

FAIR Supporting Resource (FSR) Description Article

A 10 step checklist for starting FAIR discussions in your community: Call for contributions

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Received 20 October 2022

Accepted 6 March 2023

Abstract. The article aims at starting a conversation around a 10-step checklist providing practical recommendations on how to facilitate community discussions around the creation of standards to implement FAIR.

Keywords: FAIR principles (http://purl.obolibrary.org/obo/T4FS_0000447), consensus standard (http://purl.obolibrary.org/obo/T4FS_0000168), Community building (http://purl.obolibrary.org/obo/T4FS_0000249), Curation workflow (http://purl.obolibrary.org/obo/T4FS_0000102), R1.3 (meta)data meet domain-relevant community standards (http://purl.obolibrary.org/obo/T4FS_0000391)

Are you involved in starting FAIR implementation discussions in your community? Does your community not yet have a metadata standard and are you trying to figure out what a metadata standard could look like? Or are you already in the implementation phase and looking for guidance on how to embed the newly developed best practices in existing workflows (e.g., publishing)?

Efforts towards the implementation of the FAIR (Findability, Accessibility, Interoperability and Reusability [5]) principles require the use of standards in the way research objects are described, stored, and shared. Such a stan-

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standardisation process can be hindered not only by the technical challenges, but also by the social dynamics at play. Indeed, standardisation of FAIR practices requires active involvement of communities – this is also made explicit in principle R1.3 (“(meta)data meet domain-relevant community standards”). Yet, it is difficult to find clear guidance on how to effectively facilitate this process. The goal of this short article is to invite contributions to collect practical recommendations on how to facilitate community discussions around the creation of standards to implement FAIR.

After a discussion session at the Open Science Festival 2022 (<https://opensciencefestival.nl/programme-2022/>, Open Science in Practice workshop round 1), we are now documenting our experiences in a 10 step checklist format. The authors, as well as the participants at the session, cover a variety of roles within the data management landscape, including data stewards, researchers, and librarians, and come from a variety of institutions, such as universities, domain-specific infrastructures, and archives. We are looking for input and contributions to further develop the checklist and provide practical recommendations and examples. In particular, we seek to expand the perspective by welcoming contributions from other contexts than the Netherlands, given that the authors all work in Dutch institutions. Before outlining each of the 10 steps, it is important to note that research communities may be in different phases of their FAIR implementation process, making some of these steps perhaps unnecessary.

1. Get help from RDM support at your institute or scientific association

You are probably not alone in thinking about FAIR implementation and standardisation practices. Look for policies or guidelines that you can build on or contact local research data support offices for support. If you are based at a University, try contacting the university library, where RDM experts may be located. National competence centers or research infrastructures might also be able to assist you in finding RDM experts to connect to.

2. Define the community you want to approach

For effective communication and relevant input, you will need to define the community and its members, and assess their level of knowledge/expertise. A community can be identified around various elements, such as a shared affiliation or a common interest for a typology of data. Furthermore, a community could be informal and require an extensive networking effort to be documented, or be a formal community with a known contact person (e.g. a community manager). In order to assess the general level of knowledge of FAIR principles of the different members of the community, the [FAIR-Aware](#) tool developed by DANS might prove useful. One option to formalise a community, even if just for a determined period of time, is to declare it as a FAIR Implementation Community [4].

3. Consider the social aspects of standardisation

Social aspects such as the required time investment in standardisation efforts, the potential reduction of diversity, or the resistance to adjusting existing workflows, should not be underestimated. The creation of standards may require community members to change their way of working, and this can potentially generate conflict. Where possible you should join efforts with other community members to generate momentum, reduce conflicts, and to highlight real-time use cases and best practices.

4. Establish benefits of domain specific standardisation, specifically for data reuse

To convince people to invest time and effort the benefits of standardisation should be inventoried and promoted. This includes recognising these activities as part of research evaluation. Standardisation efforts can contribute to an increase in data quality, which can in turn increase the trust in scientific research, but also in a reduction of workload for data owners and stewards. Data management plans and pre-registration can help incorporate FAIR standards early in the research process and capitalize on the benefits of FAIR implementation.

5. Identify domain specific barriers

Barriers to standardisation are also important to address. These could range from data size, type of data (such as personal data) and concerns such as data not being relevant enough to be shared (see [3] for a more extensive review on potential barriers to data sharing). The complexity of standardising a wide range of data/metadata can also be overwhelming. Interviews and meetings with members of the wider community, especially those who are at the margins and perhaps refuse to join the FAIR standardisation process, can be very useful to understand the potential barriers and concerns.

6. Set up minimum metadata requirements

General standards such as [Dublin Core](#) are a good starting point, but they lack discipline specific information. Consider the smallest amount of information needed for data to be reusable, the ‘Minimum information standard’ (see [Wikipedia](#) for examples of these minimum standards). An example is the work by ESS-DIVE in establishing a community-centric metadata reporting format [2].

7. Set up documentation standards

Similar to minimum information requirements, it is important to consider what other information should be provided when data is shared and how this information is structured. Standardisation in documentation is meant to facilitate communication and collaboration between data providers and those who reuse their data. Recently, tools have been developed that can automatically generate standardised metadata, reducing the (time) barriers to writing comprehensive codebooks [1].

8. Identify infrastructure to share data

Your discipline may already have specific infrastructure that you can use to manage and share data. Should this not be the case, it is important to identify alternative generic or institutional repositories and infrastructure that can be used, with clear policies and guidelines in place. The REgistry of REsearch data REpositories ([re3data](#)) and [FAIRsharing.org](#) can help identify a suitable data repository given a set of requirements (e.g. domain, PID service, supported data licenses, etc).

9. Plan for the long term actions

With an ever-changing RDM landscape and new resources and technologies, maintaining the standards up-to-date and relevant beyond the life of the community discussion can be challenging. Any FAIR implementation and standardization effort should consider long-term sustainability and resources involved. This includes the promotion of open formats, a governance plan, and infrastructure that ensures long-term sustainability.

10. Share experiences

Once you gained some experiences in this standardisation journey, it is important to share your experience with others so that they do not have to reinvent the wheel! This is what we are aiming for with our contribution. For instance by publishing your experiences on venues like FAIR connect you can be of tremendous help to other communities.

If you’re interested in contributing to the development of the 10 step checklist, please contact: Angelica Maineri (angelica@odissee-data.nl).

Acknowledgements

We thank all the participants at the session on “Starting FAIR Discussions: increasing standardisation in your research community” at the Dutch Open Science Festival (1 September 2022, Amsterdam) for their valuable input.

Funding

The authors have no funding to report.

Conflict of interest

The authors have no conflict of interest to report.

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