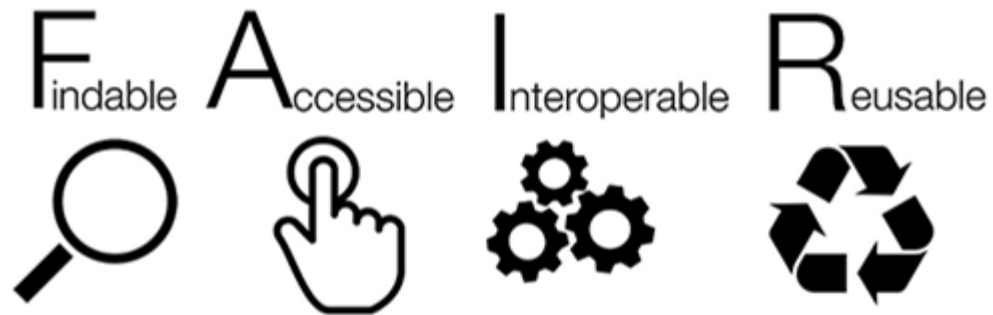# FAIR-IMPACT contributions to metrics and assessment & implementations in the disciplinary context

Maaike Verburg, DANS

Open and FAIR

- Open access to research objects | Open science practices

- FAIRness of research objects | FAIR-enabling practices

FAIR tools

- Expectations → Monitoring and evaluation → Metrics and tools

- Diversity in aims, purposes, target objects, audiences, execution types, interpretations of FAIR, etc.

- Assessment of FAIR-enabling qualities | Assessment of research objects | Educating

F-UJI Automated FAIR Data Assessment Tool

Foops!

FAIR Aware

O'FAIRe: Ontology FAIRness evaluator

Contributions to FAIR assessment tools

- Broadening the scope of **research objects** to be assessed

  beyond data
  - FAIR assessment metrics for **Research Software**
  - Methodologies for developing metrics for **Semantic Artefacts**

- Creating **discipline-specific** metrics and tests

- Creating **flexible** and **open** tools that are **transparent**

Contributions to FAIR-enabling landscape

- FAIR objects → FAIR-enabling services

- Expectations:
  - **Make** objects FAIR
  - **Keep** objects FAIR over time

- FAIR-enabling Trustworthy Digital Repositories
  - Network

- Exposing transparent information for better discovery, communication, and interoperability
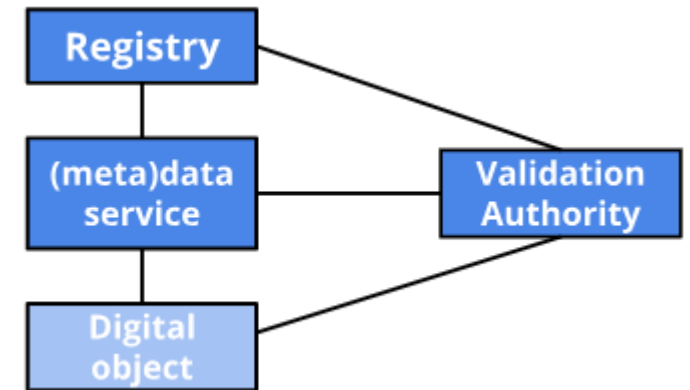
Implementing metrics in a disciplinary context

- FAIRsFAIR Data Object Assessment Metrics
  - Discipline-independent

- Can such metrics give accurate results for disciplinary objects?

- Exploration of discipline-specific metrics

Devaraju, Anusuriya, Huber, Robert, Mokrane, Mustapha, Herterich, Patricia, Cepinskas, Linas, de Vries, Jerry, L'Hours, Herve, Davidson, Joy, & Angus White. (2022). **FAIRsFAIR Data Object Assessment Metrics** (0.5). Zenodo. https://doi.org/10.5281/zenodo.3775793

Social Sciences use case

- Focus area: Social Sciences and Humanities (SSH)
- Use case partner: CESSDA
- Approach:
  - Analysed **SSH publications**, best-practice documents, and white papers that refer to FAIR
  - Analysed **metadata formats** that are exchanged via community specific interfaces
  - Assessed the FAIR **homogeneity** of the SSH community
  - Collected **FAIR Implementation Profiles**

- Result: Selection of metrics that can be specific to social sciences

FAIRsFAIR Data Object Assessment Metrics (V0.5)

Metrics for the Social Sciences

FINDABLE	
FsF-F1-01D	Data is assigned a globally unique identifier.
FsF-F1-02D	Data is assigned a persistent identifier.
FsF-F2-01M	Metadata includes descriptive core elements to support data findability.
FsF-F3-01M	Metadata includes the identifier of the data it describes.
FsF-F4-01M	Metadata is offered in such a way that it can be retrieved by machines.

FINDABLE	
FsF-F2-01M-ss	Metadata includes descriptive core elements relevant for the social sciences to support data findability.
FsF-F4-01M-ss	Metadata is offered in such a way that it can be retrieved by machines for social sciences catalogues.

ACCESIBLE	
FsF-A1-01M	Metadata contains access level and access conditions of the data.
FsF-A1-02M	Metadata is accessible through a standardized communication protocol.
FsF-A1-03D	Data is accessible through a standardized communication protocol.
FsF-A2-01M	Metadata remains available, even if the data is no longer available.

ACCESSIBLE

INTEROPERABLE	
FsF-I1-01M	Metadata is represented using a formal knowledge representation language.
FsF-I2-01M	Metadata uses semantic resources.
FsF-I3-01M	Metadata includes links between the data and its related entities.

INTEROPERABLE	
FsF-I2-01M-ss	Metadata uses semantic resources relevant for the social sciences research community.

REUSABLE	
FsF-R1-01MD	Metadata specifies the content of the data.
FsF-R1.1-01M	Metadata includes license information under which data can be reused.
FsF-R1.2-01M	Metadata includes provenance information about data creation or generation.
FsF-R1.3-01M	Metadata follows a standard recommended by the target research community of the data.
FsF-R1.3-02D	Data is available in a file format recommended by the target research community.

REUSABLE	
FsF-R1.1-01M-ss	Metadata includes licence information under which data can be reused within the scope of social sciences.
FsF-R1.3-01M-ss	Metadata follows a standard recommended by the social sciences (ss) research community of the data.

F-UJI implementation

- Development of test implementation

F-UJI Automated FAIR Data Assessment Tool

- Free selection of metrics specification

FAIR assessment

F-UJI is a web service to programatically assess FAIRness of research data objects (aka data sets) based on metrics developed by the FAIRsFAIR project.

Please use the form below to enter an identifier (e.g. DOI, URL) of the data set you wish to assess. Optionally you also can enter a metadata service (OAI-PMH, SPARQL, CSW) endpoint URI which F-UJI can use to identify additional information.

Research Data Object (URL/PID): *

    Enter a valid PID or URL of the dataset's landing page (e.g. a DOI)

Metric:

    ✓ FsF Metrics v0.5
       FsF Metrics v0.5 - Social Sciences

    ▶ Start FAIR Assessment

About   Feedback   Privacy Policy   Terms of Use   Legal

Disclaimer: The test results shown here are based on preliminary data and code which still is under development. F-UJI is rapidly evolving and not yet available in a productive environment.

Further plans in a disciplinary context

- Creating discipline-specific metrics and tests for **data** in F-UJI for several disciplines
  - Social Sciences
  - Earth and Environmental Sciences
  - Molecular Sciences(?)

- Reporting on differences in assessment results and the overall exploration of discipline-specific metrics

Further plans in a disciplinary context

- Creating discipline-specific metrics and tests for **research software**
  - Social Sciences
  - Earth and Environmental Sciences

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