

# Tracking and measuring your research impact: A guide to using metrics and altmetrics.

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- This session will provide an overview of some of the most popular tools and services available for tracking and measuring the impact of your research.

# Why track and measure the impact of your research?

- REF 2021.
- Funding bodies:
  - grant applications may consider previous metrics (citation analysis etc.) and Altmetrics
  - may stipulate you have a duty to promote your research in certain ways.
- Evidence the worth of your research (and yourself) to your university.
- Make new connections - academic, commercial, and public.

# Impact

- Impact is ‘a marked effect or influence’. What kind of impact? Academic, economic, social....
- Impact is not totally unrelated to attention and dissemination, but what value do you place on this?
- Tracking impact and measuring impact – longevity, immediacy, reach - local/global, limited to academic community/commercial/public
- All can be fairly subjective, which is what makes the process so confusing.

# Measurements

- Peer review process – experienced researchers critique a paper.
- Quantitative metrics (bibliometrics)- such as journal impact factor. Mainly a journal or article, but can focus on an individual.
- Altmetrics - web based metrics and qualitative data.

# Quantitative Metrics

- Web of Science
- Elsevier Journal Metrics
- Google Scholar
- Publish or Perish –uses data from Google Scholar
- Microsoft Academic – new tool

WEB OF SCIENCE™

Google  
Scholar

~~Scopus®~~

# Points to remember

Different metric tools have differing subject/journal coverage, differing criteria and therefore differing results.

**“Golden rule” = use at least 2 different types of metrics.**

- Disciplines publish/cite differently, making it difficult to compare across subject areas.
- Areas like Creative Industries, Computer Science, Engineering, and Social Sciences may be less well served by main citation tools.
- Authors may be indexed under different variations of names (e.g. Thomson, John vs Thomson, J.T.) or have the same name as another author. (ORCID identifier).

# Web of Science

Produced by Thomson Reuters.

Oldest and possibly best known citation database.

Broad coverage of high impact journals, does not include books/book chapters.

Made up of citation indexes which can be searched individually or together.

# Elsevier Journal Metrics

[CiteScore](#): launched in December 2016. Citations per document. Also, CiteScore Percentile which give a relative position of the document within a subject field based on CiteScore

**SNIP**: measures contextual citation impact by weighting citations based on the total number of citations in a **subject** field.

**SJR**: prestige of citing source i.e. 'all citations are not created equal'. With SJR, the **subject field, quality and reputation** of the journal have a direct effect on the value of a citation.

# Google Scholar, Publish or Perish, and Microsoft Academic

Free!

Potentially useful for areas less well served by traditional metric tools.

Publish or Perish lets you calculate metrics.

Google Scholar broadly focused on creating an h-index.

Cover types of publications not usually found in traditional metric tools - including books and book chapters.

# H-index

Metric used to assess an individual, or group of individuals. An author has an h-index of  $n$  if they have published  $n$  papers, each of which has been cited at least  $n$  times.

**Example:** For Dr Smith to have an H-index of **10**, 10 of her papers must have been cited at least 10 times.

Your h-index will depend on how it is calculated – via Web of Science or Google Scholar. Likely to be higher with Google Scholar (could include trade publications, webpages etc. – depending on what **you** decide to include!)

# Journal Impact Factor (JIF)

How often articles from a particular journal have been cited in a period.  
Balancing act – higher impact journals often harder to get published in – established researchers /self-fuelling cycle.

Different tools cover different journals – limits to publisher or subject.

Using Web of Science [Journal Citation Reports](#), the Impact Factor is the average number of times articles from that journal **published in the last two years** have been **cited in the current year**.

Cites in 2014 to items published in:	2013 =285	Number of items published in:	2013 =70
	2012 =486		2012 =57
	Sum: 771		Sum: 127
Calculation=	$\frac{\text{Cites to recent items}}{\text{Number of recent items}}$	$\frac{771}{127}$	= 6.071

# What are Altmetrics?

Altmetrics are metrics and qualitative data that are **complementary** to traditional, citation-based metrics, offering a different perspective on the work of all researchers.

They are a real time capture of:

- Record of attention
- Measure of dissemination
- Indicator of influence and impact

Who is compiling Altmetrics?

- Almetric.com
- PLOS
- SSRN
- Plum Analytics

How does Altmetric.com gather data?  
What sources does it track and report  
on?

# Altmetric.org tracks.....

- Blogs – over 9,000 academic blogs plus others
- Media – TV & Newspapers, professional organisation publications
- Mendeley - online reference manager
- Public policy documents
- Recommendations of individual research outputs from [F1000](#).
- Links with Scopus citations (for publishers and institutions)
- Open post-publication peer-review forums like [Pubpeer](#)
- Social media (Facebook public posts, Twitter, Google+, Pinterest)
- YouTube & Reddit
- Open Syllabus Project
- Wikipedia

# Using Altmetrics

- Just the same as traditional citation analysis, bare numbers do little to showcase the value of your work.
- Add context, background information and qualitative data. How do the numbers rank with others in your subject area? Mention key experts who have blogged about you.
- Like any metric, there's a potential for gaming of Altmetrics. Don't be tempted!
- Altmetrics are most useful/powerful when used to complement informed peer review and citation-based quantitative metrics.
- Altmetrics can be useful for early career researchers.
- Altmetrics are still young.

# Using your online presence

## Research:

- Disseminate your research far & wide.
- Find out about other people's research.
- Find information to support your research.
- Increase the chances of your work (new & old) being cited.

## Engagement

- With other academics that you might not otherwise "meet".
- With non-academics – funders, companies and the general public.

## Doing something different

- Disseminate your research in new ways, find new angles, do things visually or creatively.
- New experiences and new ideas.

Remember to look after your Digital Footprint!

# Conclusion

- What is it you want to do?
  - Track your research?
  - Measure your research?
- Why do you want to do it?
- Then choose which tools you are going to use.
- Step back and evaluate – what's working and what isn't?
- Research measurement & tracking are not just for REF.
- Continuous effort is required to make impact.

# Useful documents

Ball, A & Duke, M (2015). How to Track the Impact of Research Data with Metrics. *DCC How-to Guides*. Edinburgh: Digital Curation Centre. Available online: <http://www.dcc.ac.uk/resources/how-guides>

Barnes, C (2015). The Use of Altmetrics as a Tool for Measuring Research Impact, *Australian Academic & Research Libraries*, 46:2, 121-134, <http://dx.doi.org/10.1080/00048623.2014.1003174>

Bornmann, L (2014). Do altmetrics point to the broader impact of research? An overview of benefits and disadvantages of altmetrics. *Journal of Informetrics*, Volume 8, Issue 4, October 2014, Pages 895-903, ISSN 1751-1577, <http://dx.doi.org/10.1016/j.joi.2014.09.005>.

(<http://www.sciencedirect.com/science/article/pii/S1751157714000868>)

DORA Declaration on Research Assessment <http://www.ascb.org/dora/>

HEFCE (2015). The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management

[http://www.hefce.ac.uk/pubs/rereports/Year/2015/metrictide/Title,104463\\_en.html](http://www.hefce.ac.uk/pubs/rereports/Year/2015/metrictide/Title,104463_en.html)