

Economic and Social Impacts of Open Access (EASI-OA)

Research Program Scoping

This proposal outlines a research program framework that supports the integration of existing work and provides a coordinating focus for new research on the economic and social impacts of open access (EASI-OA).

The program will explore the costs and benefits of various scholarly communication models, and examine the distribution of those costs and benefits throughout the scholarly communication system. The core focus will be on exploring and measuring the impacts of open access.

The scope is open access to scholarly information, including data and publications. However, the main focus will be on open access to publications and, specifically, royalty free publications (*i.e.* primarily on journal articles). While there are many parallels with other content, this focus will ensure that the work does not get side-tracked by association with debate around access to other forms of content (*e.g.* peer-to-peer music downloading, etc.).

The program will be inclusive, bringing together detailed ‘bottom-up’ work scoping the entire research and scholarly communication system, ‘top-down’ work on broad economic impacts, and a range of work on ‘vertical slices’ that explore specific impacts in particular disciplines or fields of research, industries and countries. Studies will be conducted simultaneously, building into an ever clearer picture as pieces of the puzzle fall into place.

There will be a small coordinating group to provide a collaborative focal point for the work. This ‘secretariat’ activity (including program coordination, management and operation of a website and wiki, and the production of an annual report on progress) will need support through modest program funding. Individual studies will be supported by a range of funders and conducted by a range of research and industry stakeholders. Beyond the core group, everyone is invited to contribute and to participate.

Top down: establishing a framework

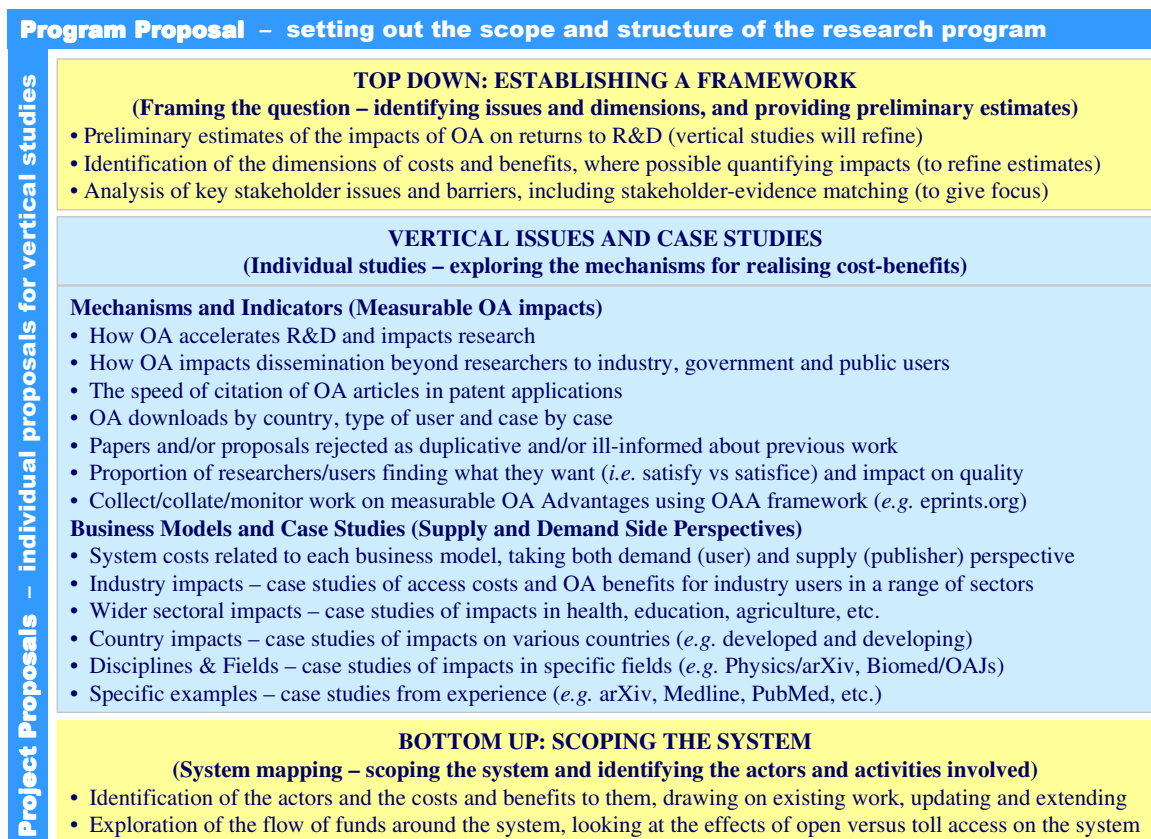
‘Top down’ studies will provide a framework for the more detailed case studies and will, in turn, be refined by them. This iterative approach enables both framework and detailed studies to be undertaken simultaneously. Three major elements are envisaged:

- ***Preliminary estimates of the potential economic impacts of open access on social returns to R&D:*** This will involve building on and extending preliminary work by Houghton and Sheehan estimating the impacts of enhanced access on social returns to R&D ([Houghton & Sheehan, 2006](#)). Its focus will be on further developing the model to (i) deal more fully with some of the outstanding issues (*e.g.* establishing a direct measurable link between open access and the model’s access and efficiency parameters, generating greater understanding of the importance of scholarly publications in the

overall ‘stock of knowledge’ created through R&D, and of the national versus international distribution of benefits), and (ii) bring greater focus on specific stakeholders (e.g. estimates of the economic impact of open access to research funded by the UK Research Councils).

- **An identification of the dimensions of potential open access costs and benefits:** This will involve an exhaustive literature review and stakeholder consultations in order to identify the dimensions of open access costs and benefits. Where possible we will seek to identify potentially measurable costs and benefits. Nevertheless, it is important to identify all potential dimensions of cost and benefit, rather than simply focus on those that are measurable and about which we probably already know more. This work will build on and extend an Australian study ([Houghton, Steele & Sheehan, 2006](#)).

Figure 1 Program structure: Economic and Social Impacts of Open Access (EASI-OA)



Source: Author’s analysis.

- **An analysis of key stakeholder issues and barriers, including stakeholder-evidence matching:** This work will focus on identifying the key pieces of information and forms of evidence sought by, and persuasive to, the various stakeholders, in order to focus specific empirical work and case studies on the areas of greatest concern and maximum policy impact. Key issues might include concerns relating to: intellectual property rights, the quality of open access content, society publisher sustainability, the

sustainability of various open access publisher business models, intellectual freedom (*i.e.* not dictating how and where to publish), the ‘free rider’ issue, reluctance to interfere with the market, and loss of commercial publishing industry jobs, etc.

Bottom up: scoping the system

‘Bottom up’ studies will scope the entire research and scholarly communication system, and inform the more detailed ‘vertical’ studies. Again they can be conducted simultaneously. Two major elements are envisaged:

- ***An identification of the actors and the costs and benefits of open access for each of them:*** This will draw on existing work, updating and extending it – building on the preliminary scoping provided by Don King ([King 2006](#)). The work might be staged, beginning with a mapping of the research and scholarly communication system, followed by a review of the costs and benefits to the various actors and agencies involved, and targeted work to update and extend existing analysis where there are gaps.
- ***An exploration of the flow and articulation of funds around the system, looking at the effects of open versus toll access on the system:*** This will include analysis of how each of the actors and agencies involved in the research and scholarly communication, and the flow of funds between them, might be affected by open access.

Vertical slices: issues and cases

The ‘top down’ and ‘bottom up’ studies will scope and provide the framing for a series of ‘vertical slices’ – individual studies exploring the mechanisms for meeting the costs and realising the benefits, and case studies of the costs, benefits and impacts in particular areas. While the potential scope of this work is wide and open, it is envisaged that studies will fall into two major areas:

- (i) Studies looking at the mechanisms for, and indicators of, open access impacts, with an emphasis on quantifying impacts in particular areas; and
- (ii) Case studies exploring the impacts of various open access business models on actors and agencies from both demand side (*e.g.* research, industry and other users) and supply side (*e.g.* authors and content publisher) perspectives.

Detailed studies can commence immediately, informed by preliminary framework scoping but not dependent upon it.

We hope to develop a roadmap for an ambitious research project that no single person or small group can carry out on its own. By establishing the framework, scoping the terrain and producing some sample studies to show what we have in mind, we hope to inspire researchers in many disciplines and nations to join us in carrying out the many sub-projects.

Initial areas of focus will include:

- ***A range of studies exploring the mechanisms for, and indicators of, open access impact*** – focusing on measurable open access impacts:

- Exploring how open access accelerates R&D (*e.g.* through faster dissemination of initial work) and impacts research practices (*e.g.* through the reduction of duplicative work);
 - Exploring how open access impacts upon the dissemination of research findings beyond researchers to users in industry, government and the general public;
 - Exploring the range of current and potential user groups, and analysing their needs;
 - Analysis of the speed of citation of open access articles in patent applications – exploring any citation speed differences between subscription and open access, changes in the balance between subscription and open access citation, and changing rates of citation of pre-prints, working papers, etc.;
 - Examining open access downloads by country, type and user, case by case and country by country;
 - Exploring how many papers and/or funding proposals are rejected as duplicative and/or ill-informed about previous work – through consultation with publishers and funding agencies;
 - Examining the proportion of researchers/users finding what they want versus the proportion making do with what they have (*i.e.* satisfy versus satisfice), and exploring the impact this may have on research efficiency and quality; and
 - Collecting, collating and monitoring work on measurable open access advantages using, for example, the Open Access Advantage (OAA) framework suggested by Stevan Harnad (2005).
- ***A range of studies examining scholarly communication business models and undertaking a series of case studies*** – looking at particular areas (*e.g.* disciplines and research fields, industries, countries, etc.) from both supply and demand side perspectives. Initial areas of focus might include:
 - Identifying the system costs related to each scholarly communication business model, taking both demand (user) and supply (publisher) perspectives – from a demand side perspective this may, for example, involve identifying all current access barriers, estimating their costs now and the benefits of removing them, while from a supply side perspective this might involve consulting with a range of publishers on how the various business models affect them;
 - Exploring and measuring industry impacts, through case studies of access costs and open access benefits for industry users in a range of industries (*e.g.* consulting engineering and management, biotechnology/pharmaceuticals, electronics/IT, agriculture, etc.);
 - Exploring the wider sectoral impacts, through case studies of open access impacts in health, education, environmental management, etc., where impacts directly involve both practitioners and users (*e.g.* the costs, benefits and pedagogic impacts of open course ware and access to other open access materials in education);

- Exploring country impacts, through case studies of open access impacts on various countries (*e.g.* developed versus developing, Eastern Europe and the EU, China, India and the internationalisation of R&D);
- Examining various disciplines and fields of research, through case studies of open access impacts in specific areas (*e.g.* experience in Physics with arXiv, Biomedical research with open access journals, etc.), and of the potential impacts in fields of research that have been poorly served by traditional scholarly publishing (*e.g.* oral history, music and the performing arts); and
- Exploring specific examples, through case studies from experience (*e.g.* arXiv, Medline, PubMed Central, etc.).

This list is indicative rather than exhaustive, with numerous individual studies contributing over time towards building an ever more complete picture of the implications and impacts of open access.

Program coordination and reporting

There will be a small coordinating group to provide a collaborative focal point for the work. This ‘secretariat’ activity will be crucial to the operation of the program and maintaining momentum. Activities will include program coordination, the management and operation of a website and wiki, and the production of an annual report on progress which will synthesise new and existing insights to form a composite picture of the state of knowledge.

Priorities

This research program is made up of many sub-projects. While they are interdependent, they can be tackled simultaneously. The three priority areas (in no particular order of priority) are:

- ***The ‘top down’ studies that provide a framework for the more detailed vertical studies***, including: work on preliminary estimates of the potential economic impacts of open access on social returns to R&D; identification of the dimensions of potential open access costs and benefits; and analysis of key stakeholder issues and barriers;
- ***The ‘bottom up’ studies that scope the entire research and scholarly communication system and inform the more detailed vertical studies***, including: identification of all the actors involved in the system, and the costs and benefits of open access to them; and exploration of the flow and articulation of funds around the system; and
- ***Drilling down into 2 or 3 of the detailed ‘slice-studies’***, to show that it can be done, and to set an example for other researchers about what we have in mind.

These can be tackled simultaneously, being informed by, but not dependent upon, progress in other areas.

Funding support

We are seeking both program and project support.

Program funding: It is envisaged that there will be a small coordinating group to provide a collaborative focal point for the work. This ‘secretariat’ activity (including program coordination and reporting, the management and the operation of a website and wiki, and the production of an annual progress report) will need modest program funding. The amount sought is USD 60,000 for the establishment, first year activities and reporting, and USD 50,000 per annum thereafter for program coordination and production of an annual progress report.

Project funding: Individual studies will be supported by a range of funders and conducted by a range of research and industry stakeholders. Beyond the initial group, everyone is invited to contribute and to participate in the program.

Initially, funding is being sought for the priority framing and exemplar project tasks outlined above. The indicative budgets sought are:

- Top down, framework studies:
 - Preliminary estimates of the potential economic impacts of open access on social returns to R&D – 6-8 months/USD 75,000.
 - Identification of the dimensions of potential open access cost and benefit – 6-8 months/USD 60,000.
 - Analysis of key stakeholder issues and barriers – 6-8 months/USD 60,000.
- Bottom up, scoping studies:
 - Identification of the actors and agencies, and the costs and benefits to them of open access – 6-8 months/USD 75,000.
 - Exploration of the flow and articulation of funds around the system – 6-8 months/USD 60,000.

At the same time, funding for two or three exemplar projects is being sought in the light of supporter and participant priorities, with initial leads and interests being followed.

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