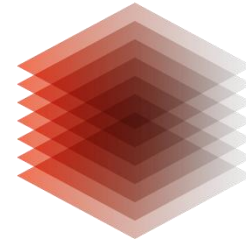LEIBNIZ INFORMATION CENTRE
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ROSI (Reference Implementation for Open Scientometric Indicators)

Grischa Fraumann & Svantje Lilienthal
Workshop on Open Scientometric Data Infrastructures
Centre for Science and Technology Studies (CWTS), Leiden University
Leiden, 1 March 2019
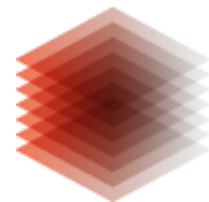
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Agenda

ROSI project

- ROSI (Reference Implementation for Open Scientometric Indicators)

- Project funded by the German Federal Ministry of Education and Research (BMBF)

- Part of the funding framework 'quantitative research on the science sector'

- TIB – Leibniz Information Centre for Science and Technology

- Duration: October 2018 until September 2020

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Federal Ministry of Education and Research

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ROSI

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ROSI project (continued)

Project goals

- To develop a reference implementation for indicators based on open data sources
- To gather the needs and concerns of researchers concerning scientometric indicators

Team

Lambert Heller, Christian Hauschke, Svantje Lilienthal & Grischa Fraumann

Project description

tib.eu/rosi-project

Project proposal at RIO Journal

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Background

- Digital transformation of research provides new opportunities

- Scientometric infrastructures, data and indicators should be **open** and owned by the scientific community

- Research evaluation is oftentimes driven by research administration, research policy and research funding

- The needs of researchers are often neglected

- For example, researchers should be able to **customize** scientometric visualisations

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Approach

- Scientometric data based on **open** data sources:

  - i.e. open license, available interfaces

- Involving the scientific **community**:

  - gathering user feedback from researchers (selecting scientometric sources, indicators and visualizations)

- Building on existing open science infrastructure and contributing to developments in Open Science and Open Source

  ▶ **Towards open scientometric data as part of the ROSI project**

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Project activities

- Collecting and **evaluating** open data sources

- Publishing the open data sources in a **public registry** (work in progress)

- Inviting **feedback** by the scientific community (work in progress)

- Developing a reusable **prototype** for customizable scientometric indicators in VIVO

- Evaluating prototype through **interviews and surveys** with stakeholders

- Publishing results (e.g. user handbook)

- Collaborating with other initiatives / projects planned

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Project outcomes

- Registry of Open Scientometric Data Sources (selection)

- Metadata schema of data sources

- Data conception

- Entity types

- Concepts (work in progress)

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Registry of Open Scientometric Data Sources

Click on the name of a data source for more information. Detailed view | Technical description | More views

Create new data source entry

[   ] Suchen

selection

Data Source

| Name	Link	Description
BASE	https://www.base-search.net/	"BASE is one of the world's most voluminous search engines especially for academic web resources. BASE provides more than 120 million documents from more than 6,000 sources. You can access the full texts of about 60% of the indexed documents for free (Open Access). BASE is operated by Bielefeld University Library." https://www.base-search.net/about/en/index.php
Crossref Event Data	https://www.crossref.org /services/event-data/	"The service provides a record of instances where research has been bookmarked, linked, liked, shared, referenced, commented on etc, beyond publisher platforms. For example, when datasets are linked to articles, articles are mentioned on social media or referenced in Wikipedia." https://www.eventdata.crossref.org/guide/introduction/
DataCite	https://datacite.org/	DataCite assigns persistent identifiers (digital object identifiers, DOIs) to research data. This provides the opportunity to locate and cite research data, among others.
Directory of Open Access Journals (DOAJ)	https://doaj.org/	The Directory of Open Access Journals (DOAJ) provides a list of open access journals. Journals need to apply for a review process before they can be included into DOAJ.
dissemin	https://dissem.in/	"Dissemin detects papers behind pay-walls and invites their authors to upload them in one click to an open repository." https://dissem.in/

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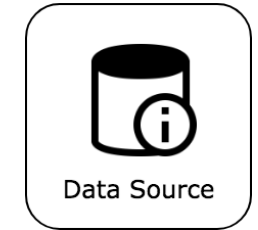
Metadata schema of data sources

Link	Enter the link to the data sources homepage.
Description	Enter a description and if its a quote please enter the source as well.
Logo	Enter a (persistent) link to an image.
Category	Select one or more of these category that describe the type of data source: Repository / Data aggregator / Online social network / Collaborative plattform.
Academic discipline	Select one or more academic disciplines: Arts & Humanities / STEM / Social Sciences.
Entity	What kind of entity can be described by this data source? Please select: Work / Person / Organisation / Event / Project.
Licence	Please add licence info with link.
Interface	Please add link to the data ingest itself.
Type of Interface	Select the type of interface: REST API / API / other.
Data Format	Enter the response data format.
Documentation	Enter link to technical documentation (e.g. of the interface).

Data Source

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Data conception
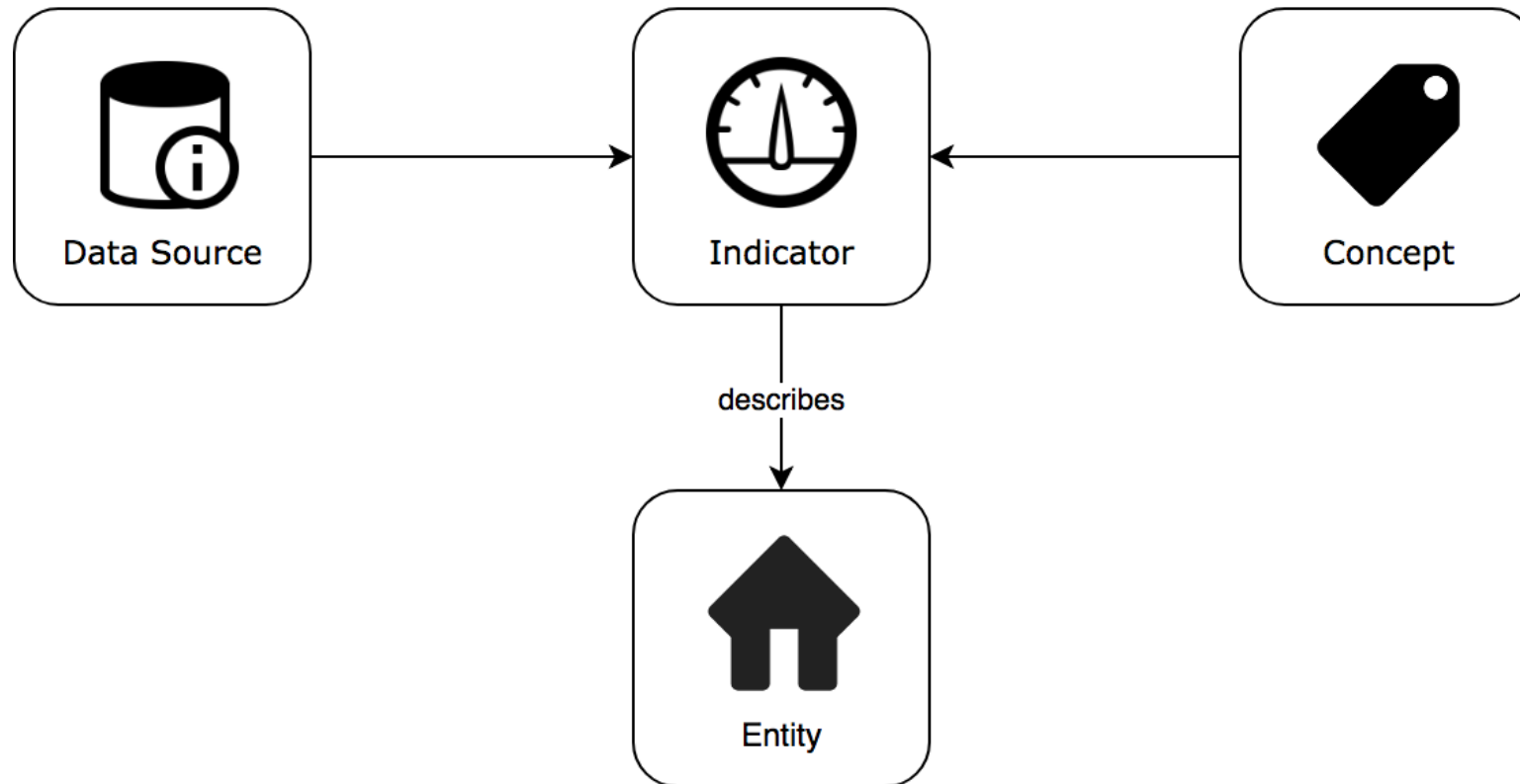
Entity types
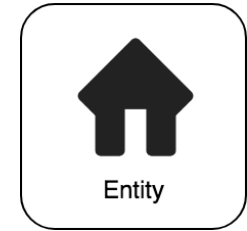
Entity

Entity	Description
Event	An event can be a conference, a workshop, a meeting, etc.
Organisation	An organisation refers to universities, research centres, departments, research groups, etc.
Person	Mostly a researcher, but can also be anybody else
Project	A project refers to research projects, third-party funded projects, etc.
Work	Work refers to research output of all kinds, e.g. articles, books, preprints, protocols, software, research data, etc.

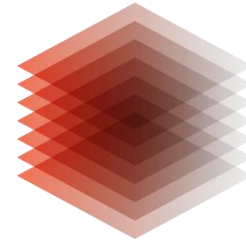Grischa Fraumann & Svantje Lilienthal

Concepts

work in progress

Name	Description
Community	Involvement in the community, e.g. participation at conferences, presentations and keynotes, etc.
Openness	Level of openness; can be based on different metrics
Scientific Impact	Level of scientific impact; can be based on different metrics
Societal Impact	Level of awareness, publicity; Recognition from societal groups or for societal activities

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Conclusion

- Scientometric infrastructure, data and indicators are being developed together with users, i.e. researchers

- Data conception is still work in progress

- Project outcomes might be applied in other contexts

- Reference implementation might be implemented in other systems apart from VIVO

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Thank you.

https://tib.eu/rosi-project

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Discussion

1. What is your favorite **open data source**, and why?

2. Examples of use cases: How would you **use** the **registry of open data sources?**

3. What **entities and concepts** would you add? What is missing in your opinion?

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Literature

Gusenbauer, M. (2018). Google Scholar to overshadow them all? Comparing the sizes of 12 academic search engines and bibliographic databases. *Scientometrics*, *16*(11/12), 3. https://doi.org/10.1007/s11192-018-2958-5

Hauschke, C., Cartellieri, S., & Heller, L. (2018). Reference implementation for open scientometric indicators (ROSI). *Research Ideas and Outcomes*, *4*, 59. https://doi.org/10.3897/rio.4.e31656

IFLA. (2017). *IFLA Library Reference Model (LRM)*. Retrieved from https://www.ifla.org/publications/node/11412

Neylon, C. (2017). *Knowledge Exchange Approach Towards Open Scholarship.* https://doi.org/10.5281/zenodo.826643

Sugimoto, C. R., & Larivière, V. (2018). *Measuring research: What everyone needs to know®.* New York: Oxford University Press.

Wouters, P., Zahedi, Z., & Costas, R. (2018). *Social media metrics for new research evaluation*. Retrieved from http://arxiv.org/pdf/1806.10541v1

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