RDA for EOSC - Policy Brief

Supporting the alignment of organisational research data management policies

This policy brief is targeted at organisations that are looking at research data management policy alignment as a way to increase internal coordination and efficiency but also as a way to enable engagement with the European Open Science Cloud (EOSC) and other similar data commons international initiatives that are playing an instrumental role for the implementation of Open Scienceacross geographical and disciplinary borders.

Introduction

As Open Science grows as a movement, an increasing number of research performing and funding organisations as well as other research stakeholder organisations are developing policies aimed at improving research data management and sharing. These often come with guidelines and advice on the practical implementation and the practices to be adopted by researchers and the other actors involved in the research process.

Researchers, data stewards, research support staff, managers, IT departments, policy makers and funders might all have different expectations and requirements and the data policy needs to provide a guiding framework that is aligned with all of the various levels in a way that enables collaboration and communication and becomes a tool of efficiency.

What are the problems / challenges?

While this can be viewed as an oversimplification, we can situate the issues of policy alignment at two levels: internal (alignment of policies internal to an organisation) and external (alignment between internal policies and the wider policy context, considering national frameworks, various funder policies, and disciplinary policies where applicable).

Some challenges to aligning internal policies stem from the procedures employed in policy development and/or updates. For example, policy update efforts might focus on discrete areas/policy sections without considering extended implications, or policy development may be motivated by addressing "hot" topics that arise with a degree of urgency, and are pushed forward without a complete policy reassessment and coherence check. In other cases policies are updated for compliance with new legislation or other obligations, without making sure that updates are aligned accordingly at all organisational levels. One potential conflict is around the relationship between some requirements in Open Access policies, and requirements for data protection or the GDPR. Similarly, new OA policies need to be considered in relation to existing intellectual property policies and rights. On some occasions, as different organisational departments develop policies, misalignments might be due to inadequate cross-department communication, unclear mandates and priorities, or roles and responsibilities and fit between the policies.

1.Instrumental initiatives such as the European Open Science Cloud (EOSC) promote FAIR research data and will require sound institutional practices to ensure that data are shared in optimal conditions." - Science Europe. (2021). Practical Guide to the International Alignment of Research Data Management (Extended Edition). p.4

2.The OECD defines data policies as " a set of broad, high level principles which form the guiding framework in which Data Management can operate" https://stats.oecd.org/glossary/detail.asp?ID=4454

External policy alignment is often more challenging as organisations are required to achieve a range of agreements, alignments, or harmonisations at once. Internal policies must align with national ones, legislation must be complied with, requirements from funders must be met, partnership agreements with other organisations must be upheld, and disciplinary specifications need to be considered. Fitting all the pieces together is challenging, but addressing issues of fragmentation has become a priority and many organisations are looking at developing RDM policies in a more harmonised way.

Addressing issues of alignment can result in considerable benefits such as:

Reducing the administrative burden on researchers, research support staff and research administrative offices.

Reducing confusion - researchers should be provided with a framework of policies and guidance that includes that of their institutions, disciplinary communities and funders.

A clear hierarchy of responsibilities and obligations - policies and related guidance should be connected in meaningful ways, according to mandates and capacity and resources.

A systematic use of common policy components and principles enables a more rigorous evaluation of how effective they are and will inform future policy enhancement work in a more evidence based manner.

Approaches to alignment

A suggested approach to alignment comes from Science Europe. In the "Practical Guide to the International Alignment of Research Data Management' (Extended Edition)", Science Europe provides a core set of elements, in a modular but connected framework, that organisations can use as a common basis to develop their RDM and related policies. For example, they suggest using the core requirements for data management plans (DMPs) as a starting point, then using these to inform the development of DMP templates and DMP evaluation rubrics to review DMPs within their organisations and facilitate compliance. Adopting a common set of minimum requirements that should be covered in an RDM policy and similar assessment procedures can constitute a solid foundation for alignment, while leaving room for these to be "amended to accommodate institutional or disciplinary policies and practices"(Science Europe, 2021, p.6).

This approach is aimed more at supporting external policy alignment and has been particularly effective as a growing number of research organisations and funders have adopted and referenced the Science Europe Guide in their policies, e.g. Austrian Science Fund (FWF), French National Research Agency (ANR), the Dutch Research Council (NWO) as well as the European Commission in its updated version of the Annotated Model Grant Agreement for Horizon 2020[4].

Connected to the approach suggested in the Practical Guide,[5] Science Europe also developed a report on "Implementing Research Data Management Policies Across Europe" featuring experiences from Science Europe member organisations and detailing 3 key steps to successfully implementing research data management policies: taking a collaborative approach in the development phase thus enhancing buy-in and commitment (1); clearly communicating usefulness and relevance of policy and seeking direct engagement (2); providing support and information via tools and data stewards (3). The examples discuss adoptable good practices such as ANR (France)'s approach to including all departments (scientific, legal, communication and financial) in its consultations for the development of its RDM policy or the work of the DMPTuuli group in Finland bringing together representatives from universities and research institutes thus addressing national alignment challenges from the policy development phase.

In 2019 the FAIRsFAIR project published an overview of the data policy landscape in Europe, building on previous work and versions reported by the Digital Curation Centre and SPARC Europe. FAIRsFAIR has later released an analysis and series of recommendations for policy enhancement supporting FAIR data and the FAIR ecosystem and more widely the aims of the European Open Science Cloud. The recommendations provide practical guidance to researchers and data stewards and encourage cooperation with relevant initiatives (Davidson, Joy et al., 2020, p. 7-8). The project also advocates for   a common set of policy elements that should be employed by stakeholders in their policies, and highlights the importance of machine actionable policies and the need to focus "on describing those policy elements that may be considered 'rules' rather than simply suggested good practice to support machine-actionability" (Davidson, Joy et al., 2020, p. 8). Another subset of the FAIRsFAIR policy enhancement recommendations relate to semantic interoperability.These are also of particular relevance for policy alignment, as agreements on definitions and terms across stakeholders, along with agreed up on ontologies for policy makers, provide clarity and foster consensus.

The EOSCpilot project work on the prototype for an Open Science Policy Registry is also worth consulting. This is defined as "a database of EOSC and EOSC stakeholders' policies of relevance to Open Science" designed also to assist in evaluating compliance. "Policy records stored in the Registry should be FAIR, to be understandable by both humans and machines. The Registry will inform the EOSC OS Monitor, serve as a primary assessor of OS policy maturity and provide a tool for researchers to compare policies of organisations, infrastructures and services."(EOSCpilot, 2019, p. 38) RDA has been performing a similar effort focusing on rewards and incentives for Open Science via the Open Science Registry initiative https://openscienceregistry.org/

3. More details on the uptake of the Guide are available at
https://www.scienceeurope.org/news/uptake-of-recommendations-on-the-alignment-of-research-data-management/

4. The European Commission referred to the guide in its updated version of the Annotated Model Grant Agreement for Horizon 2020 (June 2019)
https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf

5. Initial version published on 29 January 2019.

A few Recommendations

Focus on key policy components that can constitute stepping stones for alignment: DMP requirements, repository guidelines and selection, persistent identifiers (PIDs), FAIR metrics.

Join national networks, to facilitate alignment with national legislation, national funders and policy makers - this work also facilitates your internal assessments and helps identify any existing gaps in your policies.

Join disciplinary networks, these facilitate alignment with disciplinary approaches and best practices and often provide guidance for internal processes for specific research domains or types of organisations such as the support CESSDA provides for archives, ELIXIR for life sciences research centers or DiSSCo for biodiversity domain.

Dedicate effort to communication and training before, during and after the RDM policy development. Providing training will facilitate awareness, collaboration and support alignment. The more direct the engagement from the outset, the less it seems that alignment efforts are an afterthought.

Provide tools and resources to navigate and use the RDM policy. These can be mind maps or infographics to highlight how policy components are connected and relate to other policies. Provide templates where applicable, for example DMP templates are valuable tools to ensure compliance but can also constitute points of convergence across disciplines and funding requirements.

Consider a principle - based approach - the widely adopted FAIR principles, complemented by the TRUST and CARE principles, should guide RDM policy development even if not explicitly referenced. Also bear in mind principles such as accountability and that policies should aim to be embedded (not to introduce additional bureaucratic burden) and be proportionate (to the size of the organisation or department and their data management needs and capabilities) (European Commission, 2020, p. 9).

Consider at all times the point of view of the researcher who should not be faced with conflicts in policy directions. (i.e. whether to follow institutional or funder DMPs). Organisational RDM policy as well as the funder expectations should align with the same set of core requirements, principles and guidelines.

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References/Sources and further reading

Davidson, J., Engelhardt, C., Proudman, V., Stoy, L., & Whyte, A. (2019). D3. 1 fair policy
landscape analysis. https://doi.org/10.5281/ZENODO.3558173

Davidson, Joy, Grootveld, Marjan, Whyte, Angus, Herterich, Patricia, Engelhardt, Claudia, Stoy,
Lennart, & Proudman, Vanessa. (2020). D3. 3 policy enhancement recommendations.
https://doi.org/10.5281/ZENODO.3686901

EOSCpilot. (2019). D3.6: Final Policy Recommendations.
https://www.eoscpilot.eu/sites/default/files/eoscpilot-d3.6-v2.7_0.pdf

European Commission. (2020). Data governance and data policies at the European Commission.
https://ec.europa.eu/info/sites/info/files/summary-data-governance-data-policies_en.pdf

Science Europe. (2021). Practical Guide to the International Alignment of Research Data
Management.
https://www.scienceeurope.org/media/4brkxxe5/se_rdm_practical_guide_extended_final.pdf

Science Europe. (2020). Implementing Research Data Management Policies Across Europe –
Experiences from Science Europe Member Organisations.
https://www.scienceeurope.org/media/jikjlb2g/se_rdm_best_practices.pdf

Mendez, E. ; Lawrance, R. ; MacCallum, C. J. ; Moar, E. & al. (2020) Progress on Open Science:
Towards a Shared Research Knowledge System. Final Report of the Open Science Policy
Platform. https://doi.org/10.2777/00139