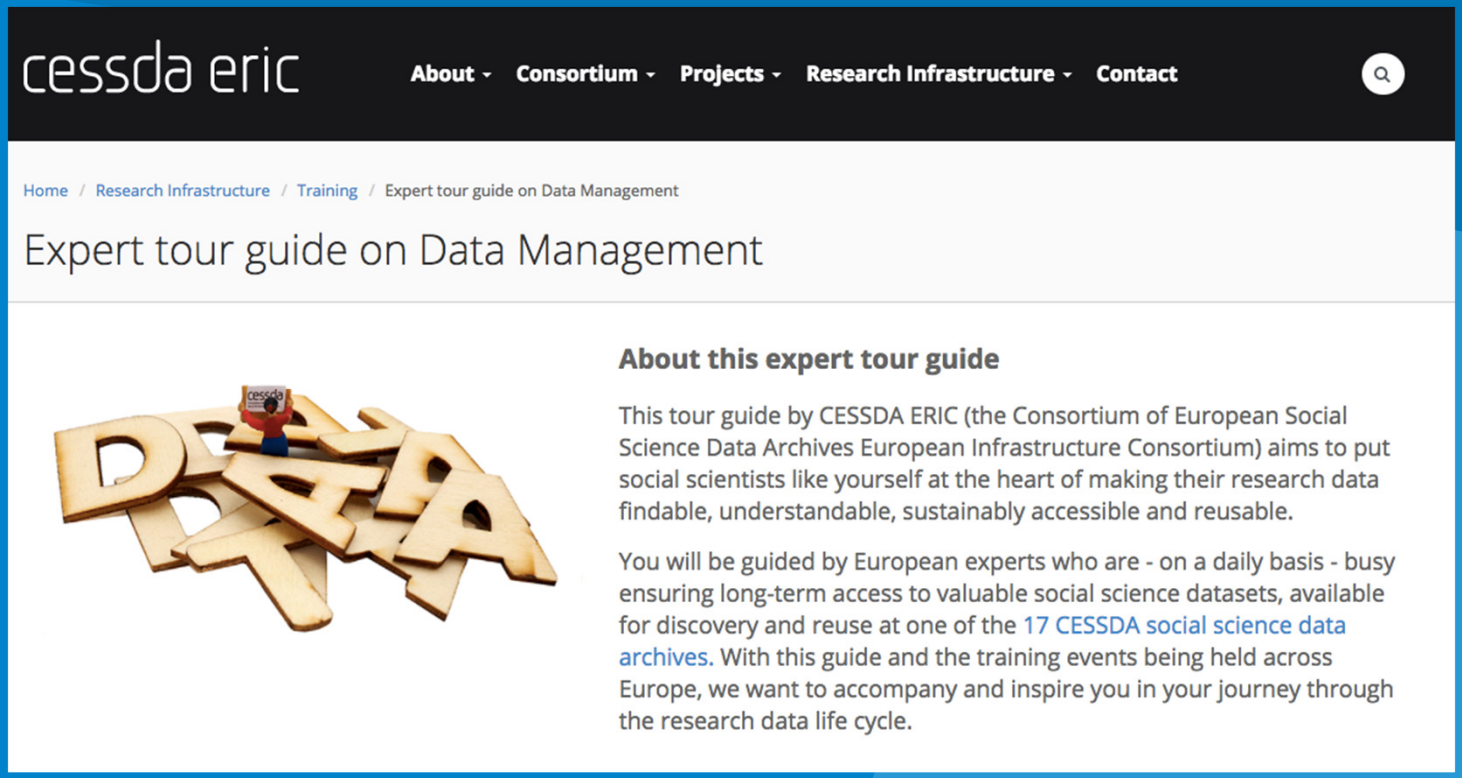
Expert tour guide on Data Management – How to use it



Gunn Inger Lyse (NSD)

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Expert tour guide on Data Management – Chapter overview

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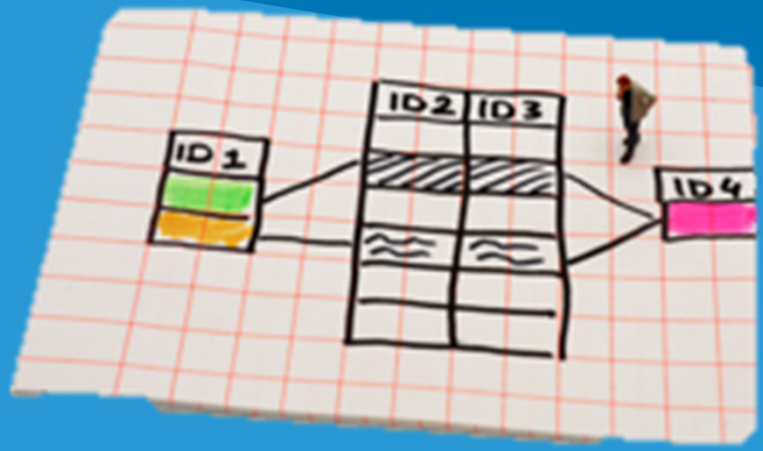
Expert tour guide on Data Management – Chapter overview

1 Designing a data file structure



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Expert tour guide on Data Management – Chapter overview

1 Designing a data file structure

2 File naming and folder structure

Qualitative data files

In this example, the data contain audiotapes of the interviews, interview transcripts, stimulation material shown to the research subjects, and photographs taken by the subjects. Data files are files connected to the same interview event conducted on the 22nd of January 2013. The latter part of the name reveals the specifics of the file. In this case, "audio" means audio tape and "trans" a transcription of the audio tape. However, background information must never be stored in the file name only.

- Perceptions on immigration 2014
  - File_naming_conventions.rtf
  - Audio tapes
    - Audio_tape_list.txt
    - 20130122_interview1F38Manchester_audio.wav
    - 20130122_interview2F21Manchester_audio.wav
    - 20130124_interview3M46London_audio.wav
  - Transcriptions
    - Transcriptions_list.txt
    - 20130122_interview1F38Manchester_trans.rtf
    - 20130122_interview2F21Manchester_trans.rtf
    - 20130124_interview3M46London_trans.rtf

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Expert tour guide on Data Management – Chapter overview

1 Designing a data file structure

2 File naming and folder structure

3 Documentation and metadata

Project-level documentation

Project-level documentation explains the aims of the study, what the research questions/hypotheses are, what methodologies were being used, what instruments and measures were being used, etc. In the accordion the questions which your project-level documentation should answer are stated in more detail:

+ 1. For what purpose was data created
+ 2. What does the dataset contain
+ 3. How was data collected
+ 4. Who collected the data and when

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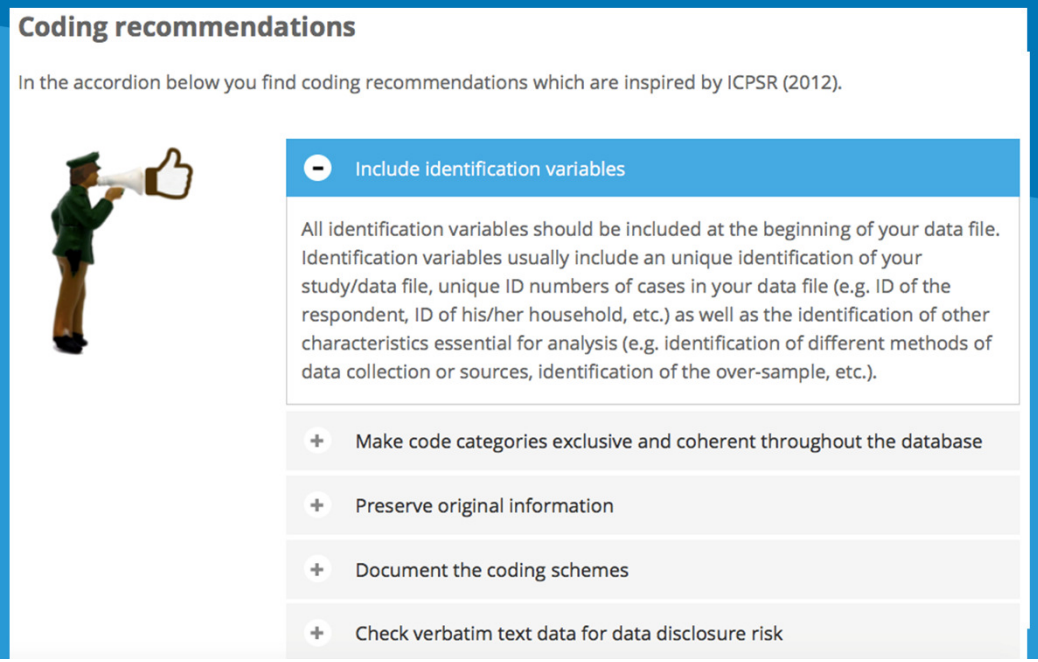
Data quality:

-How to prepare your data files for analysis and data sharing

-Strategies to minimise errors

-Manage the integrity and authenticity of your data



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1. Storage
2. Backup
3. Security

- Passwords
- Encryption
- Physical, network and computer security
- Secure disposal
- Organisational aspects

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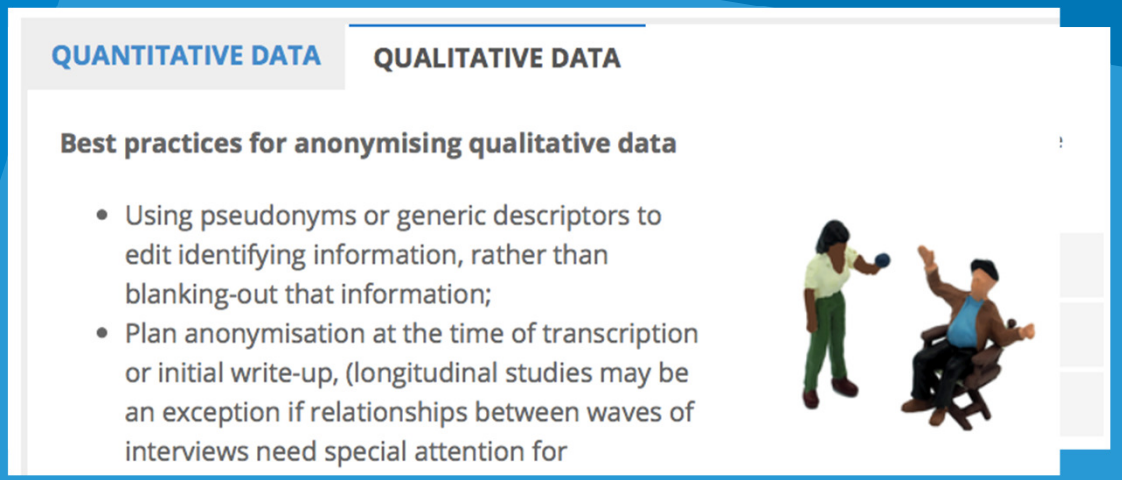
- Legal requirements of Member States
- Impact of General Data Protection Regulation (GDPR)
- How to share personal data?
- Copyright: who owns your research data?



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- Which data to select for publication?
- Where to archive?
- Licences and access levels

Choosing a data repository

> *There are hundreds of repositories worldwide. Some cater for a specific research domain, while others are general-purpose repositories. They may be called something other than a repository, for example, a data centre or archive | Whyte (2015).*

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Data discovery chapter to appear in 2018

Questions?

training@cessda.net

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