



Altmetrics: What, Where, Why?

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Altmetrics have become a buzzword in scholarly publishing in the last year. But just what is all the fuss about?

As evaluation criteria expand and budgets tighten, authors, publishers, universities, and research bodies are increasingly looking for additional ways to demonstrate the reach and value of their work. Traditional measures of scholarly impact, such as the Impact Factor, tend to focus only at the journal level—with little insight into how the individual articles within a publication perform.

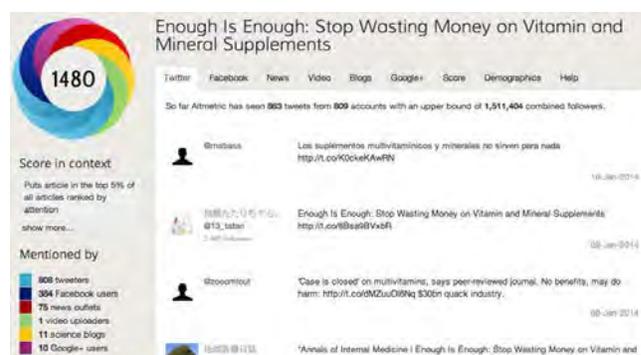


Recent advancements have therefore seen new measures emerge, which take a more granular view of the dissemination of articles and associated research content. Commonly referred to as *altmetrics*, or *alternative metrics*, these new forms of measurement look beyond citation and publisher usage counts, with a focus on online “mentions” of a research work. By collating data from sources, such as social media, blogs, news outlets, bookmarking sites, peer-review forums, and policy documents, we are now able to see a much richer picture of the true reach of the scholarly content.

Numerous tools developed by a handful of small start-up companies, such as Altmetric, Impact Story, and Plum Analytics, are now available for easily tracking and monitoring these channels, which are becoming increasingly important in the wider scholarly context. As a way of determining reach beyond (but complementary to) the more traditional journal-level citation tracking,

altmetrics data add a new layer of insight into the attention and societal impact the work has garnered.

By providing both qualitative and quantitative data for a paper, altmetrics can help authors and publishers explore, understand, and engage in the conversations that are going on around the research. This can be used to help influence future publications or research, and serves to further stimulate the academic discussion.



The task of tracking and reporting on an individual scholarly article is not without obstacles—not least the need to disambiguate between different versions of a single piece of work. In order to do this with accuracy, at Altmetric, data collation is based on a scholarly identifier unique to each article—for example, the DOI or PubMed ID, will remain the same whether hosted on the publisher’s site or within an institutional repository. Using this method, we have so far collated over 7.5 million mentions, relating to over 1.8 million articles.

Some papers, of course, will receive much more attention than others. It is important to remember that altmetrics provide an indication of reach, not quality. An article or topic that has broad appeal, particularly amongst the general public, is likely to

see a high number of mentions. Examples of this include the 2013 papers, “Overview of Active Cesium Contamination of Freshwater Fish in Fukushima and Eastern Japan,” which has received over 9,000 mentions on Twitter alone, and “Primary Prevention of Cardiovascular Disease with a Mediterranean Diet,” which has so far been featured by over 40 mainstream news outlets.

The scope for development within altmetrics is huge. To their favour, altmetrics provide a rapid and timely method of assessing the attention a paper receives—particularly in comparison to citations, which take years to accumulate. By examining the raw data behind each mention, it is often possible to identify online communities who have taken an interest in the research but may otherwise have gone undetected. This is particularly relevant in cases where the work has a more practical application—for example a paper which is little cited may in fact have had a large amount of impact on policy and amongst the clinical nursing community, who do not tend to actively publish research.

One must consider that the measures used today may not be considered important in five years’ time, and there are some contentious issues in the space that must be continually addressed. At present, the collation of altmetrics is not standardized, although there is much crossover between providers and sources. It is yet to be determined which outlets are the most important to track—and the results need to be carefully reviewed in context before any meaningful conclusions can be drawn. Technical limitations, such as the inability to track multimedia (audio and video) unless the unique identifier can be found in the metadata, are a recognized issue. Others have raised concerns that the altmetrics data could be easily gamed—fake Twitter accounts abound, and large numbers of mentions are simple to create. At Altmetric we have developed a spam-watching algorithm in order to combat this—any suspect mentions are flagged and investigated by our team.

Recent workshops run by the Public Library of Science (PLOS) and the National Information Standards Organisation (NISO) have taken steps

to begin to achieve a consensus on the standardization for altmetrics data as a whole, and to discuss and form a roadmap for how the field is likely to progress.

2013 saw a number of prominent titles move to integrate altmetrics data on their journal platforms using the Altmetric application programming interface (API). Publishers including Nature Publishing Group, the BMJ Group, the Royal Society of Chemistry, and BioMed Central all now display altmetrics for each article—usually accessible via a “metrics” tab or similar. The team at *Nature Climate Change* is currently trialing a “trending articles” list, based on the online activity on any given day. The data are pulled on request directly from our servers, and provide users with an instant compilation of the mentions for each paper. Displaying the data in this way allows authors and readers to easily gauge the attention their work is receiving, and can help the publishing teams identify which are their most talked-about articles, or where there is perhaps a need to increase their communication efforts.

Additionally, we offer the opportunity to explore the altmetrics data for any article via a web application: the Altmetric Explorer. Users can search by DOI, keyword, journal, publisher, funder, and a number of other filters. This enables a comparison between related journals, which can give a unique insight into how your publication is performing.

Overall, the reception for altmetrics has so far been mostly positive. Uptake amongst publishers has been high, and already we see examples of researchers incorporating the data surrounding their articles into their CVs. As the amount of online discussion around published research continues to grow, altmetrics as a tool for identifying and exploring the broader impact of scholarly work are anticipated to continue to gain in significance.

If you are interested in finding out more or integrating altmetrics data for your journal, you can visit www.altmetric.com, or email info@altmetric.com. We’re always open to new opportunities and would be happy to work with you to develop a custom solution.