



Twentysecond Thing: Bibliometrics in Practice

What are research metrics and how do you measure them? This Thing is brought to you by Samuel Rowland (Manager, Scholarly Communications).

What are bibliometrics...

Bibliometrics are quantitative measures that indicate influence or interest in academic research – think citations, author metrics, journal impact factors, rankings, views, downloads, and so on. They can be used to quantify engagement with research and are often used to determine the standing of a journal, a research output, or even a researcher.

...and how do I use them responsibly?

Bibliometrics are a great tool for articulating scholarly impact. However, if you are being asked to provide bibliometrics, it is important to consider how exactly they relate to the goals of the group, department, school, or faculty requesting them. When using bibliometrics, for example, in grant or promotion applications, contextualise them with qualitative information relating to your discipline, and career circumstances.

The responsible use of research metrics is championed by the [San Francisco Declaration of Research Assessment \(DORA\)](#). The University of Melbourne is a signatory of DORA, and this informs the [University's approach to research impact](#).

What are the key tools?

The following tools are supported by the University, and are available to staff and students through the library.

- [Scopus](#) and its analytical partner product [SciVal](#)

One of the long-standing bibliographic databases, Scopus is a widely utilised resource for discovering information about research outputs, which includes basic bibliometrics at the author level. Click through to SciVal and you will find more advanced bibliometrics and analysis options, with collaboration, discipline, and citation percentiles all measurable at individual and group levels.

- [Web of Science](#) and its analytical partner product [InCites](#)

Another established bibliographic database, Web of Science covers similar ground to Scopus. Its analytics platform, InCites, reveals more advanced bibliometrics and analysis options, with collaboration, discipline, and citation percentiles all measurable at individual and group levels.

- [Dimensions](#)

Dimensions is a research information powerhouse. If you have published in one of the sources covered by Dimensions, and your research information is publicly available, Dimensions can show you the links between your research outputs, datasets, grants, patents, and clinical trials.

- [Altmetric Explorer](#)

Altmetric Explorer captures – among other things – social media and policy engagement with research outputs. Has your research output trended online or been cited in policy? If you have published in one of the sources covered by Altmetric Explorer, it can tell you.

Have bibliometrics changed?

SciVal and InCites – and data pulled manually from Scopus and Web of Science themselves – have been go-to options for bibliometrics for some time. The [h-index](#) became the norm, then it became the naughty, and is now increasingly recognised as an imperfect tool for benchmarking. Instead, the emphasis is shifting towards impact metrics that encapsulate and demonstrate disciplinary nuances.

Commonly used bibliometrics tools still include Scopus and Web of Science, but newer offerings, such as Dimensions and Altmetric Explorer, have established themselves. Popular examples of author-level bibliometrics, for better or worse, still include h-index and [Field-Weighted Citation Index](#), and at the journal level, [SciMago Journal Ranking](#) (SJR) and [Source Normalised Impact per Paper](#) (SNIP); but in addition to these, a range of 'alternative' metrics have emerged. Using data points such as social media activity, policy citations, and patent references can help with painting societal impact and/or engagement narratives. More advanced bibliometrics, delving into citation percentiles, open access, collaboration networks, and discipline growth, have become more prevalent. A new suite of [publication level markers](#), including data and code availability and author contribution statements, are starting to trickle into vendor product presentations.

These developments aside, bibliometrics still rely on research outputs metadata, and as a result, source availability and other disciplinary differences will still affect the way you and your peers are represented – even with fancy field-weighted offerings. If you publish regularly in a journal or venue that isn't indexed by Scopus or Web of Science, you may still notice your citations, or whichever 'score' the product offers, appear less than those of someone who does publish regularly in a journal or venue that is indexed. And if you compare yourself to a researcher from a discipline with different authorship or citation norms, you may still notice significantly less citations, or a lower 'score', for your research outputs in comparison.

So, despite a few interesting developments, responsible use remains the key consideration when using bibliometrics.

Where can I get bibliometrics help?

A range of self-service information is the [Library's bibliometrics website](#). If you need more assistance, your [Faculty's liaison librarian](#) can guide you through the tools and how to use them.

About the author

Samuel Rowland is the Manager, [Scholarly Communications](#), at the University of Melbourne. Samuel has also worked as the Research Outputs Coordinator for the University of Melbourne, and the Research Performance Coordinator for the University of Melbourne's Faculty of Medicine, Dentistry and Health Sciences.

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