Scientific information in the digital age: European Commission initiatives

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Library Science Talks 2007
26 November 2007: CERN, Geneva
27 November 2007: Swiss National Library, Berne

Outline

1. **Scientific information in the digital age: a European Commission approach**

2. **European level developments: Commission and other European initiatives**

3. **Conclusions: what's next?**

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The need to make the most of the digital revolution

- **Internet and WWW: explosion of access, dissemination and preservation possibilities**

- **Scientific publication market trends: debate on pricing and publishing business models, Open Access movement (Berlin Declaration 2003), development of institutional and subject-based repositories**

- **Debate on access to research data: OECD guidelines on access to research data from public funding**

- **Need for digitisation and preservation strategies increasingly urgent**

→ **Need to make best possible use of opportunities offered by the digital revolution; perceived room for improvement**

Importance of access to scientific information for EU research and information society policy

- Reliable and easy access to and dissemination of data and scientific publications stimulate research innovation and excellence, and thus support the Lisbon agenda

- Public funding bodies need to improve the return on their investment and make their expenditure more efficient (multiple payment argument for the scientific publishing process)

- A coherent preservation policy will prevent loss of information and cultural heritage

→ Public bodies like the EC have a vested interest in access, dissemination and preservation of scientific information

Legal foundation European Community Treaty, Title XVIII (Research and Technological Development)

- Art. 163: "The Community shall have the objective of strengthening the scientific and technological bases of Community industry and encouraging it to become more competitive at international level [...]".

- Art. 164: In pursuing these objectives, the European Community is responsible for "dissemination and optimisation of the results and activities in Community research [...]".

- Art. 166: "A multiannual Framework Programme [(FP) ...] shall be adopted [...]".

Different institutions implement Treaty with different roles

Implementing the Treaty: the Lisbon Agenda

- Lisbon Agenda: EU "to become the most competitive and dynamic knowledge-based economy in the world" by 2010

- 2005 "relaunch": focus on actions to promote growth and jobs

  - European Research Area (ERA) (2000): "Internal market" for research: free movement of researchers, technology, and knowledge; 2007 Green Paper on the future of the ERA

  - i2010 (2005): a European Information Society for growth and employment: create single information space, strengthen ICT innovation, achieve better inclusion and public services through ICT

→ main pillars of EC scientific information policy

Specific programmes and initiatives

- **Framework Programme (FP): part of Community R&D policy; looks to maximise socio-economic benefits of research and development for the public good; FP7 2007-2013:**
    - **"E-infrastructure"**
    - **"Science and Society"**

- **Digital libraries initiative: part of i2010; aims to make Europe's cultural and scientific heritage accessible to all through improved online accessibility, digitisation, and preservation.**

→ **Research and information society policy initiatives**

→ **Directorate Generals for Research (DG RTD) and Information Society (DF INFSO) most actively involved**

Multiple dimensions of EC activities

- **Issues: access, dissemination, preservation, storage**

- **Digital objects: journals articles, research data, books, other media**

- **Types of content: scholarly, cultural**

- **Roles of European Commission:**

  - **Policy-making body: launch of policy debate at the European level; encourage Member States to take coordinated action**

  - **Research funding body: set access and dissemination rules for the EC-funded research (Framework Programmes)**

  - **Supporting body:**
    - ➢ **fund digital infrastructure**
    - ➢ **fund relevant research and networking activities**

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i2010: Digital libraries initiative: foundations

http://ec.europa.eu/information_society/activities/digital_libraries/index_en.htm

- **April 2005 letter by 6 heads of state and government calling for European digital library**

- **Sept. 2005 Commission Communication on "i2010: digital libraries"**
  - ➢ **Aim: make Europe's cultural and scientific heritage accessible**
  - ➢ **Wealth of content in Europe's cultural institutions, but fragmented and non-digitised**
  - ➢ **Three strands: online accessibility, digitisation, preservation/storage**
  - ➢ **Areas to preserve: cultural heritage and scientific information**

- **2006: High Level Group on Digital Libraries set up (multi-stakeholder)**

i2010: Digital libraries initiative: recent developments

- **2006: Commission Recommendation and Council Conclusions on "the digitisation and online accessibility of cultural material and digital preservation"**

  - ➢ **Member States to take co-ordinated action regarding digitisation and preservation**

  - ➢ **Commission to work towards European Digital Library**

- **2007 European Parliament Resolution on "i2010: towards a European digital library": supports European Digital Library project**

- **Co-funding of relevant projects through *e*Content*plus*: improving accessibility and usability of digital content**

  http://ec.europa.eu/information_society/activities/econtentplus/index_en.htm

Promoting e-infrastructures through the research Framework Programmes

http://cordis.europa.eu/ist/rn/

- Funding under Framework Programmes; FP7 (2007-2013): €572 million for e-infrastructure

- Aim: to create world-class e-infrastructure for global virtual research community

- Vision of scientific process as a continuum in which scientific information should be easily and widely accessible

- Need to see beyond disciplinary and national frontiers and achieve economies of scale for e-infrastructures

- Work funded includes project focusing on digital repositories for publications and data (DRIVER, DRIVER II)

European level developments (4)

"Study on the economic and technical evolution of the scientific publication markets in Europe"

- 2006 Publication of *Study on the economic and technical evolution of the scientific publication markets in Europe* (Commissioned by Research Directorate-General)

  http://ec.europa.eu/research/science-society/pdf/scientific-publication-study_en.pdf

- Results: oligopoly, steep price increase (esp. 1975-1995), bundling strategies, reader-pay model dominant, experiments with new models, new funding body policies

- Recommendations in three areas: "access", "market issues", "discussion and study"

Study: Policy Recommendations on access, market issues, discussion and study

- **Access:**
  - ➢ **Guarantee public access to publicly-funded research results shortly after publication**
  - ➢ **Aim at "level-playing field" in terms of business models**
  - ➢ **Foster interoperable tools**
- **Market issues:**
  - ➢ **Promote pro-competitive pricing strategy**
  - ➢ **Promote development of electronic publications (VAT)**
- **Discussion and study:**
  - ➢ **Advisory committee including all stakeholders**
  - ➢ **Investigation on copyright provisions, economic analysis of new business models, technological developments**

Public consultation on Study

- **March–June 2006: public consultation on results and recommendations of Study**
  http://ec.europa.eu/research/science-society/page_en.cfm?id=3185

- **Oct. 2006: Publication of synthesis and individual responses to public consultation**
  http://ec.europa.eu/research/science-society/document_library/pdf_06/synthesis-consultation_en.pdf

- **170 responses: 95 from research community and academic organisations, 58 from libraries/information organisations, and 17 from publishers**

- **Support by research and library communities for recommendations dealing with access; criticism by publishers**

2006 European-level opinions

- 2006: European Research Advisory Board (EURAB) opinion entitled "Scientific publication: Policy on Open Access". Recommends that the European Commission

    "consider mandating all researchers funded under [the seventh Framework Programme] to lodge their publications resulting from EC-funded research in an open access repository as soon as possible after publication, to be made accessible within 6 months at the latest".

- 2006: Scientific Council of European Research Council (ERC, funded under FP7) statement:

    "firm intention [...] to issue specific guidelines for the mandatory deposit in open access repositories of research results [...] obtained thanks to ERC grants"

    (reiterated in September 2007)

Commission Communication COM(2007)56

- 14 February 2007: adoption of "Communication on scientific information in the digital age: access, dissemination and preservation" (COM(2007)56)

  ec.europa.eu/research/science-society/document_library/pdf_06/communication-022007_en.pdf

- Joint initiative by Commissioners Potočnik (science and research) and Reding (information society and media)

- Access, dissemination and preservation addressed in one Communication

- Scientific publications and research data discussed together

→ Increasingly inclusive view of issue of digital scientific information; coming together of existing initiatives

Commission Communication COM(2007)56

Commission position:

- *"Initiatives leading to wider dissemination of scientific information are necessary, especially with regard to journal articles and research data produced on the basis of public funding."*

- *"Fully publicly funded research data should in principle be accessible to all."*

- Need for *"clear strategies for the digital preservation of scientific information."*

- Stakeholder involvement necessary and desirable.

Actions foreseen by COM(2007)56

1. **Access to Community funded research results**
   - **Possibility of Open Access publishing encouraged**
   - **Guidelines for Framework Programme funded publications**

2. **Co-funding of research infrastructures**
   - **Linking digital repositories (2007-08: €50 mil.)**
   - **Research on digital preservation (2007-08: €25 mil.)**
   - **Research on accessibility and usability (2005-08: €10 mil.)**

3. **Input for the future policy debate**
   - **Studies on economic aspects of preservation / scientific publishing system**

4. **Policy co-ordination and policy debate with stakeholders**
   - **Member States, EP, stakeholders**

European level developments (11)

Stakeholder conference in Brussels, 15-16 February 2007
http://ec.europa.eu/research/science-society/index.cfm?fuseaction=public.topic&id=550

- Joint Research and Information Society: Commissioners J. Potočnik and V. Reding

- Presentation of Communication COM(2007)56

- Stakeholder debate in run-up to conference:

  17 January 2007: Petition by researchers in favour of Open Access to publicly funded research publications (today: over 26.000 individual signatories, around 1.300 institutional signatories)

  13 February 2007: Brussels Declaration on STM Publishing: underlines views and principles of STM publishers (today: 58 publishers/publishers' associations)

  Petition and Statement presented to Commissioner on 15 February 2007 in context of Conference

European level developments (12)

Green Paper on the European Research Area

- **4 April 2007: adoption of "Green Paper – The European Research Area: New Perspectives" (COM(2007)161)**

  http://ec.europa.eu/research/era/consultation-era_en.html#greenpaper

- **Knowledge-Sharing axis: four questions (open access, technology transfer to industry, specific R&D issues, science & society relations)**

  - **Knowledge sharing axis: "knowledge must circulate without barriers throughout the whole society"** *and*

  - **"knowledge transfer must improve in order to accelerate the exploitation of research and the development of new products and services".**

→ **Addresses issues from open access to technology transfer and full range of approaches to IPR**

→ **Clearly labels access issues as relevant to the future of the ERA**

European level developments (13)

Green Paper on the European Research Area

- **Question 21:**

  "Is there a need for EU-level policies and practices to improve and ensure open access to and dissemination of raw data and peer-reviewed publications from publicly funded research results?"

- **Public consultation 1 May–31st August 2007:**

  KSH2 - *"How should data and publications resulting from publicly funded research be shared?"*

- **24 September 2007: Hearing on question 21 and results of KSH2**

- **Results fed into Portuguese Presidency conference: The future of Science and Technology in Europe, 8-10 Oct., Lisbon, Portugal**

  ec.europa.eu/research/conferences/2007/fst/index_en.htm

Some results from question KSH2 (analysed and presented at 24/09/07 hearing by Jan Velterop, Springer):

- Almost 700 responses (about 85% replied to question on knowledge sharing)

- 68% agree that raw data resulting from publicly funded research should be made more readily accessible, 16% disagree (85% of publishers agree)

- 65% agree that peer-reviewed publications resulting from publicly funded research should be accessible without charge for the reader, 9% disagree (71% of publishers disagree)

- Some detailed responses from various stakeholder groups

- Support for EU-level repository

- Full KSH2 analysis and hearing summary available online: http://ec.europa.eu/research/science-society/index.cfm?fuseaction=public.topic&id=122

European level developments (15)

Council Conclusions on scientific information in the digital age, adopted on 23 November 2007

http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/intm/97236.pdf

- **Adopted by Competitiveness Council under Portuguese Presidency**

- **Welcomes Feb. 2007 Communication on scientific information in the digital age**

- **Invites the Member States:**
  - To reinforce national strategies and structures for access, dissemination and preservation
  - Enhance coordination among one another

- **Invites the Commission to:**
  - Monitor good pratices and encourage developments of new models
  - Experiment with Open Access to data and publications in FP7
  - Encourage relevant research and deployment of e-infrastructure

→ **New impetus for Member States and Commission actions**

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What's next? (1)

European Digital Library: Launch planned in late 2008

- Common multilingual access point to digital cultural heritage
- Possibility to search directly in different types of collections
- Critical mass of content, user-friendly interface, multilingual

Access to Community funded research results

- Active encouragement of possibility of Open Access publishing under Framework Programmes ("gold" open access)

  FP7 Model Grant Agreement states that Dissemination costs (including publications) are eligible costs that can be claimed at a rate of 100%. This includes open access publishing ("author pays" model) (Annex II, II.16 Upper funding limits)

- Work towards depositing guidelines for Framework Programme funded publications ("green" open access, repository-based): sector-based approach; European Research Council guidelines awaited

Co-funding of research infrastructures

- **Several projects starting under FP7; information under:**
  http://cordis.europa.eu/fp7/ict/e-infrastructure/home_en.html

Input for the future policy debate

- **Study on socio-economic aspects of preservation (2008)**
- **Call for proposals under FP7 (Capacities, Science in Society): Co-ordination and support actions on the scientific publishing system**
  - ➢ **Submit a proposal (publication end of November 2007 on Cordis)**
  - ➢ **Register as expert to evaluate proposal**
    http://cordis.europa.eu/fp7/dc/index.cfm?fuseaction=UserSite.CapacitiesCallsPage&id_activity=17
- **Calls under *eContentPlus* (2007, 2008): section on scientific information**

Policy co-ordination and debate

- **Continuing debate including all stakeholders**
- **Inter-institutional debate launched through Communication COM(2007)56**

Conclusions

- **The European Commission has recognised the importance of access and preservation issues for its research and technology policies.**

- **First steps taken: issues of access and preservation are now firmly on the European policy agenda.**

- **Concrete access and preservation policies are in the making, slow but steady progress.**

Conclusions

- Policy solutions must therefore:

  - improve access and preservation while rewarding publishers for the added value they bring to the scientific process

  - search for a balance between fostering the competitiveness of European industry through protection of IPR and through ensuring the openness of science and wide dissemination of research results

  - take into account the different issues and needs for publications, data, different disciplines, etc.

- Commission's approach is step-by-step, sector-based, and inclusive of all stakeholder views

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