

# **Access, Usage and Citation Metrics: What Function for Digital Libraries and Repositories in Research Evaluation?**

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# The Grand Challenge

- Growth and complexity of science: how to deliver meta-level info to the digital workbench?
- The value of access, usage and citation metrics
- Can DL and Repositories collect reliable metadata at source, ensure universal metric coverage and defray costs?

# Opportunities

- Develop a global metadata standard: authors, institutions and version control
- Supporting institutional visibility and impact (webometrics)
- Research information services with global scope, distributed costs and local quality control
- Be present at the digital workbench of the scientist

# Threats

- Political fixation on assessment exercises
- Lack of scope in services, badly defined corpus
- Disadvantages of commercial, non-commercial and club good funding
- The costs of collaboration if no standardisation is achieved

# Metric research evaluation

- Metrics as meta-level tool?
- The effectiveness of rankings: more-less; better-worse
- Self-observation and the reduction of complexity: the needs of science
- Access, usage and citation metrics
- Tracking and indexing services
- Service delivery to the digital workbench

# Problems with commercial services and repositories

- Commercial services: high functionality, limited value
- Non-commercial services: limited potential
- Metadata standards and problems
- Version control in repositories
- Automated extraction versus standardised input

# Research information services

- Access metrics, e.g. webometrics
- Usage metrics, e.g. MESUR, SUSHI and COUNTER
- Citation metrics: e.g. Harzing POP, RePEc CitEc
- Tracking and Indexing: e.g. Citeseer, SSRN beta

# What role for digital libraries and repositories?

- A) The provision of metadata and metric data to commercial search engines (e.g. Google Scholar, Scirus and Windows Live Academic) on a nonexclusive basis in a private-public partnership that enhances the functionality of search engines. The rationale would be that exposure enhances impact and therefore increases the return on investment on research, which justifies the public expense. Access would be immediate and free through the search engine.
- B) The creation of a club good by research funders, organisations and libraries, i.e. a database as an overlay service, for the use of which those institutions that provide clean and reliable metadata are rewarded with access at 'production cost' whereas all other users are charged a higher usage fee (to eliminate the free rider problem). This commercially self-sustaining (not-for-profit) service would offer clear incentives for institutions and repositories around the world to join and this would expand access universally.

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## **A EUROPEAN MODEL FOR THE DIGITAL PUBLISHING OF SCIENTIFIC INFORMATION?**

The entire system of scholarly communication is in transition, with the emergence of new markets, services and players. Given what we know about this digital transition, the technical, financial and legal parameters of a future model of publishing scientific information are predictable. The contribution of the Commission of the European Communities has been to emphasise how digital access to scientific information is related to the digital preservation of the record of scientific publications and data; because if digital preservation is undertaken access cannot be guaranteed for future innovations. The proposition for the delineation of a European model is developed as follows:

1. A digital model may be developed that results in open access, while preserving and enhancing the viability of a variety of commercial publishing models.
2. The institutional players in the publishing system, namely publishers, repositories and libraries, must be ready to accept a redistribution of the key functions of registration, certification, dissemination, archiving and navigation in a manner that plays to the strength of each.
3. The condition for any successful elaboration of a digital model is that it is complementary to the technology and economics of the internet, while the litmus test is that it enhances the impact and re-use of scientific information.

Open access publishing leads to complementary relationships between publishers, libraries and repositories; unrestricted access and the widest possible dissemination; and usually facilitates the creation of value-added services as an overlay from platforms, repositories and libraries. In recent years, a number of viable full open access publishing (OAP) models have emerged: OAP where the author pays, by subscription, through a sponsoring consortium, and by way of support and sponsorship.