



Open Access Scholarly Frameworks: Australian Government Agencies and The Research Councils

Colin Steele, Emeritus Fellow

- General framework of Scholarly Communication
- History of Open Access (OA) and Accessibility Framework in Australia
- Key role of Australian Department of Education, Science and Training and National Scholarly Communication Forum in OA
- 'Cultural' academic issues pose far greater challenges than technical infrastructures
- Tie OA into innovation and productivity issues

- What return on public research investment and who owns research results?
- UK research funders investing £22 billion p.a. in R&D
- OECD US\$265 billion spent on research from public sector in 2005
- ARC and NHMRC invest more than 1 billion dollars in research funding p.a.
- See international ROARMAP:
<http://www.eprints.org/openaccess/policysignup/>

- Policy imperatives essential for placing government generated data and information in the public domain :-
- *Legal*: Public has a right of access to publicly funded information (PFI).
- *Ethical*: the production of and access to information “owned” by the public.
- *Political*: Government transparency and accountability assisted by access to and use of PFI.

- *Socio-economic*: Maximizes economic and social returns on public investments in PFI
- Direct economic value creation and indirect economic potential
- Direct and indirect social benefits for social welfare, better informed public, education, etc-
- [Link here to Houghton and Australian Productivity Reports](#) – documented later in presentation

- *Scientific:* Promotes interdisciplinary, inter-sector, inter-institutional, and international research
- Promotes new research and new types of research
- Reinforces open scientific inquiry
- Provides scientific information to developing countries
- Helps maximize the research potential of new digital technologies and networks
- Thereby providing greater returns from the public investment in research.

- Growing emphasis on impact and communication of research results, knowledge transfer, and engagement with society
- Information outputs more readily accessible
- Changing roles of key players in scholarly communications system
- Different research communities with varied cultures and practices
- Emphasis on audiences beyond the research community for all disciplines (not simply STM)

- Lee Dirks, Director Scholarly Communications
Microsoft, First International Conference on Scholarly
Communication, London, April 13
- Predictions five to ten years :-
- Open Access to both text and data will be the rule not
the exception
- New forms of peer review will have been
accepted/adopted
- National and international repositories will be a key
part of scientific cyberinfrastructure
- Preservation and long term access to data will be a
mandated part of the scientific lifecycle

Research Rigour Mortis?

- Too many articles being produced for the wrong reasons?- league tables, research assessment exercises
- Low citations, arguably of low quality and low use
- What is the point of increased 'publish or perish' - except to benefit multinational publishing conglomerates?
- "The Publishing Imperative: The Pervasive Influence of Publication Metrics", Learned Publishing, Steele, Butler, Kingsley <http://dspace.anu.edu.au/handle/1885/44486>

Open Access. Still A Bit Skeletal However ?



and when "Death himself" knocked at my door
I was too busy to open it, and so I died
of careless indifference, and in due time he
"dejected" other Commissioners. There must
be some mistake in this. Matter quite ho-

E quando la Morte venne mi picchiò alla
porta, non aprii, ma la dissi che tornasse la
giornata che si fosse più e non tanto indifferente
che ella piú volte d'averlo flagellato e dopo
che si sarebbe a sperare di certo qualche flagello

Compared To Eating the STM Profits!



What Publisher Crisis?

- Top 20 STM publishers account for 84 % of revenues of the 10 –11 billion dollar STM publishing market
- Learned society and small publisher crisis
- The top 5 STM account for 50% of market
- Reed Elsevier comprise 24% - adjusted profit up 9% to UKP 1.210 million for 2006
- Wolters Kluwer up 9% in 2006 to E3.7 billion
- Wiley revenue just broke 1 billion in last financial year - 8% STM profit rise – before Wiley Blackwell merger proposal
- *EPS Services Ltd*

- Who is talking to whom? Steele (Lund - Fiesole 2003)
- Most academics and administrators unaware of OA benefits?
- Professor Stevan Harnad (April 2007) notes OA related events are arranged by various official organisations: librarians, universities, publishers, funding agencies, government committees:
- “Librarians and universities who think OA is all about journal affordability, preservation, IRs and interoperability

- OA Publishers for whom OA is all about conversion to Gold OA and the funding of Gold OA fees
- Copyright reformers who think OA is all about reforming copyright
- Anti-OA publishers lobbying against Green OA mandates as a threat to their industry"
- Need to adopt holistic institutional approach to scholarly communication (Steele)

- ANU E-Prints, 2001
- ARIIC (Australian Research Information Infrastructure Committee) seeds in 2002 prototypes of Eprint repositories
- NSCF – National Scholarly Communication Forum 2004 -
- DEST initiatives APSR/ARROW 2004
- ASHER 2007 - see later in presentation

APSR: Australian Partnership for Sustainable Repositories - Microsoft Internet Explorer provided by CAS

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Australian Partnership for Sustainable Repositories

... to establish a centre of excellence for the management of digital collections ...

The APSR partners



<http://www.library.uq.edu.au/escholarship> Internet

ANU Programs

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Welcome

The ARROW project will identify and test software or solutions to support best practice institutional digital repositories comprising e-prints, electronic theses, e-research and electronic publishing.

The ARROW project is funded by the Australian Commonwealth Department of Education, Science and Training, under the Research Information Infrastructure Framework for Australian Higher Education.

The ARROW Project is sponsored as part of the Commonwealth Government's Backing Australia's Ability.

Consortium and Community Members

The ARROW Consortium comprises: Monash University (lead institution), National Library of Australia, the University of South Wales, and Swinburne University of Technology. University of Southern Queensland joined the consortium in September 2006 through the PILIN Project

ARROW Community members are: Queensland University of Technology, Central Queensland University, University of South Australia, University of Western Sydney and La Trobe University

RUBRIC Project members who have joined the ARROW Community are: Macquarie University, Murdoch University, University of the Sunshine Coast, University of Newcastle and University of New England

This Site...

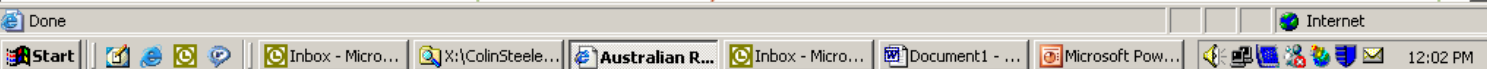
This site provides details on the ARROW Project through the navigation links at the top of this page.

Important Links

- [PILIN - Persistent Identifiers Linking Infrastructure project](#)
- [Australian Scheme for Higher Education Repositories \(ASHER\)](#)
- [ARROW repositories at participating institutions](#)

ARROW Discovery Service

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- Secretariat work for the PMSEIC Working Group on Data for Science (Prime Minister and Cabinet)
(http://www.dest.gov.au/sectors/science_innovation/publications_resources/profiles/Presentation_Data_for_Science.htm)
- Liaison with Productivity Commission Report 'Public Support for Science and Innovation' March 2007
(<http://www.pc.gov.au/study/science/finalreport/index.html>)
- Accessibility Framework of Australian Research Quality Framework (similar to UK RAE but with additional impact)

- PMSEIC Report on Public Access to Science Data
- Productivity Commission Report includes chapter on scientific publishing and increased public access to research outputs (incorporates Houghton Report comments- covered later in presentation)
- Elsevier made an 8 page detailed submission to Productivity Commission:
- OA means publishers lose revenue; scientific journals decline; staff laid off and peer review collapses! Academics lose out !

Impact of UK Research Councils and Open Access?



- DEST work with ARC/NHMRC
http://www.arc.gov.au/media/releases/media_18Jan07.htm
- “The Australian Research Council (ARC) and the National Health and Medical Research Council (NHMRC) today called on researchers to make the results of research funded by the Australian Government publicly available, whenever possible and appropriate”.
- “The Australian Government makes a major annual investment in research to support its essential role in improving the wellbeing of our society,” (NHMRC CEO Professor Warwick Anderson)

- "We are committed to ensuring the Australian community has access to the outcomes of government-funded research. And by making research findings widely available, we are also improving our ability to translate research findings into real benefits for the community.
- "Accordingly, we encourage researchers, at the earliest opportunity, to deposit their data and any publications arising from government-funded research in an appropriate repository that has free public access."

- The Australian Government makes a major investment in research to support its essential role in improving the wellbeing of our society.
- To maximise the benefits from research, findings need to be disseminated as broadly as possible to allow access by other researchers and the wider community.
- The ARC acknowledges that researchers take into account a wide range of factors in deciding on the best outlets for publications arising from their research.

- Such consideration include the status and reputation of a journal or publisher, the peer review process of evaluating their research outputs, access by other stakeholders to their work, the likely impact of their work on users of research and the further dissemination and production of knowledge.
- Taking heed of these considerations, the ARC wants to ensure the widest possible dissemination of the research supported under its funding, in the most effective manner and at the earliest opportunity.

- The ARC therefore encourages researchers to consider the benefits of depositing their data and any publications arising from a research project in an appropriate subject and/or institutional repository wherever such a repository is available to the researcher(s).
- If a researcher is not intending to deposit the data from a project in a repository within a six-month period, he/she should include the reasons in the project's Final Report. Any research outputs that have been or will be deposited in appropriate repositories should be identified in the Final Report. (Harnad's Mandate)

- NSCF is sponsored by the four Australian learned Academies- in existence since 1993
- Membership includes academics, bureaucrats independent researchers, writers, librarians, publishers and copyright agency
- Forum aims to disseminate information changes to the context and structures of scholarly communication in Australia and to provide policy advice to relevant bodies
- <http://www.humanities.org.au/Events/NSCF/Overview.htm>

- In 2004 NSCF topic 'Changing Research Practices in the Digital Information and Communication Environment'
- NSCF 2004 foreshadowed policy settings for the establishment of the Australian Research Quality Framework. Now Government policy. The late Sir Gareth Roberts was the keynote speaker.
- 2005 NSCF theme was 'Open Access, Open Archives and Open Source'
- This Forum was arguably a major catalyst in the discussions with reference to the development of ARC/NHMRC policy settings Jan 2007

- The Pros and Cons of the lobbying process
- ARC CEO delegated Open Access liaison to a Director not involved in previous discussions
- Draft sent in by NSCF based on UK Research Council experience- Dr Michael Jubb
- Then reworded by ARC but needed further work by DEST with NHMRC and ARC
- Lobbying against such a policy by large STM publishers

- Unique in world as established Government long-term framework?
- An Accessibility Framework to ensure that information about Australian research, and how to access it , is available to researchers and the wider community
- http://www.dest.gov.au/sectors/research_sector/policies_issues_reviews/key_issues/accessibility_framework/
- Government regards publicly funded research as a public good

- As a general statement of principle, researchers ought to be able to find out what research is going on and gain access to it
- Use of open access regimes and institutional repositories critical
- One stop linked shop for Australian research and global harvesting
- Research visibility, usage, uptake, impact and accessibility seem obvious national and political goals? (Steele)

- The aim of the Research Quality Framework initiative is to develop the basis for an improved assessment of the quality and impact of publicly funded research and an effective process to achieve this.
- The Framework should be transparent to government and taxpayers so that they are better informed about the results of the public investment in research;
- ensure that all publicly funded research agencies and research providers are encouraged to focus on the quality and relevance of their research.

RQF Implementation Funding to Support Universities 2007

- A\$87.3 million provided to institutions for the implementation associated with the RQF.
- Around A\$41 million provided to universities through two new programmes. This programme funding includes:
 - \$16.4 million for the RQF Implementation Assistance Programme (IAP)
 - \$25.5 million for the Australian Scheme for Higher Education Repositories programme (ASHER) – a major national initiative for repositories cf JISC comparison

Australian Scheme for Higher Education Repositories (ASHER)

- ASHER will provide support for:
 - purchase of hardware and software to establish a repository, or institutions to update their existing repository.
 - And support to meet the workload involved with populating the institution's repository
- Programme will also assist with delivery of the Accessibility Framework

Crucial Role of Universities – Institutional Repositories

- Showcase for university and its research
- Improved efficiency of research and scholarly communication
- Policy issues
 - Scope of repository content
 - Requirement or encouragement to deposit
 - Relationships with subject-based repositories
 - Linkages with other information systems
 - Costs and how they are to be met in the long term

- OAK Law Report provides a legal framework that supports open access to Australian academic and research outputs such as datasets, articles and electronic theses and dissertations.
- This report explains that with the rise of networked digital technologies our knowledge landscape and innovation system is increasingly reliant on best practice copyright management strategies.
- [OAK Law Project No. 1: Creating a legal framework for copyright management of open access within the Australian academic and research sectors](#) 30 November 2006.

- “Open access to knowledge in the form of data held by government and key research institutions throughout Australia could sponsor untold innovation in areas as diverse as water management, construction and precise positioning agriculture.”
- The Productivity Commission concludes “that the progressive introduction of a mandatory [repository deposit] requirement would better meet the aim of free and public access to publicly funded research results.”

Open Access Is Not Just About STM Articles- Sorry Stevan!

- Global crisis in monograph publishing-even when published –average sale of 300-400 copies-what penetration of content?
- ANU publishing of *scholarly works* to be conducted through a single ANU E Press
- Open Access to ANU scholarship a core value
- Vice Chancellor : ANU E-Press was a result of a “strategic decision to get our scholarship out to the rest of the world ... free and online” (Professor Ian Chubb, 2006)

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Forthcoming Titles

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- 58 Titles have been published (February 2007)
- 40 more in 2007
- All Titles searchable - currently registering titles through Google Book Search/Scholar
- Web Usage Statistics –
 - PDF and HTML downloads for 2005 – 381,740
 - PDF and HTML downloads for 2006 – 745,288
- Top 5 ebooks (whole book) downloaded for 2006
 - El Lago Espanol (30,258)
 - Ethics and Auditing (24,584)
 - Connected Worlds (18,814)
 - The Spanish Lake (17,861)
 - Black Words White Pages (17,314)

We Must Think Outside the Box!

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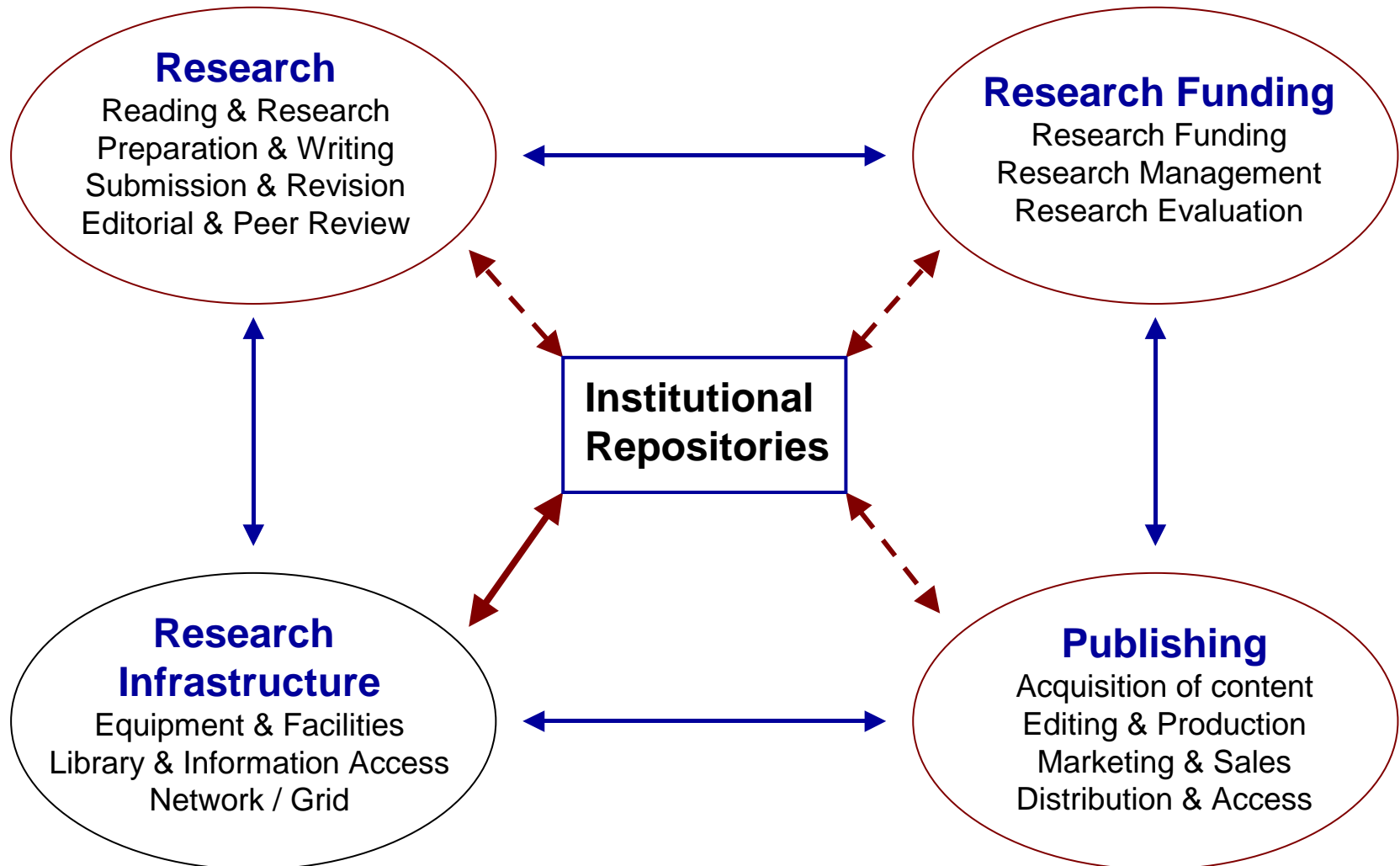


"Never, ever, think outside the box."

Cost Benefits of Open Access- Houghton

- *Research Communication Costs in Australia, Emerging Opportunities and Benefits* John Houghton, Colin Steele & Peter Sheehan. DEST 2006 <http://dspace.anu.edu.au/handle/1885/44485>
- The study seeks to identify and quantify all the costs associated with scholarly communication in Australia, and explore the potential benefits of enhanced access to research findings.
- Cited inter alia in Australian Productivity Commission Report and OECD documents leading up to Feb Brussels OECD Conference.

Scholarly Communication Costs



An Impacts Framework

Additionality:

Access for all, research participation based on merit, not means.

Potential benefits:

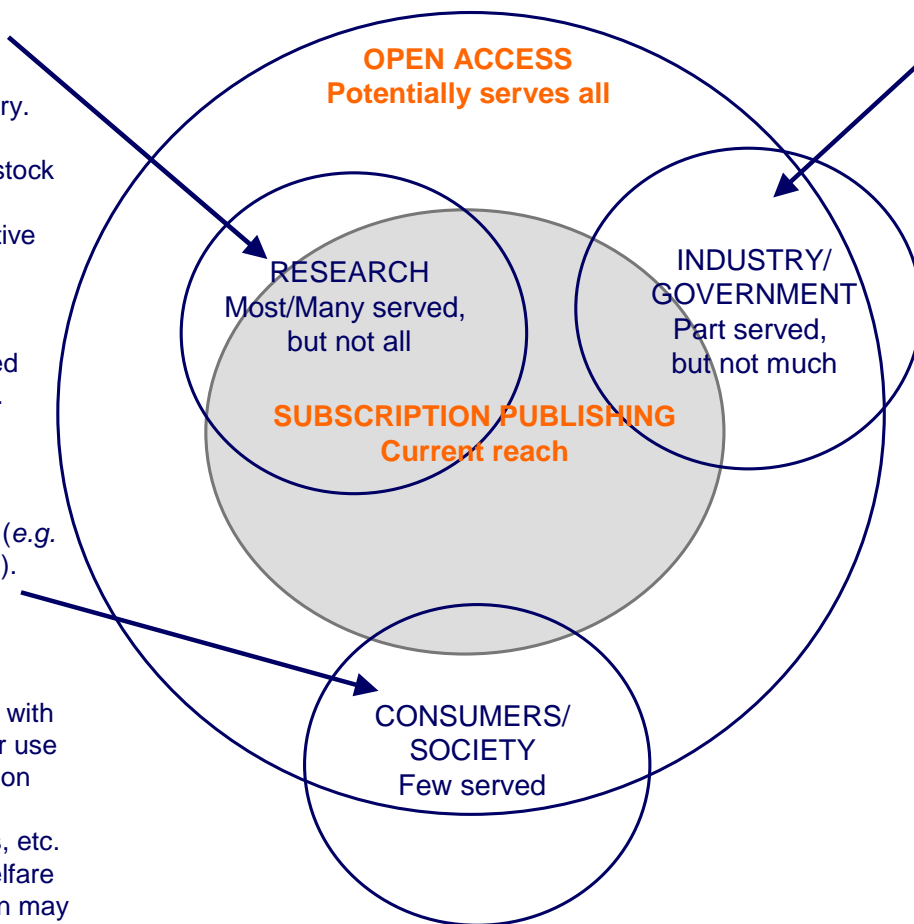
Speeding up discovery.
Increasing rate of accumulation of the stock of knowledge.
Reduction of duplicative R&D.
Fewer blind alleys.
Better educational outcomes & enhanced research capabilities.

Additionality:

Access as needed, informed consumers (e.g. health and education).

Potential benefits:

Contribution to the 'informed citizen' and 'informed consumer', with implications for better use of health and education services, better consumption choices, etc. leading to greater welfare benefits, which in turn may lead to productivity improvements.



Additionality:

(1) Access as needed, more informed producers.

(2) New businesses add value to content (e.g. Weather Derivatives).

Potential benefits:

Accelerate and widen opportunities for adoption and commercialisation. The potential for much wider access for GPs/nurses, teachers/students, and small firms in consulting, engineering, biotechnology, nanotechnology, etc. The potential for the emergence of new industries based upon the open access content.

- Based on a review of the literature, we assume a 50% return on gross expenditure on R&D, and a 25% return on public sector R&D
- The standard approach assumes all R&D generates useful knowledge, and knowledge is equally accessible
- We introduce 'access' and 'efficiency' into a standard growth model as negative 'friction' variables, and look at the impact of reducing the friction by increasing access and efficiency

- With gross expenditure on R&D at \$12 billion a year & a 50% return to R&D, a 5% increase in access & efficiency would be worth \$628 million a year
- With higher education R&D expenditure at \$3.4 billion & a 25% return to R&D, a 5% increase in access & efficiency would be worth \$88 million
- With ARC administered competitive grants funding at \$480 million & a 25% return to R&D, a 5% increase in access & efficiency would be worth \$12 million

- We compared the estimated additional incremental cost of institutional repositories in higher education, with the potential additional incremental benefits from enhanced access to higher education research
- Over 20 years, a national system of institutional repositories costing \$10 million a year would cost around \$130 million (NPV)
- Enhanced access to higher education research, with impacts at \$88 million a year, would realise benefits of around \$4 billion (a benefit/cost ratio of 30)
- Enhanced access to ARC competitive grants funded research, with impacts at \$12 million a year, would realise benefits of around \$530 million (a benefit/cost ratio of 4.1)

- Focus on providing as much access to as much material as possible – (nb: not simply print but also data)
- Ensure that the material is discoverable & accessible to potential users in research, industry, government and the wider community
- Even using conservative assumptions, preliminary work suggests that the benefits may be substantial:
 - Need to get the design & policy right, advocacy & support
 - Extend the scope across a range of objects & functions, and integrating with teaching & learning, research management & evaluation

- Creation and use of information outputs are integral to the research process
- Journal articles are still the key information output, but increasing interest in publication and access to research data- RIN Study March 2007 (<http://www.rin.ac.uk/researchers-use-libraries>)
- Gaps between researchers, librarians and publishers and funding agencies – therefore
- A dialogue must be facilitated re SC holistic understandings and misunderstandings

- Open Access somehow lacks peer review standards
- Why should I bother to archive?- need for mandates but cf lobbying by STM publishers eg “collapse of European publishing industry” Brussels Feb 2007
- Need to change /emphasise both reward systems and greater access to information by OA , particularly for social science and humanities and Asian material
- Great Ignorance re copyright issues and licencing
- Need for structured advocacy programmes by discipline

Lobbying Essential and Friends In High Places

- Librarians do not have funds or time for this compared to say Elsevier to lobby effectively.
- Academics more interested in “self preservation/promotion” rather than bigger SC picture?- the Jekyll and Hyde syndrome as authors and readers- no financial responsibility
- Vice Chancellors often more interested in budgets; league tables and recruiting students, etc
- Canberra social context useful to allow lobbying- “whispers in the corridor”
- Need academic/political “Room at the Top” for OA

- Aimed at Government policy decision makers and major Research Councils
- “Improving Access to Australian Publicly Funded Research – Advancing Knowledge and the Knowledge Economy”
- Review government and university mechanisms for managing (accessing, coordinating and disseminating) publicly funded research in the digitally networked information environment.

- Identify issues to enable improved access to publicly funded data and information through appropriate strategic frameworks.
- Identify and analyse institutional, economic, policy and legal issues in relation to public access to and use of publicly funded information.
- Examine and develop innovation strategies and structures to increase benefits from public sector research.

Who Will Provide the 21C Open Access Knockout ? Thank you

