Research Impact Measures - The Times They Are A Changin'

Impact Factor, Citation Metrics, and 'Altmetrics'

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H.T. Coutts Library
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Outline

1. The Basics
2. The Changes
Impact Metrics are...

...calculations/algorithms that quantify the impact of research or scholarly activity.
“Impact is usually demonstrated by pointing to a record of the active consultation, consideration, citation, discussion, referencing or use of a piece of research.”

http://blogs.lse.ac.uk/impactofsocialsciences/introduction/
The Basic Premise*

* IMPACT DOES NOT MEAN QUALITY
Impact

usage
downloads views

peer-review
expert opinion

citations

alt-metrics
storage links bookmarks conversations

http://altmetrics.org/manifesto/
Caveats and cautions

● Citations are not always received for valid reasons
● Self-citation
● Database coverage:
  ○ h-index will be different in Web of Knowledge/Science, Scopus and Google Scholar
  ○ Education/Social Sciences/Humanities not covered well in citation databases
Caveats and cautions (part ii)

I am not an expert...

I know enough to be dangerous!
3 Main Providers

Scopus

Web of Science/Knowledge

Google Scholar
3 Levels of Metrics

1. Journal Level

2. Author Level

3. Article level
Journal Level Metrics

“Impact Factor”
- most well-known
Impact Factor

calculated by dividing the number of citations in the [Journal Citation Reports] year by the total number of articles published in the two previous years
Impact Factor:

# of citations in 2012

# of articles published in 2010 & 2011

but, only citations in Web of Science/Knowledge
Note: you need to sort the results by impact factor; defaults to alphabetic listing
h-index is most common
The h-index is based on a list of publications ranked in descending order by number of times cited.

The value of $h$ is equal to the number of papers ($n$) that have $n$ or more citations.
h-index

- Benefits longer careers
  Someone who has been working in the field for 30 years will have a higher index than someone with 10 years.

- Can be used to compare scholars at similar points in their career who publish in the same discipline.
Citation Counts - how often a particular journal article is being cited by other articles

Other possibilities (ie/ altmetrics - more later)
The Changes

Changes in the Publishing Environment

- increasing digital scholarly publications
- open access (OA)
- born digital
- reformatted digitally
Impact of Open Access (OA)

- global
- all disciplines, all formats
- different versions: preprints, postprints, final
- different locations: repositories, websites
- new modes of publishing, evaluation and information dissemination
Open Access Journals & Books

DOAJ
DIRECTORY OF
OPEN ACCESS JOURNALS

doab
directory of
open access books
Open Access Repository Growth

Registry of Open Access Repositories (ROAR)
3479 repositories
growth of 2/day

Bielefeld Academic Search Engine (BASE)
40,000,000+ documents
19,000 documents per day growth
Author Identification Systems

- ORCID
- ResearcherID
- Names Project (JISC)
- Author Claim
- arXiv Author ID
- Google Scholar Profile
Distinguish yourself in three easy steps

ORCID provides a persistent digital identifier that distinguishes you from every other researcher and, through integration in key research workflows such as manuscript and grant submission, supports automated linkages between you and your professional activities ensuring that your work is recognized. Find out more.

1. **Register**
   Get your unique ORCID identifier. Register now! Registration takes 30 seconds.

2. **Add your info**
   Enhance your ORCID record with your professional information and link to your other identifiers (such as Scopus or ResearcherID or LinkedIn).

3. **Use your ORCID ID**
   Include your ORCID identifier on your Webpage, when you submit publications, apply for grants, and in any research workflow to ensure you get credit for your work.
"Altmetrics is the study and use of non-traditional scholarly impact measures that are based on activity in web-based environments."

www.ploscollections.org/altmetrics
Altmetrics - How Do They Work?

- emphasis at article level, not journal level
- data/metrics created and updated quickly
- crowdsourced
- PLoS ONE
  www.plosone.org
- Impact Story
  http://impactstory.org
- Altmetric
  www.altmetric.com
Behavioural and Developmental Interventions for Autism Spectrum Disorder: A Clinical Systematic Review

Maria B. Ospina, Jennifer Krebs Seida, Brenda Clark, Mohammad Karkkheh, Lisa Hartling, Lisa Tjosvold, Ben Vandermeer, Veronica Smith

Total Article Views
40,314

Nov 18, 2008 (publication date) through Feb 20, 2013

33.98% of article views led to PDF downloads

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ImpactStory

- tracks 'impact' of articles, datasets, blog posts, posters, etc
- aggregates data from public and scholarly services
- researchers can create collections of their articles
- can trace impact across multiple peer networks
Altmetric.com

- monitors social media, newspapers, magazines weekly
- article-level metrics
- altmetric score based on:
  - volume
  - source
  - authors
- since 2011
Two different products:

- Explorer to embed in databases or journals
  - $$$
- Bookmarklet to embed in browser
  - free
1. Add bookmarklet to your bookmarks toolbar
2. Visit any paper
3. Get article level metrics with a single click
Effects of Humans on Behaviour of Wildlife Exceed Those of Natural Predators in a Landscape of Fear

Simone Ciuti, Joseph M. Northrup, Tyler B. Muhly, Silvia Simi, Marco Musiani, Justin A. Pitt, Mark S. Boyce
rso.ualberta.ca can provide some advice on how to locate citations and make suggestions for creative ways to determine impact.
Other ways to make yourself findable

- deposit in institutional repositories (IR) eg/ U of A ERA - Education & Research Archive
- professional networks like LinkedIn, etc
- ???
Thank You!

Questions?