Unserved dependencies in OA workflows

A case study: persistent identifiers

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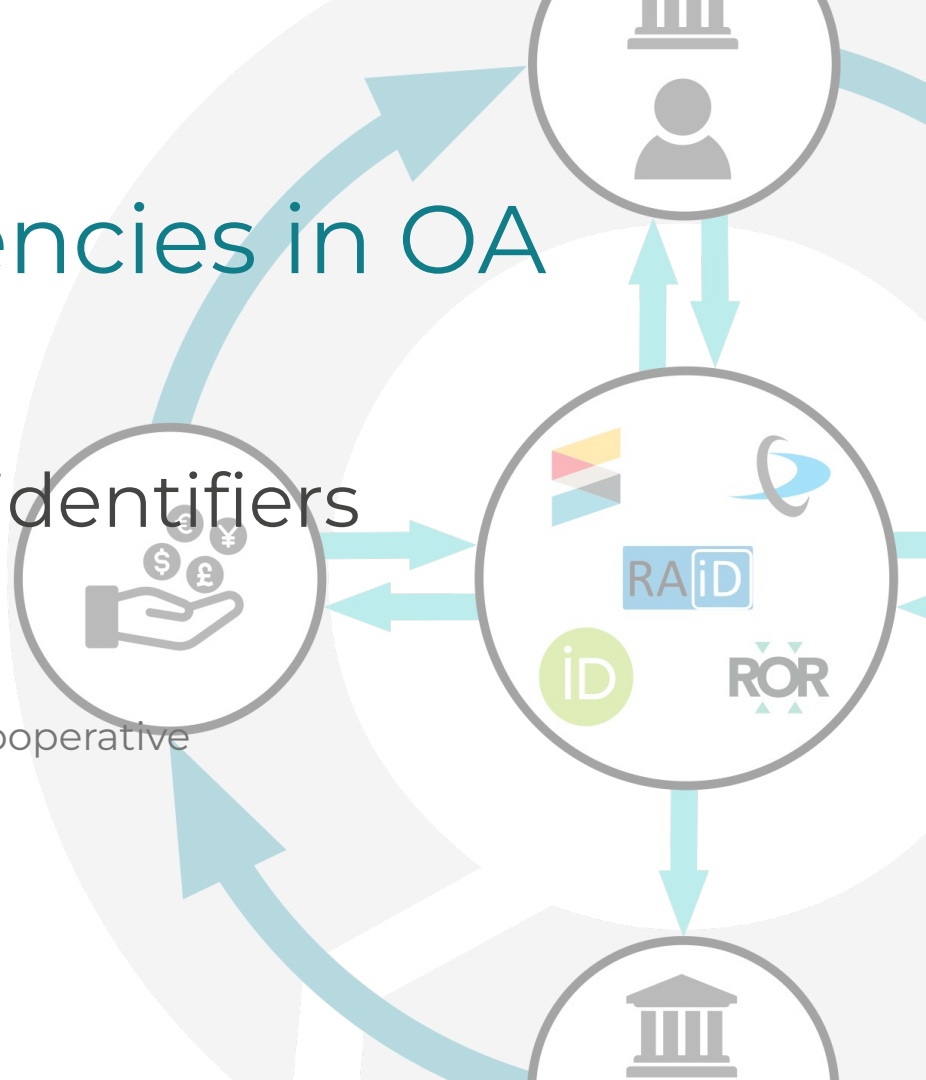

Acknowledgements

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Why use PIDs as a case study?

*"This is all about **shared infrastructure**, standardised messaging protocol, and integration with existing systems, **powered by Persistent Identifiers (PIDs).**"*

*"**PIDs are indispensable**."*

*"The biggest insight was that **PIDs in article-level metadata are critical for solving real problems**. And, that it is not too late to implement PIDs."*

Yvonne Campfens, OA Switchboard.
https://www.oaswitchboard.org/blog8dec2021

Priority workflow development

We developed four ‘ideal world’ PID-optimised workflows, beginning with an initial model co-created with our UK partners, and then validated internationally:

- Funding
- Content publication
- Research data
- Institutional research management

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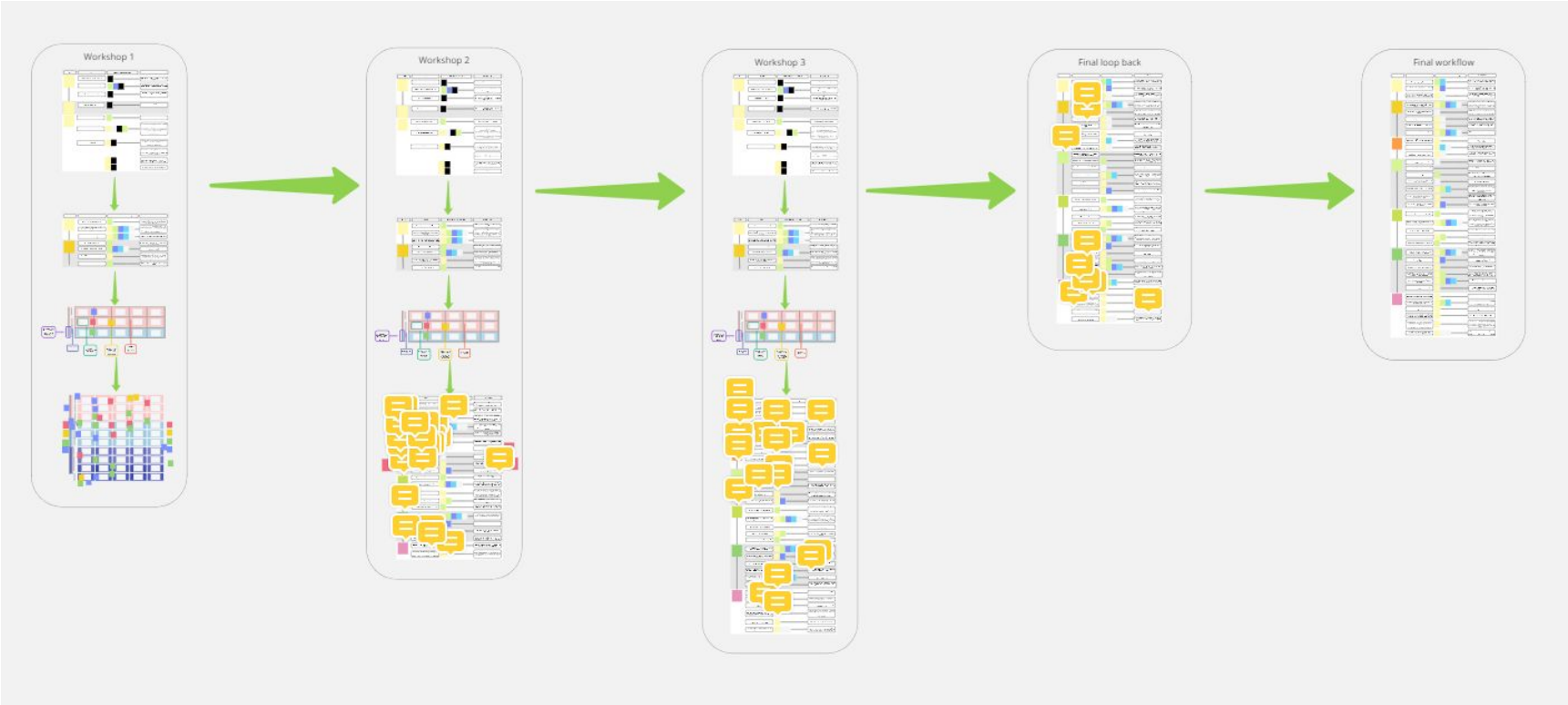
A snapshot of our workflow development



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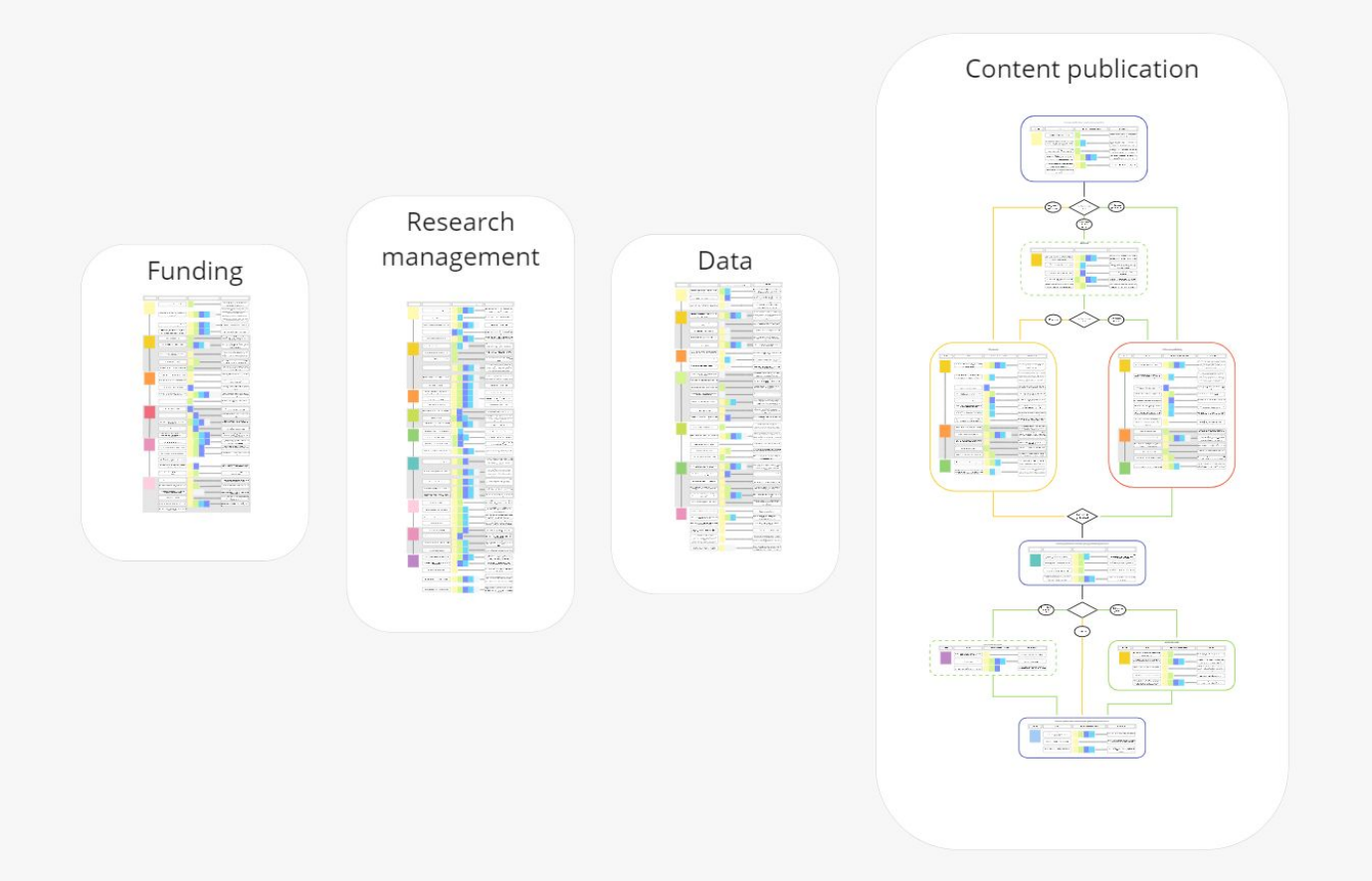
The workflows



The four workflows cover each stage in the research lifecycle, from developing a hypothesis to project impacts

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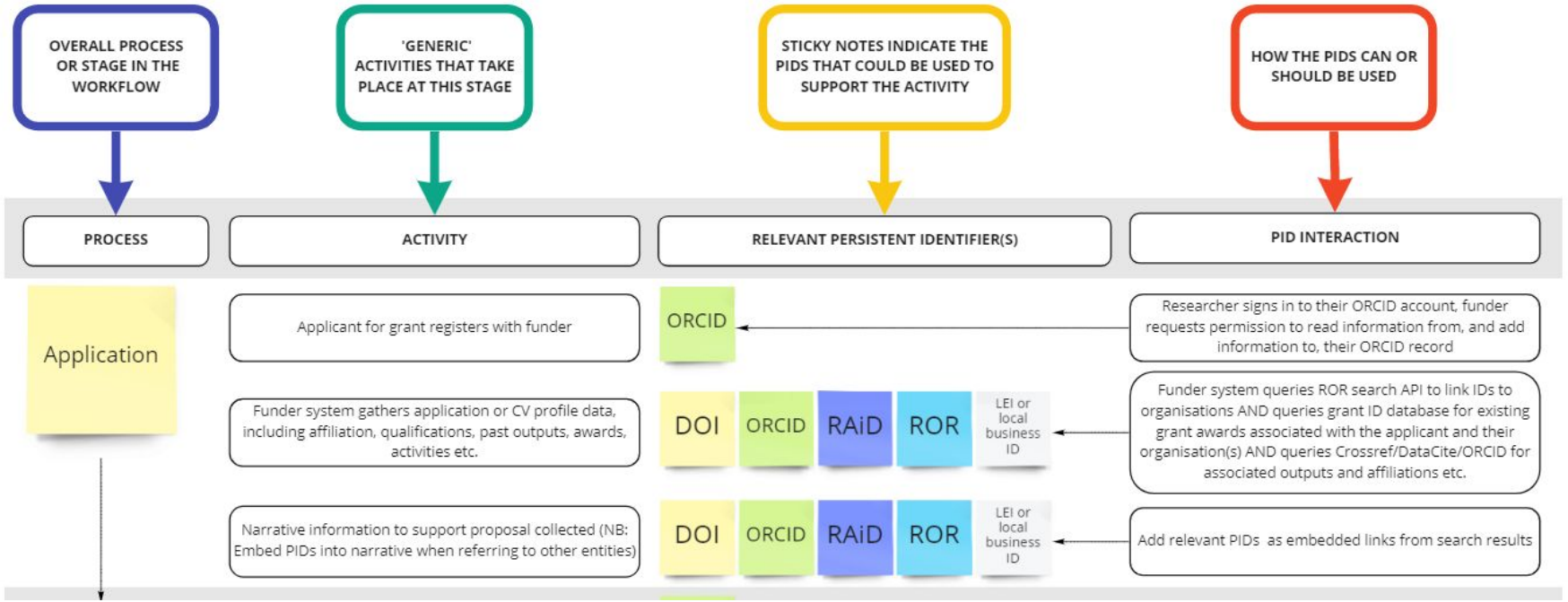
How the PID-optimised workflows are designed

Our approach is to link activities to specific ‘PID optimisations’ at every step



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Which PIDs optimise these workflows

In line with the UK national PID strategy[1], we have focused this analysis on five 'priority PIDs':

- Grants (Crossref DOIs)
- People (ORCID IDs)
- Projects (Research Activity Identifier - RAiD)
- Organisations (Research Organization Registry - ROR)
- Outputs (Crossref and DataCite DOIs)

Note that these are all **open infrastructures** providing **FAIR metadata**

1) https://repository.jisc.ac.uk/7840/

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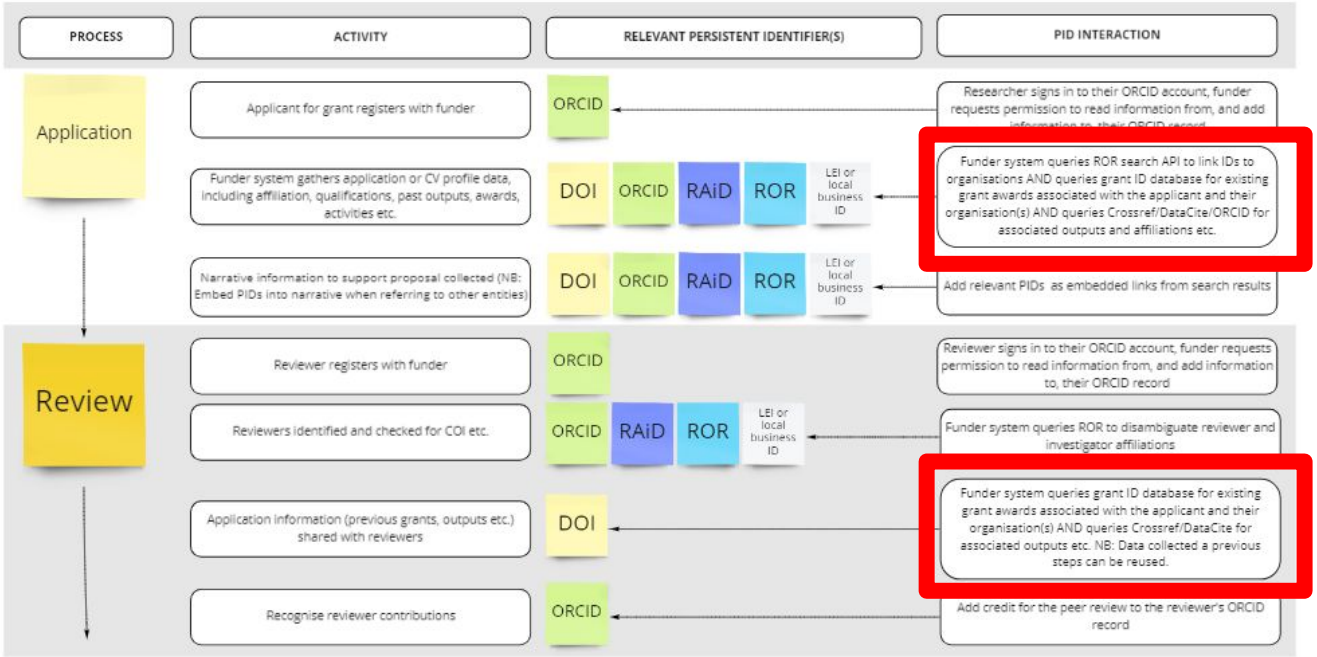
Learning from the PID-optimised workflows



One principle we identified is that collecting and sharing information at the earliest possible stage maximises efficiency AND transparency

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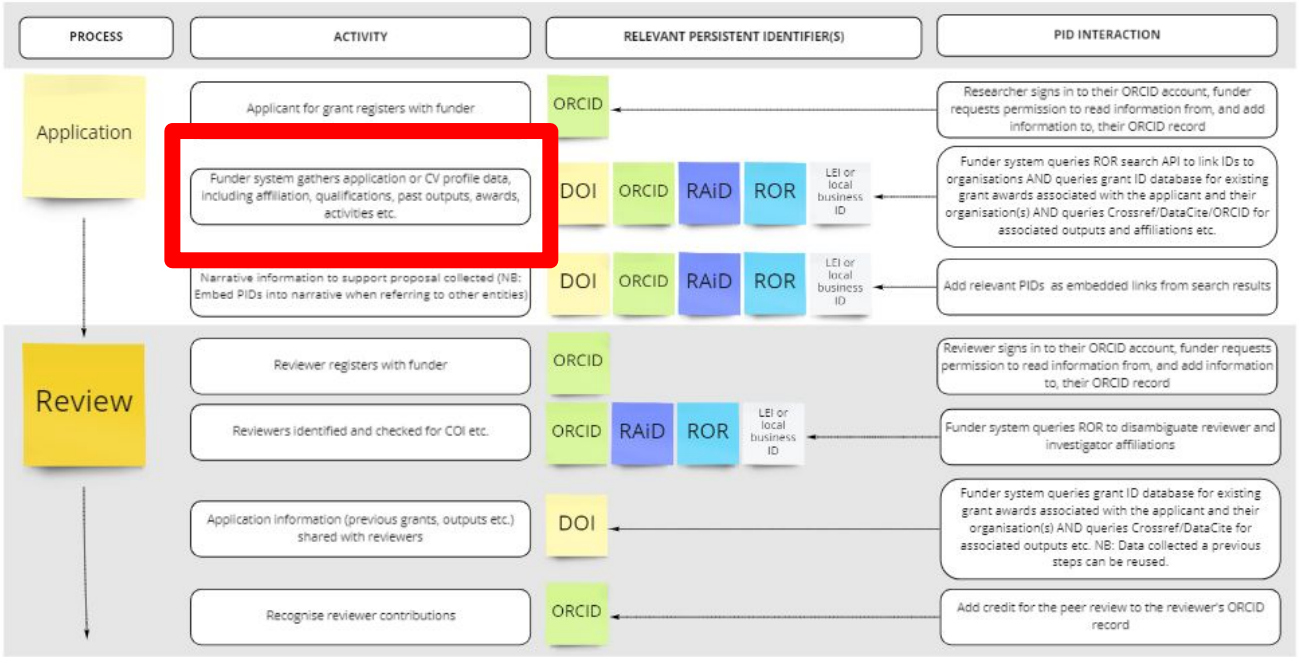
Learning from the PID-optimised workflows



The workflows make it very easy to identify dependencies on PID systems and actions taken by other players in the ecosystem

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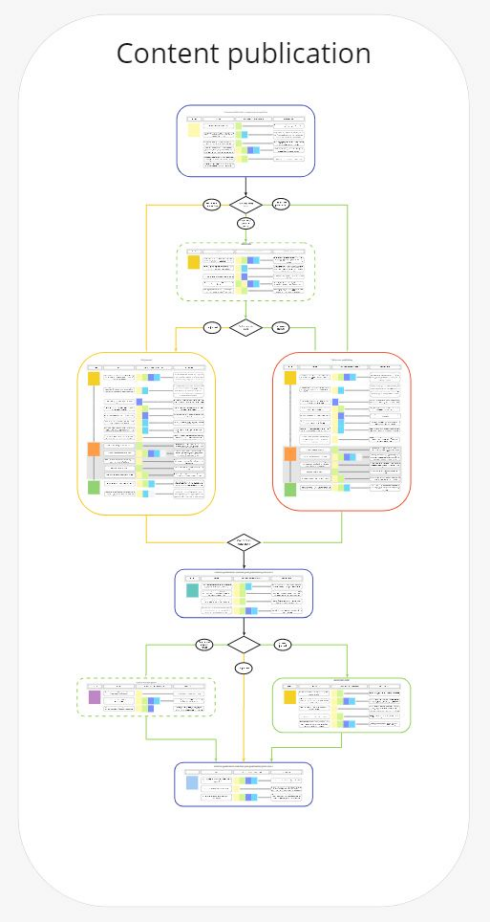
PIDs in various open access publication workflows



This is our content publication workflow.

It takes in pre-print servers, Gold OA journals, toll-access journals, and institutional/subject repositories.

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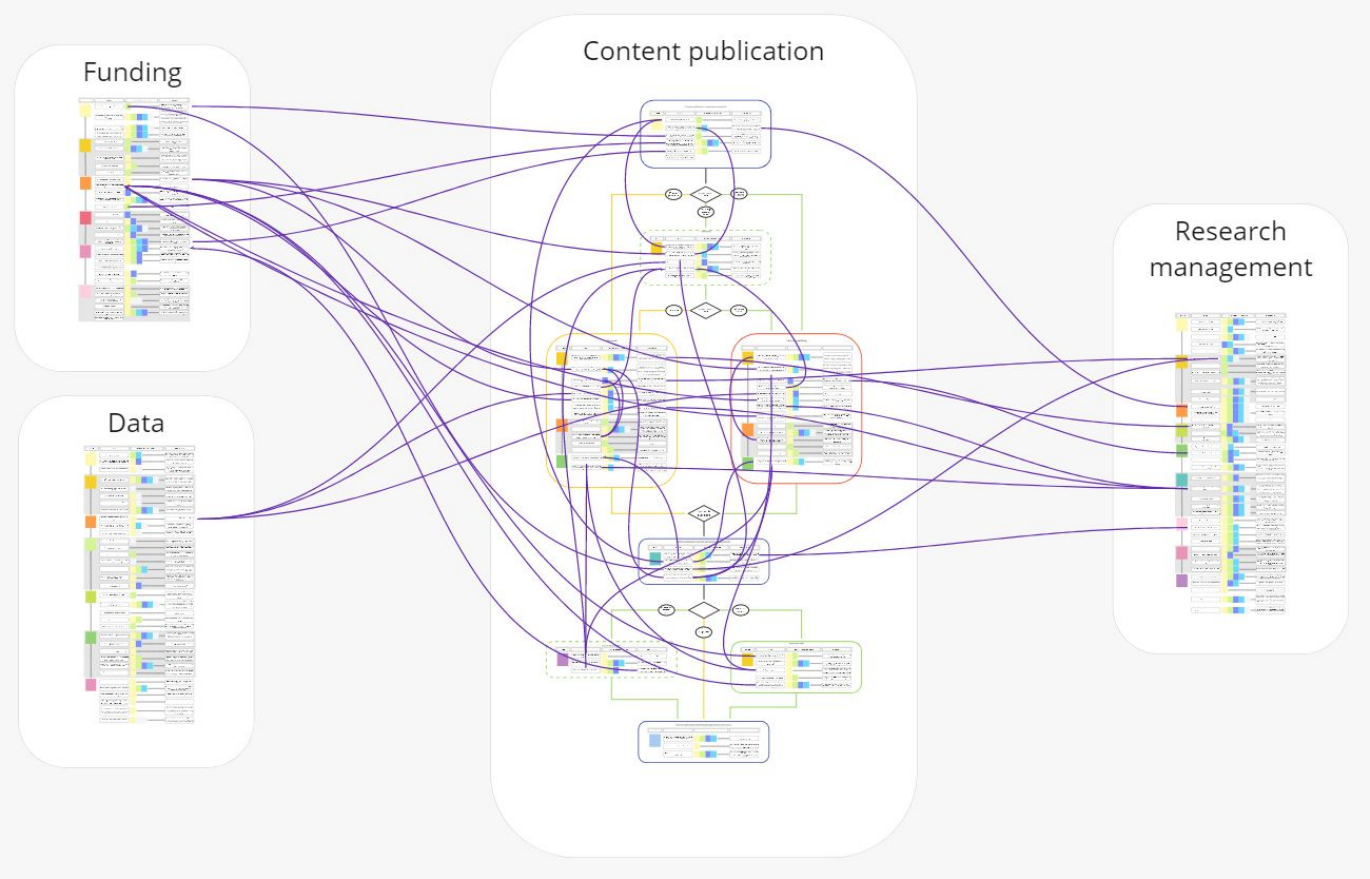
Mapping dependencies across workflows



Every purple arrow represents a dependency on an action taken earlier in the publication process, or on a funder or institutional action.

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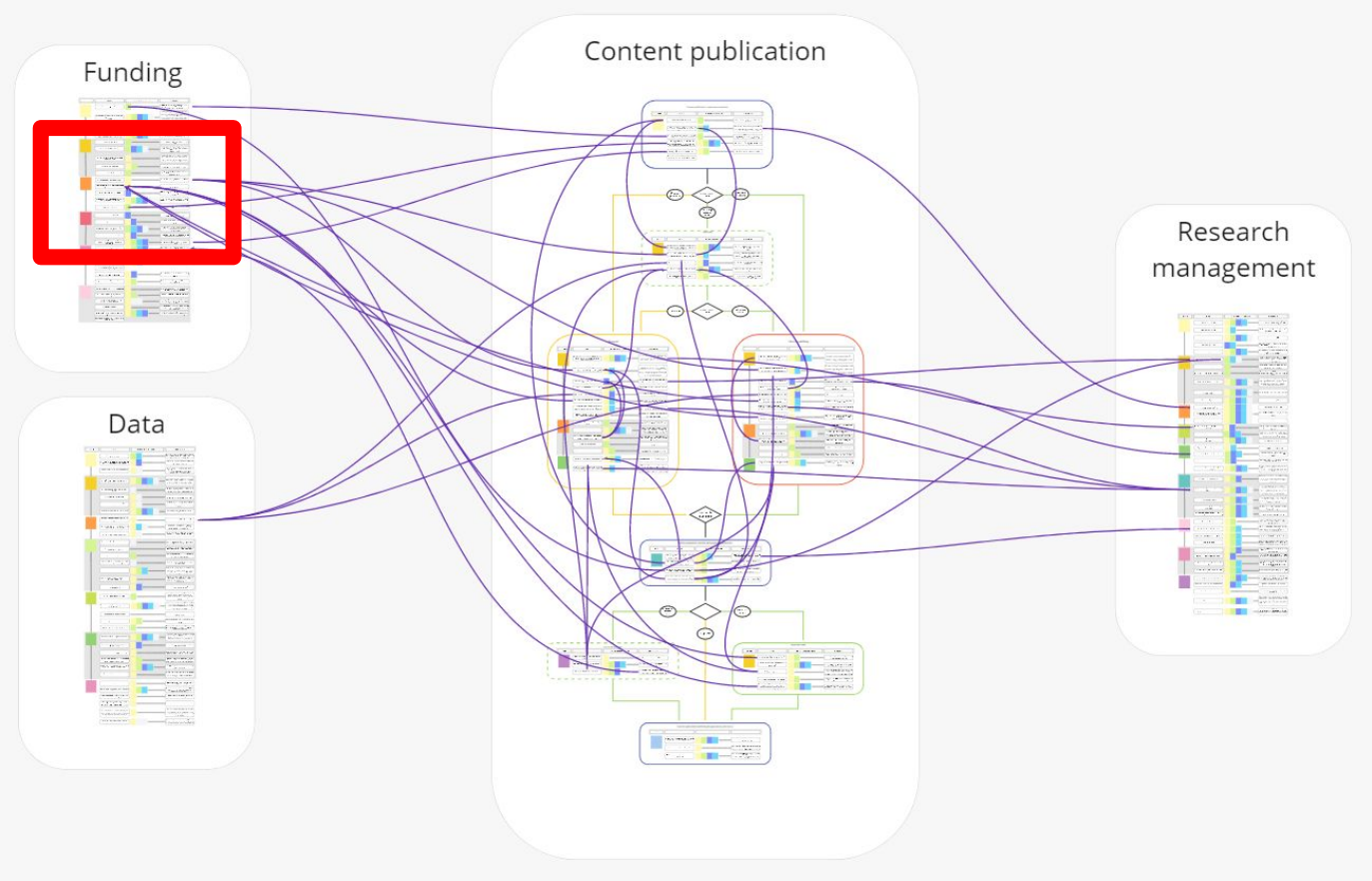
Mapping dependencies across workflows



Here is a critical dependency: funders registering a DOI for each grant, and linking it to actionable information about their OA policies etc.

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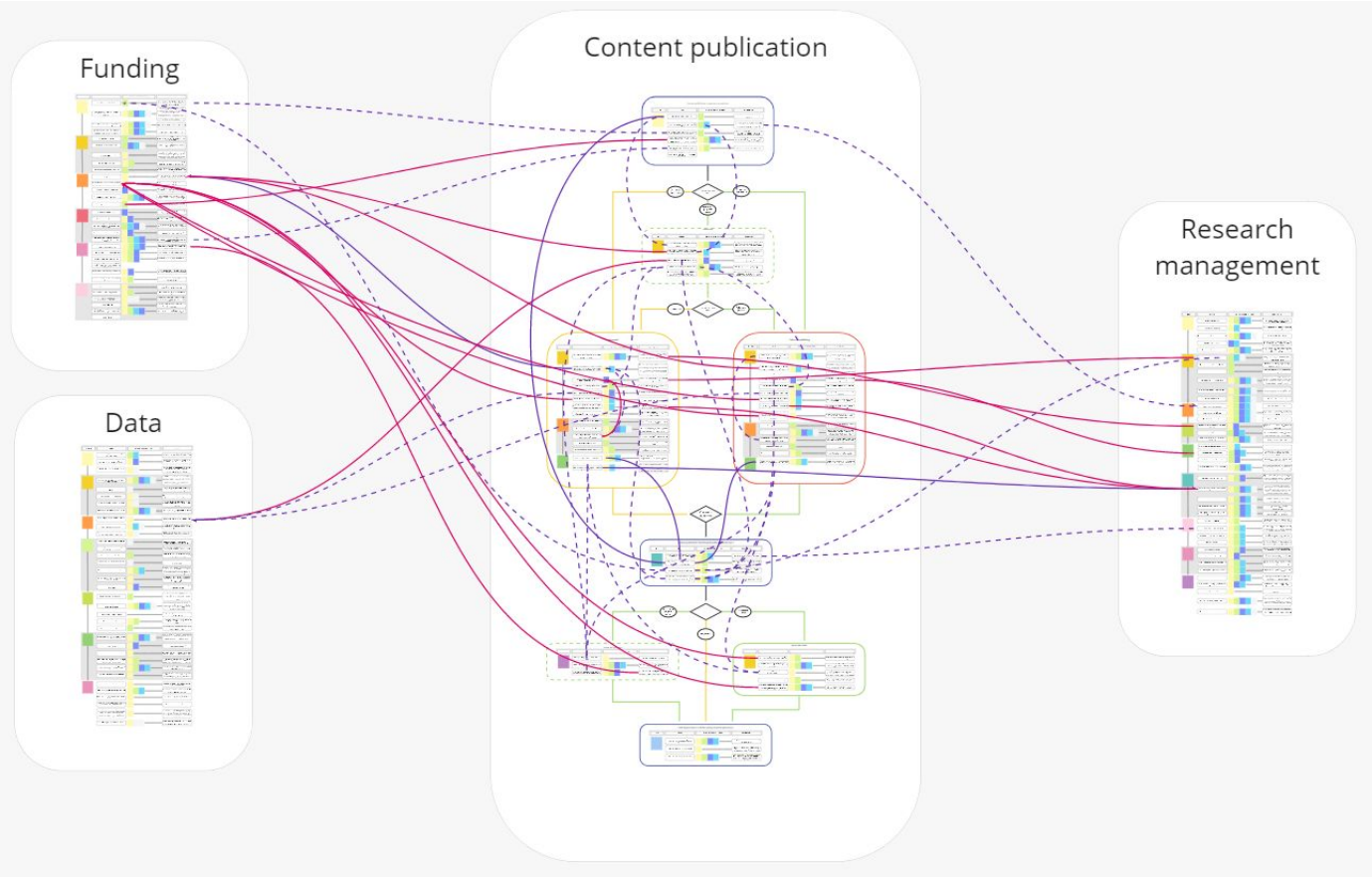
Mapping dependencies across workflows



Dotted lines show dependencies which are *sometimes* served.

Red lines are missing.

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The negative

Every red or dotted line represents manual data entry, multiple emails back and forth to request and share information, and a lot of frustration

The negative

Every red or dotted line represents a waste of time, money, and expertise

The positive

These dependencies could all be served using PIDs, services, and metadata that ***already exist***

The take home messages

1) Everyone benefits IF AND ONLY IF everyone else does their bit

2) We need better standards for metadata exchange between PID registries - because the benefits come from reusing that metadata

3) We need to work collectively to lower the cost and difficulty of implementing these systems - large and small players need to be able to leverage these critical infrastructures (see point one above!)

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