Open access and the impact advantage
Towards Research Excellence in Australia
10 December 2013
Discussion points

• Methods for achieving greater open access to research outputs and promoting discoverability
• Open access and its relationship with return on public funding and impact of research
• Open access and tools of measurement of impact
Methods for achieving greater open access to research outputs and promoting discoverability

Get your work out there...
Hidden work has no impact

- Almost all Australian institutional research is publicly funded
- But the majority of published research work is behind subscription paywalls
- If the vast majority of the world cannot see your work what kind of impact is it having?
- “The thing people worry about the most is being scooped, and the thing that matters the least is being scooped. The thing that matters the most is being ignored” Professor Gary King, Harvard University

http://www.youtube.com/watch?v=jD6CcFxReIY
Publication is research output. Communicating research is the research outcome.
Increasing levels of accessibility

1. Publish work
2. Make work available:
   – Deposit a copy into a repository, or
   – Publish work in an open access journal
3. Tell people work is available
   – Tweet, blog, ResearchGate, Academia.edu, Instagram, whatever
4. Share work in understandable language
   – Write a blog
   – Write an article for *The Conversation*
   – Put yourself onto the Experts List
1. Publish work: Average no of times an article is cited?

- H-index scores in 2011 and increases from 2009, School of Public Health, University of Sydney.


**KEY POINTS SUMMARY:** In 57 academic and research staff:

- Zero had $H=0$
- 15 (26.3%) had $H$ between 2 – 9. These staff had an average of 10 research active years.
- 20 (35.1%) had $H$ between 10-19. These staff had an average of 11.9 research active years.
- 11 (19.3%) had $H$ between 20-39. These staff had an average of 16.6 research active years.
- 11 (19.3%) had $H$ of 40 or over. These staff had an average of 28.7 research active years.
- 1 (1.8%) had $H$ of over 60. This staff was research active for 24 years.

- "an h index of 20 after 20 years of scientific activity characterizes a successful scientist"
- "an h index of 40 after 20 years of scientific activity characterizes outstanding scientists likely to be found only at the top universities or major research laboratories"
- "an h index of 60 .. after 20 years ...characterizes truly unique individuals"

Hirsch JE. An index to quantify and individual’s scientific research output. PNAS 2005;102:16569-72
2. Make work available

- Two ways to make research open access:
  - Publish as usual and place an author’s copy in an institutional or subject-based repository (eg: PubMed Central)
    - Green open access (secondary OA)
  - Publish in an open access journals (sometimes there is an article processing charge)
    - Gold open access (born OA)
3. Tell people work is available

• "If you want people to read your papers, make them open access, and let the community know (via blogs, twitter, etc.) where to get them.. Not rocket science. But worth spending time doing.

• “What became clear to me very quickly was the correlation between talking about my research online and the spike in downloads of my papers from our institutional repository.”

4. Share work in understandable language
Open access and its relationship with return on public funding and impact of research
Who benefits from open access?

- More exposure for your work
- More exposure for your work
- Practitioners can apply your findings
- Higher citation rates
- Taxpayers get value for money
- Compliant with grant rules
- The public can access your findings
- Your research can influence policy

CC BY Danny Kingsley & Sarah Brown

AOASG
Australian Open Access Support Group
Taxpayers get value for money

RETURN ON PUBLIC FUNDING
Why open access?

• Academics provide the publishing industry:
  – Papers
  – Editorial services (board and editors)
  – Peer review
  – for free (or at least paid for by the public purse)

• Subscriptions to journals are enormous - Currently the university sector pays ~$87million annually in subscription costs

• In some disciplines it can take up to 5 YEARS for an accepted paper to be published
It is expensive!

Figure 1: Data from Association of Research Libraries showing relative growth of serials expenditure against the consumer price index.
Why open access?

### Elsevier’s annual reports years 2002-2011:

- **2002**: £429m profit on £1295m revenue – 33.18%
- **2003**: £467m profit on £1381m revenue – 33.82%
- **2004**: £460m profit on £1363m revenue – 33.75%
- **2005**: £449m profit on £1436m revenue – 31.25%
- **2006**: £465m profit on £1521m revenue – 30.57%
- **2007**: £477m profit on £1507m revenue – 31.65%
- **2008**: £568m profit on £1700m revenue – 33.41%
- **2009**: £693m profit on £1985m revenue – 34.91%
- **2010**: £724m profit on £2026m revenue – 35.74%
- **2011**: £768m profit on £2058m revenue – 37.3%

[http://www.reedelsevier.com/investorcentre/reports%202007/Pages/Home.aspx](http://www.reedelsevier.com/investorcentre/reports%202007/Pages/Home.aspx)
What does Elsevier’s profit of 35.74% mean?

<table>
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<tr>
<th>What paying for</th>
<th>Amount</th>
<th>Where money goes</th>
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<tr>
<td>Downloading a PDF from a journal</td>
<td>$37.95</td>
<td>$13.56 to shareholders</td>
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<td>Library payment for bundle of Elsevier subscriptions</td>
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<td>$607,580 to shareholders</td>
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<td>Any reason</td>
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<td>Enough to sponsor US Representative to fund Research Works Act</td>
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  [http://svpow.com/2012/01/13/the-obscene-profits-of-commercial-scholarly-publishers/]
Compliant with grant rules

RETURN ON PUBLIC FUNDING
ARC & NHMRC - OA policies

- **ARC** (introduced 1 January 2013)
  - All outputs (including books)
  - 2013 grants onward (we will not see OA output for several years)

- **NHMRC** (introduced 1 July 2012)
  - Journal articles only
  - Any publication after 1 July 2012 regardless of the grant
Reactions to ARC proposal from academic community

• Confusion about green and gold
  – most academics think OA means paying for publication

• Major concerns about book publishers going under
  – Concern this is their way of being measured
  – ‘But we write books’

• General fear of publishers
Requirements of ARC & NHMRC policies

What ARC & NHMRC policies mandate, prefer and permit

STEP 1

Accepted:
article/chapter/book

Provide details
publication metadata etc

INSTITUTIONAL REPOSITORY

Published materials
Materials suitable for Open Access include articles, chapters, notes and books

Policy links
NHMRC revised policy on the dissemination of research findings — www.nhmrc.gov.au/grants-policy/dissemination-research-findings

STEP 2

Published:
article/chapter/book

Provide copy
author’s version
GR

Provide URL
Link to OA article in journal
GR

Provide URL
Link to OA item in discipline repository

INSTITUTIONAL REPOSITORY

DISSEMINATE ARTICLE

Provide copy
preferred

Provide URL
permitted

http://aoasg.org.au
What is unusual about these mandates?

• The requirement for material to be available in an institutional repository

• Other mandates around the world:
  – Require publication in an OA journal (eg: Wellcome Trust), or
  – Require deposit in a subject based repository (eg: NIH into PubMed Central)
¼ of all Australian unis

http://aoasg.org.au/resources/
IMPACT OF RESEARCH

Your research can influence policy
2012 National Research Investment Plan

• “Science and research are also essential inputs to government policy development and program evaluation. Governments have an increasing need to systematically and effectively incorporate robust science and research evidence into the policy making process across the full range of government responsibilities”. (p 13)

Practitioners can apply your findings

IMPACT OF RESEARCH
There’s a whole world out there

- Start up technology companies
- General Practitioners
- Teachers
- Pharmacists
- Accountants
- Nurses
The public can access your findings

IMPACT OF RESEARCH
15-year-old develops pancreatic cancer test

Open Access Empowers 16-Year-Old to Make Cancer Breakthrough

on June 11, 2013

SPARC's student initiative, the Right to Research Coalition, has released a video interview of Jack Andraka, a high school sophomore who won the 2012 Intel International Science and Engineering Fair with a breakthrough diagnostic for pancreatic cancer. Interviewed by Francis Collins, the director of the National Institutes of Health (NIH), Andraka discusses how open access articles and NIH's PubMed Central played a key role in enabling his discovery.

Andraka used free online articles "religiously" in creating his pancreatic diagnostic that is 26,607 times cheaper, 168 times faster, and 400 times more sensitive than the current test. In discussing his discovery, Andraka points to paywalls for journal articles as a major barrier preventing others from making similar breakthroughs.

This story is just one example of the innovation that can happen when anyone with access to the full scientific literature is empowered to make a difference.
Open access and tools of measurement of impact
MEASURING IMPACT

Higher citation rates
Traditional ways to assess value

• 1955 – Eugene Garfield founded Institute for Scientific Information & Science Citation Index
  – Based on a calculation of no of citations
• 1972 – Journal Impact Factor
  – Averages the number of citations per article in a journal
• early 2000’s – bought by Thompson Reuter’s Web of Science and Web of Knowledge
  – Still based on citations & JIF
• 2004-2009 – others jumped on the bandwagon
  – Microsoft’s Academic Search - http://academic.research.microsoft.com/
• Variations on a theme - still relying on citation data from bibliographic databases
• IFs rank journals, not articles
Does OA increase citations?

• Generally there is a positive effect – many studies:
  – The effect of open access and downloads ('hits') on citation impact: a bibliography of studies”
    http://opcit.eprints.org/oacitation-biblio.html

• But lower quality material gets lost in the soup:
MEASURING IMPACT

More exposure for your work
Most downloaded from QUT ePrints
PLOS ONE metrics page (1)

Novel Biochemical Markers of Psychosocial Stress in Women

Article Usage

Total Article Views
4,301
Jan 30, 2009 (publication date) through Mar 29, 2012*

Although we update our data on a daily basis, there may be a 48-hour delay before the most recent numbers are available. PMC data is posted on a monthly basis and will be made available once received.

Citations

Download: PDF | Citation | XML

Metrics

Total Article Views: 4,301

Citations

CrossRef (6)
PubMed Central (1)
Scopus (4)
Web of Science® (7)

Social Networks

CiteULike (2)
Mendels (11)

Related Content

Included in the following collection
PLOS ONE: Stress-Induced Depression and Comorbidities: From Bench to Bedside

Related Articles on the Web

Google Scholar
Pubmed

Share this Article

Email this article
PLOS ONE metrics view (2)

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Article level metrics

We make article level metrics easy.

Scientists talk. Let's listen.

Every day, thousands of scholarly papers are being discovered, discussed and shared.

Altmetric tracks what people are saying about papers online on behalf of institutions, publishers, authors, libraries and institutions.

Find out more
Impact is increasingly on the agenda

• “Impact happens outside the academy”
  – Lisa Schofield – General Manager Research Outcomes & Policy Branch, DIISRTE - Valuing the Humanities, 19th February 2013, National Library of Australia

• “Assessing Research Impact” Govt discussion paper
  – AOASG recommended that making work OA and download counts be used as a measure
Broader impact?

http://svpow.com/2013/05/11/the-sv-pow-open-access-decision-tree/
Questions?

Australian Open Access Support Group

w: http://aoasg.org.au

e: eo@aoasg.org.au

p: 02 6125 6839

t: @openaccess_oz