How to operationalize and to evaluate the FAIRness in the crediting and rewarding processes in data sharing: a first step towards a simplified assessment grid
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DATA SHARING EVALUATION TO TRIGGER CREDITING/REWARDING PROCESSES

In order to foster data sharing, the RDA-SHARC (SHAring Rewards & Credit) interest group has been set up to unpick and improve credit and rewarding mechanisms in the FAIR data sharing process. As part of the objectives, two assessment grids are being developed using criteria to establish if data are compliant to the F.A.I.R principles (findable / accessible / interoperable / reusable). The criteria used are based on the work from FORCE 11, and on the basis of the Open Science Career Assessment Matrix designed by the EC Working group on Rewards under Open Science.

BUILDING FAIR- BASED ASSESSMENT GRIDS

To be generic and trans-disciplinary, assessment grids should be understandable by all scientists including the ones who are not expert in data science.

The two grids displayed as a tree-graph structure are based on previous works on FAIR data management (Reymont et al., 2018; Wilkinson et al., 2016; Wilkinson et al., 2018; and E.U. Guidelines about FAIRness DMPs): 1/ the self-assessment grid is conceived as a checklist for scientists to identify if her/his own activities are compliant to FAIR principles and to pinpoint the hurdles that hinder efficient sharing and reuse of data.

2/ the two-level grid (simplified / extensive) is conceived as a chart for the evaluator to assess the quality of the researcher/scientist sharing practice, over a given period, taking into account the means & support available over that period. Assessment criteria are classified according to their level of stringency for FAIRness (essential / recommended / desirable).

First draft of the simplified FAIR criteria assessment grid

The aim of the simplified assessment grid is to focus on essential criteria only to be completed by scientists who produce data. It is the summary of a more extensive grid designed for assessing optimal sharing of data (not yet possible at the moment for most scientists worldwide). The assessment is based on FAIR compliance.

This grid can be used to get a first appreciation of the researcher’s practice but cannot be used alone for a comprehensive assessment of the FAIRness of data sharing. Motivations related-criteria help to interpret further the results highlighted as good practices.

INPUT NEEDED FROM RESEARCH COMMUNITIES

To implement a highly fair appraisal of the sharing process, appropriate criteria must be selected in order to design original generic assessment grids. This process requires participation, time and input from volunteer data producers/users scientists in various fields.

The aim is to get feedback from a larger community as to the validity of the criteria over different fields. The assessment grids will circulate in the RDA community as an online questionnaire as soon as possible.

Are you producing or using data? Please participate in the development of the FAIRness assessment grids by completing the questionnaire when available. It will help you get credit back for your efforts!

HOW?

Join the SHARC RDA community (free) at https://www.rd-alliance.org/get-involved.html and there join the SHARC interest group at https://www.rd-alliance.org/gov-opportunities/sharing-credits-reward.htm

You will then be informed in real time.

1) FINDABLE (8 essential criteria)

<table>
<thead>
<tr>
<th>Indexed identifier?</th>
<th>Never/NA</th>
<th>If Mandatory</th>
<th>Sometimes</th>
<th>Always</th>
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<tbody>
<tr>
<td>Identification</td>
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<td></td>
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</table>

References for FAIR terminology:
Cortes et al., 2017; Kupferschmid et al., 2018; Perea et al., 2018; Vilanova et al., 2018; Wang et al., 2018; Waters et al., 2018.

Result for Findable: Never/NA | If Mandatory | Sometimes | Always

2) ACCESSIBLE (3 essential criteria)

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<th>Data repositories</th>
<th>Never/NA</th>
<th>If Mandatory</th>
<th>Sometimes</th>
<th>Always</th>
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<tbody>
<tr>
<td>Repository</td>
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</table>

Result for Accessible: Never/NA | If Mandatory | Sometimes | Always

3) INTEROPERABLE (2 essential criteria)

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<th>Standards/dictionary for data description</th>
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<th>Sometimes</th>
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</thead>
<tbody>
<tr>
<td>Metadata description and searchability</td>
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</table>

Result for Interoperability: Never/NA | If Mandatory | Sometimes | Always

4) REUSABLE (5 essential criteria)

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<th>Relevant actions for data reuse potential</th>
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<th>Sometimes</th>
<th>Always</th>
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</thead>
<tbody>
<tr>
<td>Data potential</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Result for Reusable: Never/NA | If Mandatory | Sometimes | Always

**E.U. European Commission Directorate-General for Research and Innovation report: Evaluation of Research Careers fully acknowledging Open Science Practices; Rewards, incentives and/or recognition for researchers practicing as good practices.**