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

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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

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
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

https://doi.org/10.5281/zenodo.7764119
### FAIRsFAIR Data Object Assessment Metrics (V0.5)

<table>
<thead>
<tr>
<th><strong>FINDABLE</strong></th>
<th><strong>ACCESSIBLE</strong></th>
<th><strong>INTEROPERABLE</strong></th>
<th><strong>REUSABLE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>FsF-F1-01D Data is assigned a globally unique identifier.</td>
<td>FsF-A1-01M Metadata contains access level and access conditions of the data.</td>
<td>FsF-I1-01M Metadata is represented using a formal knowledge representation language.</td>
<td>FsF-R1-01MD Metadata specifies the content of the data.</td>
</tr>
<tr>
<td>FsF-F1-02D Data is assigned a persistent identifier.</td>
<td>FsF-A1-02M Metadata is accessible through a standardized communication protocol.</td>
<td>FsF-I2-01M Metadata uses semantic resources.</td>
<td>FsF-R1.1-01M Metadata includes license information under which data can be reused.</td>
</tr>
<tr>
<td>FsF-F2-01M Metadata includes descriptive core elements to support data findability.</td>
<td>FsF-A1-03D Data is accessible through a standardized communication protocol.</td>
<td>FsF-I3-01M Metadata includes links between the data and its related entities.</td>
<td>FsF-R1.2-01M Metadata includes provenance information about data creation or generation.</td>
</tr>
<tr>
<td>FsF-F3-01M Metadata includes the identifier of the data it describes.</td>
<td>FsF-A2-01M Metadata remains available, even if the data is no longer available.</td>
<td></td>
<td>FsF-R1.3-01M Metadata follows a standard recommended by the target research community of the data.</td>
</tr>
<tr>
<td>FsF-F4-01M Metadata is offered in such a way that it can be retrieved by machines.</td>
<td></td>
<td></td>
<td>FsF-R1.3-02D Data is available in a file format recommended by the target research community.</td>
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### Metrics for the Social Sciences

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<tbody>
<tr>
<td>FsF-F2-01M Metadata includes descriptive core elements relevant for the social sciences to support data findability.</td>
<td>FsF-F4-01M Metadata is offered in such a way that it can be retrieved by machines for social sciences catalogues.</td>
<td>FsF-I2-01M Metadata uses semantic resources relevant for the social sciences research community.</td>
<td>FsF-R1.1-01M Metadata includes licence information under which data can be reused within the scope of social sciences.</td>
</tr>
<tr>
<td>FsF-F4-01M Metadata is offered in such a way that it can be retrieved by machines.</td>
<td></td>
<td></td>
<td>FsF-R1.3-01M Metadata follows a standard recommended by the social sciences (ss) research community of the data.</td>
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F-UJI implementation

- Development of test implementation
- Free selection of metrics specification

**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