Altmetrics and Emerging Measures of Impact

Presentation to Emerging Researcher Programme
University of Cape Town, 28 November 2012

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Scholarly Communication in Africa Programme
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Defining Scholarly Communication in the Internet Era (Thorin, 2003)

- Conducting research, developing ideas and informal communications.
- Preparing, shaping and communicating what will become formal research outputs.
- Disseminating formal outputs.
- Managing personal careers, and research teams and programmes.
- Communicating scholarly ideas to broader communities.
> What does this mean for how we think about the impact of our research, and how we reward it?
> Given the current challenges in African higher education, what does impact assessment mean in our context?
> How do we move beyond journal Impact Factor as sole measure?
Tracking traditional citation of new forms of scholarship

How do you cite Twitter?

Because posts from online social media, such as Twitter and Facebook, are not yet often fodder for scholarly research, specific reference examples aren’t included in the Publication Manual. However, some examples can be found in the Social Media section of the APA Style Blog.
... And new forms of citing traditional scholarship

Today on New Scientist: 22 October 2012

18:00 22 October 2012

By Thomas Latcham
Penguin ascension wins wildlife photographer prize:
Great photo. The energy and composition are what makes it. And it's scientific value and value ... 

By Giovanni Barraza
Galaxy dance of death creates starburst shockwave:
COOL. Its just sad that we will get stuck in my favorite galaxy andromeda. Though I really w...

By Stephen R. Stapleton
Tiny tractor beams enter the third dimension:
Nothing about a temperature variation would forbid use of the alternative beam in space. What f...

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US tainted drug deaths are symptom of wider problem

The death toll from fungal meningitis caused by contaminated medication has risen to 23, but the problems behind the scandal are far from unique

First analysis of beluga whale mimicking human speech

Stories of beluga whales "talking" were once dismissed as sailor's tales, but now there is hard evidence that they really can do it

Memento mori: it's time we reinvented death

The knowledge that we will die profoundly shapes our lives - but the nature of death itself is elusive and changeable

Recovering heroin addicts may lose their inner voice

People recovering from addiction seem to suffer a working memory overload when it comes to words

No signs of life from Lake Vostok - so far
What does a scholarly communication activity system look like?
We tend to treat the holistic system like an iceberg...
How does this serve the development agenda?
How does this influence what we want to track and reward?
“Just as scientists would not accept the findings in a scientific paper without seeing the primary data, so should they not rely on Thomson Scientific’s impact factor, which is based on hidden data.” (Rossner, Van Epps & Hill 2007)

“Our results indicate that the notion of scientific impact is a multi-dimensional construct that cannot be adequately measured by any single indicator, although some measures are more suitable than others.” (Bollen et al. 2009)
What tools/methods do we have?
1. Bibliometrics
Scopus

Access the largest abstract and citation database of peer-reviewed literature.

In a data landscape crowded with overwhelming amounts of information, a library's true value lies in its ability to deliver quality content with immediate relevance to its users. For sheer precision and performance, no other database in the world comes close to Scopus.

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Next Steps
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- Subscribe to newsletters
Science Analysis

The SCImago Journal & Country Rank is a portal that includes the journals and country scientific indicators developed from the information contained in the Scopus® database (Elsevier B.V.). These indicators can be used to assess and analyze scientific domains.

This platform takes its name from the SCImago Journal Rank (SJR) indicator, developed by SCImago from the widely known algorithm Google PageRank™. This indicator shows the visibility of the journals contained in the Scopus® database from 1996.

Read more about us >
Laura Czerniewicz
Associate Professor, University of Cape Town
Education - learning technology - scholarly communication - digital scholarship
Verified email at uct.ac.za
My profile is public

Citation Indices

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Citations to my articles

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<td>Access to ICTs for teaching and learning: from single artefact to inter-related resources</td>
<td>30</td>
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<td>Debunking the 'digital native': beyond digital apartheid, towards digital democracy</td>
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<td>C Brown, L Czerniewicz</td>
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<td>Journal of computer assisted learning 26 (5), 357-369</td>
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<td>Trends in student use of ICTs in higher education in South Africa</td>
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<td>Students make a plan: understanding student agency in constraining conditions</td>
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<td>The role of ICTs in higher education in South Africa: One strategy for addressing teaching and learning challenges</td>
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<td>S Jaffer, D Ng’iamo, L Czerniewicz</td>
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<td>International Journal of Education and Development using ICT 3</td>
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<td>A study of the relationship between institutional policy, organisational culture</td>
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**Predominant algorithms utilised for calculating bibliometric impact**

*Impact Factor* *(Eugene Garfield 1955)*

\[ A = \text{the number of times articles published in 2009 and 2010 cited by indexed journals during 2011.} \]

\[ B = \text{the total number of "citable items" published by that journal in 2009 and 2010. ("Citable items" are usually articles, reviews, proceedings, or notes; not editorials or letters to the editor.)} \]

\[ 2011 \text{ impact factor} = \frac{A}{B}. \]

*h-Index* *(Jorge E Hirsch)*

*A scientist has index h if h of his/her N_p papers have at least h citations each, and the other \((N_p - h)\) papers have no more than h citations each.*

(i.e. Sholar with an index of \(h\) has published \(h\) papers each of which has been cited in other papers at least \(h\) times)
2. Altmetrics

Bibliometrics mined impact on the first scholarly Web. Altmetrics mines impact on the next.

(Priem 2012)
Impact

usage
downloads
views

peer-review
expert opinion

citations

alt-metrics
storage
links
bookmarks
conversations

http://altmetrics.org/manifesto/
Tell the full story of your research impact.

ImpactStory aggregates altmetrics: diverse impacts from your articles, datasets, blog posts, and more.

Make my impact report or, show me a sample report.
Sonke
@SonkeTogether Cape Town
Work with men and boys to promote gender transformation. Tweets mostly by Londi.
http://genderjustice.org.za

Shukumisa
@Shukumisa South Africa
Shaking up social attitudes to sexual violence & treatment of survivors by the criminal justice system
http://www.shukumisa.org

Goedgedacht Forum
@GGD_Forum
The Goedgedacht Forum promotes discussion and dialogue at a national level. We have a proud tradition of creating a safe space for thought-leaders to gather.
Cape Town, South Africa · http://www.goedgedachtforum.co.za
PLOS Article-Level Metrics (ALMs): measuring the impact of research

ALMs provide a suite of established metrics that measure the overall performance and reach of published research articles.

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Publishers
Enhance publication value through real-time views of reach and influence

Institutions
Capture researcher impact for hiring, tenure, and promotion decisions

Funders
Track the performance and impact of research funding
PLOS Analytics

Citations

- Scopus: 12
- Crossref: 8
- PMC: 15
- ISI Web of Science: 4

Social Networks

- Facebook: 4
- Mendeley: 1

Blogs and Media Coverage
Publish or Perish

- The Publish or Perish Book: now $9.95 Kindle, $14.95 PDF, $26.95 paperback
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Are you applying for tenure, promotion or a new job? Do you want to include evidence of the impact of your research? Is your work cited in journals which are not ISI listed? Then you might want to try Publish or Perish, designed to help individual academics to present their case for research impact to its best advantage.
DUNCAN J WATTS

$H_R$-Index: 32

$G_R$-Index: 54

Most read publication: 222

Total number of publications: 40

Total bookmarks: 3007

Top 10 publications by readership (?)

1. Wu et al. (2011) - 222
3. Dodds et al. (2003) - 176
4. Salganik et al. (2006) - 153
5. Watts and Dodds (2007) - 160
8. Bakshy et al. (2011) - 124

Duncan J Watts's coauthors

Luis A N Amaral, Eyran Bakshy, Albert-László Barabási, Munmun De Choudhury, Munmun De Choudhury, Peter S Dodds, Peter Sheridan Dodds, Michael Frumin, Sharad Goel, Daniel G Goldstein
A FEW OTHER THINGS TO THINK ABOUT WHEN THINKING ABOUT IMPACT

“... the impacts of projects/programmes cannot be understood separate from an understanding of the capacity of users to absorb and utilise findings; and any assessment of research use amongst user communities has to pay attention to the availability (or otherwise) of usable research findings.”

(Davies, Nutley & Walter 2005)
Impact does not equal worth (Herb 2010)
Impact is part of and needs to be supported by composite elements of the system it assesses.
New ways of thinking about peer review: online collaborative
New ways of thinking about peer review:
ONGOING, ITERATIVE

correction: example of Stippling's law

Original Article
Lyopene Inhibits NF-kB-Mediated IL-8 Expression and Changes Redox and PPARy Signalling in Cigarette Smoke–Stimulated Macrophages

correction: example of Stippling's law
Posted by 1961FY on 06 Oct 2012 at 11:30 GMT

http://www.ncbi.nlm.nih.gov...

Dyslexic day: correction

The band in the 2nd (Lyc) lane of the IL-8 panel in figure 1B has straight, vertical ends. The stippling inside the bands in the in the 1st, 2nd and 4th lanes of the IL-8 panel is the same. Does this have biological significance?

No competing interests declared.
What are the drivers for understanding the spread, use and influence of research findings?

- Political imperatives to move beyond ideological assertion to pragmatic considerations of ‘evidence’ and ‘what works’.
- Need for research advocates, funding bodies, research providers and others to make the case for resources.
- Greater demand for rigour in the prioritisation of research efforts. (Davies et al. 2005)
- Demonstration of return on investment to funders and government/taxpayers > accountability.
What kinds of impact could (should) we expect from research? (Davies et al. 2005)

- Knowledge production (e.g. peer-reviewed papers)
- Research capacity building (postgraduate training and career development)
- Policy or product development (incl. input into official guidelines or protocols)
- Sector benefits (impacts on scientific client groups)
- Societal benefits (economic > health > productivity)


