A Sample of Data Management Approaches From System Administrators and Researchers' Perspectives

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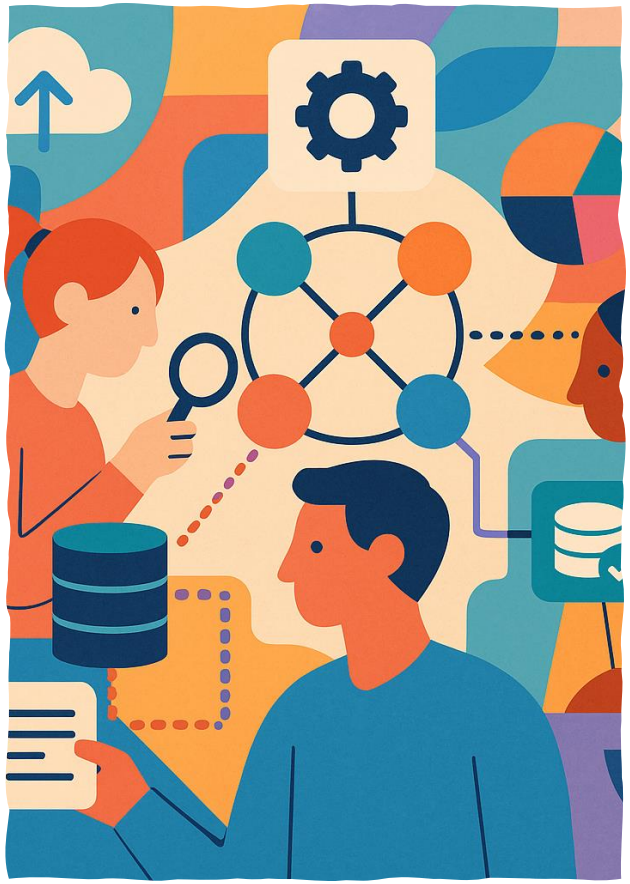
Introduction



Research data management involves multiple roles:

- Data producers (instruments, codes)
- Data curators (e.g., librarians, analysts)
- Data operators (e.g., system administrators
- Data ingestors (e.g., researchers using data)

This presentation explores data management from:

- ❑ System administrator perspective
- ❑ Researcher perspective

System Administrators' Perspective

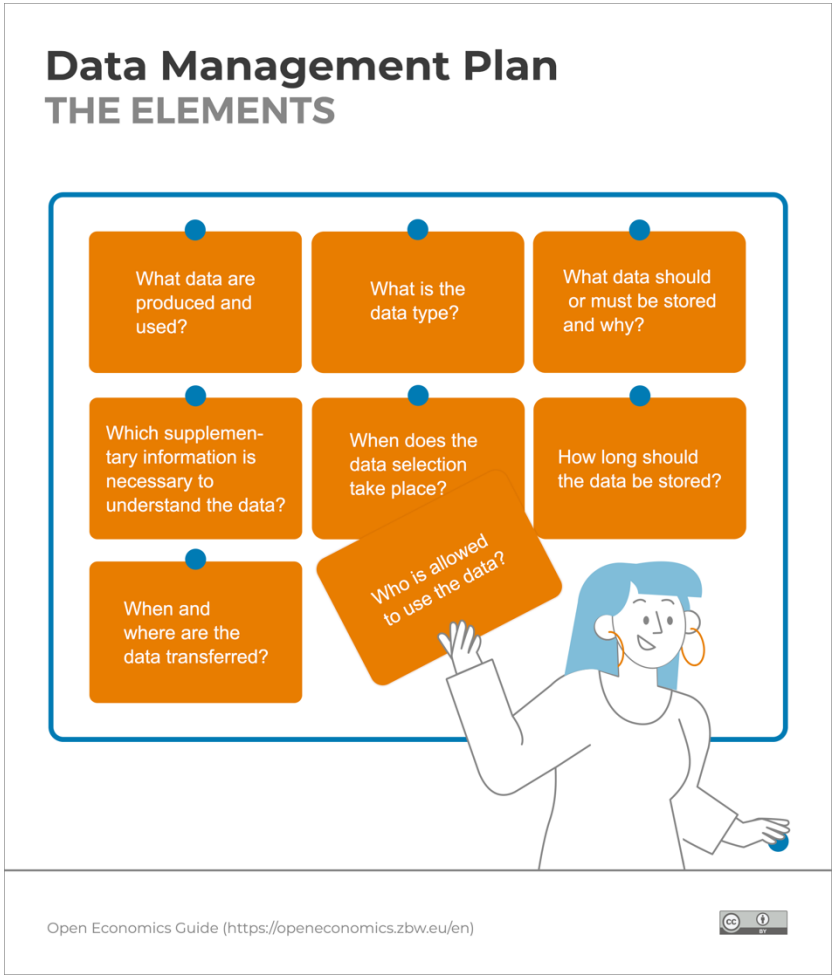
Quotas:
Research clusters have multiple storage areas:
- Home: config files, scripts (small quota)
- Scratch: temporary results (no quota, purged)
- Project: medium-term results (large quota)
- Archival: long-term storage (very large quota)

Tools to manage/report user data:
User portal
command-line custom tools
GUI one-stop shops such as OpenOnDemand

Administrators' Perspectives

- **Data purges**

- **Policies:**
  - Data management policies govern how data is ingested, stored, managed, archived, and deleted



Researchers' Perspective

The National Science Foundation recommends that open data have the following principles*.

* https://www.nsf.gov/digital/data

Redundancy and Ownership

Redundancy
- Archival storage for static data
- Backup systems for evolving data

Ownership
- Provenance and access control
- Determines storage and sharing policies

Data Sharing

Different rules for different data

Common Data Sharing tools
Command-line: rsync or scp
Cloud sharing platforms: OneDrive, Google Cloud, Box
GUI tools: WinSCP, FileZilla
High performance tools: such as Globus

Questions & Discussion