Risks and Trust in pursuit of a well-functioning PID infrastructure for research

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Overview

1. Background for the study
2. Study’s design and some (early) results
Background for the study
The study

Commissioned by: Knowledge Exchange (KE)
https://www.knowledge-exchange.info/

- Six European partner organisations tasked with developing infrastructure and services to enable the use of digital technologies to improve higher education and research: CSC in Finland, CNRS in France, DeiC in Denmark, DFG in Germany, Jisc in the UK and SURF in the Netherlands.

- Focus: Support the development of digital infrastructures to enable open science.
The study

Focus

https://www.knowledge-exchange.info/news/articles/24-06-2021

- An investigation on how to better understand what is needed to build and exploit a well-functioning PID infrastructure for research.

- To identify what could be the best possible strategic and operational paths to achieve a well-functioning PID infrastructure by ...

- ... considering well-known and consolidated sorts of PIDS (for publications, data, software, persons, organisations, archived objects) but also gradually emerging e-infrastructure (e.g. research equipment, facilities, conferences, medical or environmental science samples).
The study

The consultants

- **Pablo de Castro**: Open Access Advocacy Librarian at the University of Strathclyde in Glasgow since Jan 2017. Technical Secretary of the Dutch non-profit association euroCRIS since Jan 2018. Former OpenAIRE project officer. Member of the EOSC Association Task Force for PID Policy and Implementation.

- **Dr. Ulrich Herb** (project lead): Open Access advocate and head of the Publication and Research Support Department at Saarland University, independent consultant.

- **Laura Rothfritz**: Research assistant and PhD candidate at the Berlin School of Library and Information Science at Humboldt University Berlin.

- **Dr. Joachim Schöpfel**: Professor for Information Science at the University of Lille and independent consultant.
Study’s design and some (early) results
Study outline

1. Data collection
   1.1. Literature study on Risk & Trust on technical infrastructures, especially PIDs
   1.2. Interviews with experts in the domain
2. Analysis and summary use cases
3. Formulation of recommendations
4. Summary report
Study outline

1. Data collection
   1.1. Literature study on Risk & Trust on technical infrastructures, especially PIDσs ✓
   1.2. Interviews with experts in the domain
2. Analysis and summary use cases
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4. Summary report
## Study outline

- WP 1 Data Collection
- Literature Study
- Interviews

## Project timeline

<table>
<thead>
<tr>
<th>2021</th>
<th>2022</th>
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<tr>
<td>Sep Oct Nov Dec Jan Feb Mar Apr May Jun</td>
<td>Sep Oct Nov Dec Jan Feb Mar Apr May Jun</td>
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<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16</td>
</tr>
<tr>
<td>WP 1 Data Collection</td>
<td>WP 2 Analysis and Case Studies</td>
</tr>
</tbody>
</table>
A PID infrastructure consists of

- Service providers
- Repositories/CRISs
- Curation systems
- Aggregators
- Indexes
- Metadata
- Standards
- ...and PEOPLE

A PID is only as good as the services built around it, and PID services are only as good as the social adoption and sustainability they can achieve → technical AND social infrastructure

Cousijn et al., 2021
Trustworthy PID Systems

- Maintained by dedicated and reliable team
- Based on a transparent and sustainable business model
- Provided by a non-profit organization
- Subject of regular quality assessments by external parties
- Governed by international boards
- Based upon open standards
- Based on a redundant and secure architecture
- Support a huge address space
- Support and openly documented API optimally supporting accepted data models
Trustworthy PID Service providers

- PID registration and resolution has no costs to end users
- PID Services should have Technology Readiness Level 8 (system complete and qualified) or 9 (actual system proven in operational environment)
- 24/7 availability is ensured, responsibilities for service maintenance are documented clearly
- There is a clear sustainability and succession plan with an exit strategy in place
- PID Service providers and Authorities are regularly certified based on agreed standards
- An accessible API is in place for the development of a generic, global resolution system across all systems and providers

EOSC PID policy, 2020
## Connection to [Knowledge Exchange] Open Scholarship Framework (OSF)

<table>
<thead>
<tr>
<th>Arena</th>
<th>Possible event</th>
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<tbody>
<tr>
<td>Political</td>
<td>PID owners stop maintaining metadata, loss of organizational government</td>
</tr>
<tr>
<td>Economic</td>
<td>Financial sustainability is no longer given, financial support is lacking</td>
</tr>
<tr>
<td>Social</td>
<td>Key players in the PID system change or end their involvement, lack of community uptake</td>
</tr>
<tr>
<td>Technological</td>
<td>Technology the PID relies on is changed for whatever reason</td>
</tr>
</tbody>
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Expert Interviews

- Selection of experts based on **6 generic user roles for PIDs**
  - PID Authority (e.g. DOI Foundation)
  - PID Service Provider (e.g. DataCite, CrossRef)
  - PID Manager (e.g. stakeholders operating repositories & CRIS systems, publishers/database providers)
  - PID Owner (e.g. Repository/CRIS managers)
  - PID Users (e.g. researcher, funders, (reference management) software)

... and by considering the KE partner countries’ representation in the sample.
Study outline

Interviews with experts in the domain

- Planned: 15 interviews (roughly 1-hr long)
- Two phases: 45-min semi-structured interview + 15-min open discussion.
- Three interviews already conducted, five additional ones in the pipeline (as of Dec 8th, 2021)
Research infrastructures: metadata model & data capturing in FRIS

euroCRIS webinar, Nov 24th, 2021
FRIS: Metadata model for research infrastructure

- Characteristics
  - 25 metadata fields
  - Identifier
  - Federated identifier
  - Name
  - Acronym
  - Description
  - Keywords
  - Type
  - Location type
  - Accessibility
  - User modalities
  - Starting date
  - End date
  - Location(s)
  - Contact
  - Website

Links to other research objects

- Technology classification (Fraunhofer-35)
- Research disciplines (FRDS)
- Data provider is consortium coordinator?
- Consortium coordinator
- Organisation(s) of consortium partners of infrastructure project
- Affiliations of consortium partners of the infrastructure project that provide data to FRIS
- Link to funding project(s)
- Link to projects utilizing infrastructure
- Link to publications utilizing infrastructure
- Link to other infrastructure

http://hdl.handle.net/11366/1867
Uniform Resource Identifier: https://ppm.edu.pl/info/infrasctructure/UMW691b649662a240bba08cb3e34d745bbd/
URN: urn:umed-ppm-prod:UMW691b649662a240bba08cb3e34d745bbd
Contact

Thanks for your attention

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