Towards an integrated research information infrastructure at the Nordic level

Gunnar Sivertsen

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Overview

1. European Network for Research Evaluation in the Social Sciences and Humanities (ENRESSH)
2. Nordic collaboration
3. The VIRTA solution
4. Discussion: Developing CRIS as data sources for studies of research
Overview

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4. Discussion: Developing CRIS as data sources for studies of research
More than 125 participants from 37 countries

Aims:

- A better understanding of how the SSH generate knowledge and contribute to society

- Develop appropriate research evaluation methods for the SSH
Four workgroups

1. Conceptual frameworks for SSH evaluation
2. Societal impact and relevance of the SSH research
3. Databases and uses of data for understanding SSH research
4. Dissemination
Example of outcome

Publication patterns in the social sciences and humanities: evidence from eight European countries

Emanuel Kulczycki1 · Tim C. E. Engels2 · Janne Piiloenen3 · Kasper Bruun4 · Marta Duskoval5 · Raf Guns2 · Robert Nowotniak6 · Michal Petr7 · Gunnar Sivertsen8 · Andreja Istenič Starčič9,10 · Alesia Zuccala11

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Abstract This study investigates patterns in the language and type of social sciences and humanities (SSH) publications in non-English speaking European countries to demonstrate that such patterns are related not only to discipline but also to each country’s cultural and historic heritage. We investigate publication patterns that occur across SSH publications of the whole of the SSH and of economics and business, law, and philosophy and theology publications in the Czech Republic, Denmark, Finland, Flanders (Belgium), Norway, Poland, Slovakia, and Slovenia. We use data from 74,022 peer-reviewed publications from 2014

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Overview

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Implementation of the «Norwegian model»

The model has three components:

A. A complete representation in a national database of structured, verifiable and validated bibliographical records of the peer-reviewed scholarly literature in all areas of research;

B. A publication indicator with a system of weights that makes field-specific publishing traditions comparable across fields in the measurement of “Publication points” at the level of institutions;

C. A performance-based funding model which reallocates a small proportion of the annual direct institutional funding according the institutions’ shares in the total of Publication points.
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A. A complete representation in a **national database of structured, verifiable and validated bibliographical records** of the **peer-reviewed** scholarly literature in all areas of research;

B. A **publication indicator** with a system of weights that makes field-specific publishing traditions comparable across fields in the measurement of “Publication points” at the level of institutions;

C. A **performance-based funding model** which reallocates a small proportion of the annual direct institutional funding according the institutions’ shares in the total of Publication points.
Principles behind the use of institutional data in a shared national Current Research Information System

- **Completeness**: All scholarly publications and other results from research are included.

- **Transparency**: Every institution can see and check all other institutions' data. The national database is also online and open to society at large.

- **Multiple use of the data**: CV’s, applications, evaluations, annual reports, internal administration, bibliography for Open Archives, links to full text, etc.
Each university has a local Pure system.

**Pure**

Pure facilitates an evidence-based approach to your institution’s research strategy, assessment exercises and day-to-day business decisions.

Research information is often fragmented across various systems and spreadsheets within an institution. This leads to administrative overhead, inconsistent and incomplete data and unreliable reports, all of which adversely affect business decisions.

Pure aggregates your organization’s research information from numerous internal and external sources, and ensures the data that drives your strategic decisions is trusted, comprehensive and accessible in real time. A highly versatile system, Pure enables your organization to build reports, carry out performance assessments, manage researcher profiles and more, all while reducing administrative burden for researchers, faculty and staff.

**Comprehensive research information management**

Pure combines your institution’s internal systems such as your HR, student administration, finance and award management systems, along with a variety of external data sources plus any legacy data into a single platform. An advanced enterprise-wide system, Pure validates the information through workflows that support your existing business processes. Researchers, administrators and delegates enter supplemental data just once and personnel throughout the organization use the information in Pure for a wide range of purposes.

**Capture data across the world of research**

Pure delivers your institution an all-inclusive view of researchers’ activities and accomplishments. The content types in Pure, shown below, are highly interconnected so a user can identify a person through related outputs, activities, projects, funding and more. These relationships allow your institution to report across all content in the system without limitations.
Each university has a local Pure system.

Annually, data from the local systems are exported to, and integrated in, a national database owned by the Government.
The universities have different systems.

Annually, data from the local systems are exported to, and integrated in, a national database owned by the Government (the VIRTA solution).
National database – Sweden’s solution

- The universities have **different** systems
- SwePub harvests data from local publication databases

SwePub – national research publication database

- Run by the National Library
- Harvests records from 40 publication databases using OAI-PMH protocol
- 1 100 000 + Swedish publication records aggregated
  - 70 000 new per year
  - links to full texts
Nordic List: Nordic collaboration on online dynamic registers of scholarly publication channels
### Library and Information Science

Scientific panel: National Academic Council for Information Science

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# Collaborations also with

**Directory of Open Access Journals**

**Clarivate Analytics**

**Web of Science**

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Criteria for inclusion

To be included in ERIH PLUS, journals must meet the following minimum requirements:

1. Established procedures for external peer review
2. Academic editorial board (or an equivalent)
3. Valid ISSN code, confirmed by the international ISSN register
4. Publication of all original articles with abstracts in English and/or another language relevant for the field
5. Information on author affiliation and address
6. International or national authorship

See full details about criteria and approval procedures.
Overview

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The Juuli portal contains information on the research publications produced at Finnish organizations. The publications of Finnish universities and hospital districts are included starting from year 2011, and the publications of universities of applied sciences starting from 2012. A number of state research institutes have joined the data collection starting from 2014 and 2015.

The data has been obtained from the research organizations as part of the annual data collection conducted by the Ministry of Education and Culture. Starting from 2016 some of the organizations have been providing their data automatically on a daily basis to the Virta Research Information Service, from which the data is harvested into Juuli. For these organizations the portal contains information on more recent publications as well.

Statistical analyses on publication data can be obtained from the Vipunen reporting portal (www.vipunen.fi) that contains not only data on publications but also other information related to the operations of research universities and universities of applied sciences.

Juuli is maintained by the National Library of Finland in collaboration with the Finnish Ministry of Education and Culture and CSC - IT Centre for Science.
Principles for a European solution

- VIRTA Publication Information Service compiles real time information on publications at the national level.
- VIRTA can provide a convenient and cost-efficient way of developing a European publication information database.
- The concept and the technical solution are expandable to compilation of data from countries and organizations across Europe.
- Requires common European standardizations and definitions for data content – as already provided by CERIF (www.eurocris.org).
Principles for a European solution

- Any European country or single organization can provide its data.
- Data transfer from national or local CRISes in a standardized format – annually or more frequently.
- All data freely available in a public portal and for services.
Objectives of a European Research Information Service

- **Completeness**: All scholarly publications and other research outcomes are included
- **Coverage**: Any European country or institution can join
- **Quality**: Revision process and shared standards and definitions to improve commensurability and uniformity
- **Transparency**: Every institution can see, check and compare all other institutions’ data
- **Usability**: CV’s, applications, evaluations, administration, policy, research, information retrieval
- **Availability & Open Access**: Online infrastructure for research literature, metadata with links to full texts, OpenAIRE
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Published in August 2019:

Gunnar Sivertsen: Developing Current Research Information Systems (CRIS) as Data Sources for Studies of Research

A chapter in the handbook for the first time
Current research information systems (CRIS) are increasingly being used to standardize and ease documentation, communication and administration of research.
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With *broad coverage* and *sufficient completeness, data quality* and *standardization*, CRIS systems can also be used as data sources for *studies of research*. 
The new opportunities

- Current research information systems (CRIS) are increasingly being used to standardize and ease documentation, communication and administration of research.

- With **broad coverage** and **sufficient completeness, data quality** and **standardization**, CRIS systems can also be used as data sources for **studies of research**.

- Making CRIS **interoperable and comparable** across institutions and countries is **necessary** for the further development of CRIS for research purpose.
The remaining challenges

Most of the remaining challenges are not related technical solutions, but to an efficient production, sharing and use of contents.
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**CERIF** is only part of the solutions to this challenge.

The same is true for e.g. CASRAI, CrossRef, DataCite and ORCID.
The remaining challenges

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- The **main challenge** is creating comparable contents on the basis of shared definitions, classifications and authority records.

- **CERIF** is only part of the solutions to this challenge.

- The same is true for e.g. CASRAI, CrossRef, DataCite and ORCID.

- **OpenAIRE** needs data that are **already created and harvestable with comparable contents**. OpenAIRE thereby **efficiently demonstrates** the main challenges without being able to solve them.
Thank you for your attention!

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