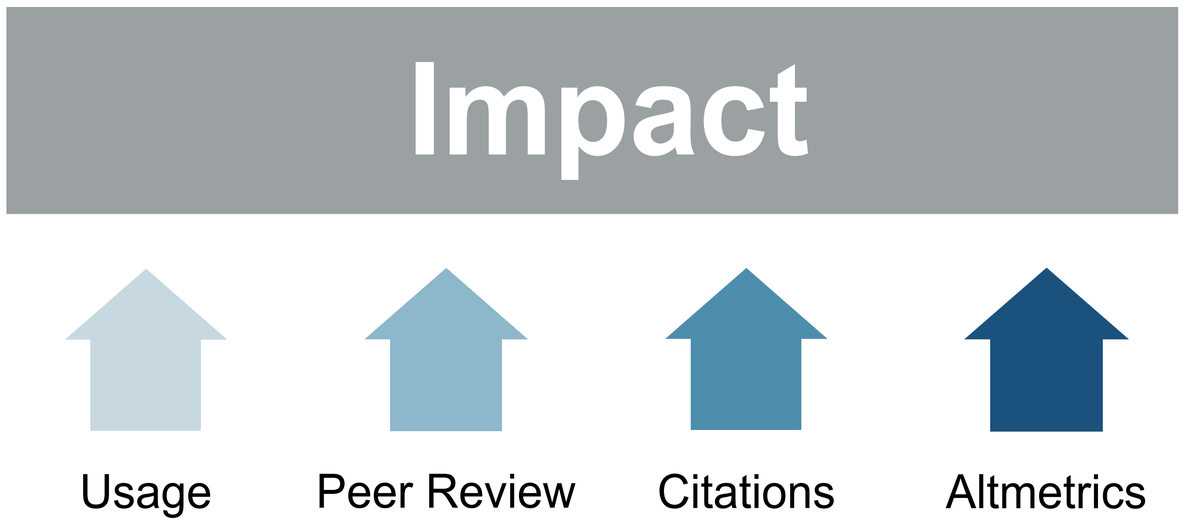
# Alternative Impact Measurement for Scholarly Publications

## Scientific Impact

The reputation of a scientist is to a large part determined by the visible dissemination and scientific repercussions of his publications, condensed as impact. Citation-based impact factors retain importance as the main instrument for measuring impact of publications.

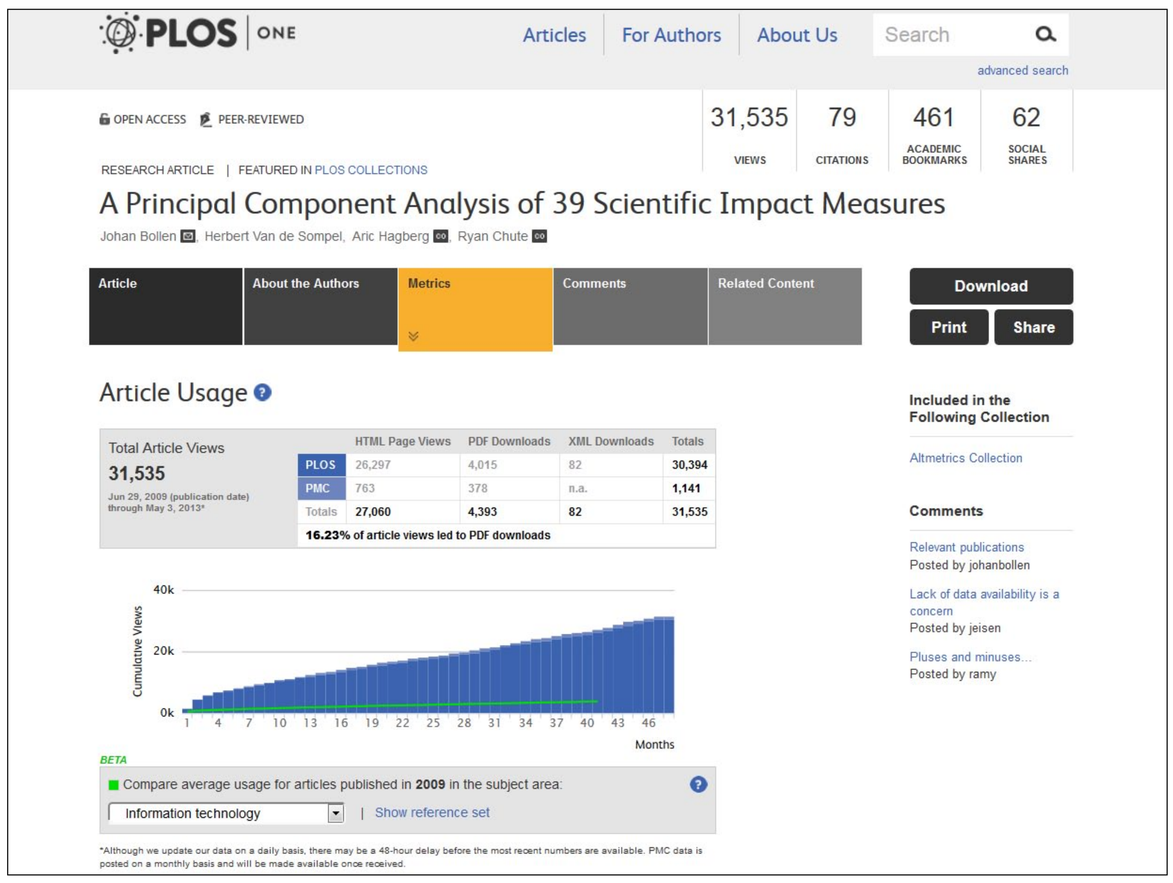
Nevertheless the impact of a scientific publication is a multidimensional construct and cannot be determined by a single indicator. Bollen et al. stated in 2009 that “the notion of scientific impact is a multidimensional construct that cannot be adequately measured by any single indicator, although some measures are more suitable than others. The commonly used citation Impact Factor is not positioned at the core of this construct, but at its periphery, and should thus be used with caution”.

More and more research is being carried out in the web, be it to access data, to connect with other researchers or to search for or disseminate publications. In particular for the latter tools like blogs, social networks, feeds or research-affiliated platforms gain importance, an area that was traditionally reserved for formal publication providers like publishers. An important aspect of these new platforms is the feasibility to enrich of publications with comments, citations or references.




Alongside this growing use of the web for the dissemination of scientific output new opportunities for impact measurement arises. Therefore we perceive that in addition to the measurement of usage data the observation and analysis of the emergence of scientific publications in the above mentioned platforms can determine the impact of the work.

This multidimensional approach is shared by the authors of the altmetrics manifesto (http://altmetrics.org/manifesto/), where scientific impact is represented in four pillars usage, peer-review, citations, and altmetrics.




## Article-Level Metrics

The Public Library of Science (PLoS) demonstrates the potential of a multidimensional approach to impact measurement. These article-level metrics enrich each published article with a variety of metrics.

In addition to the „classical“ citations from platforms such as Web of Science and Scopus, the Public Library of Science also displays references to articles from blogs (e.g. the Nature blogs). For instance, references in social networks like Mendeley are included. Micro-blogging services like Twitter and social bookmarking services such as CiteULike are involved. Furthermore, users can comment and rank at article-level.

PLoS follows an open approach and provides the software as open source, which allows other publishers or providers to re-use and adapt the code. The metrics of the article are also being offered foruse by other parties.

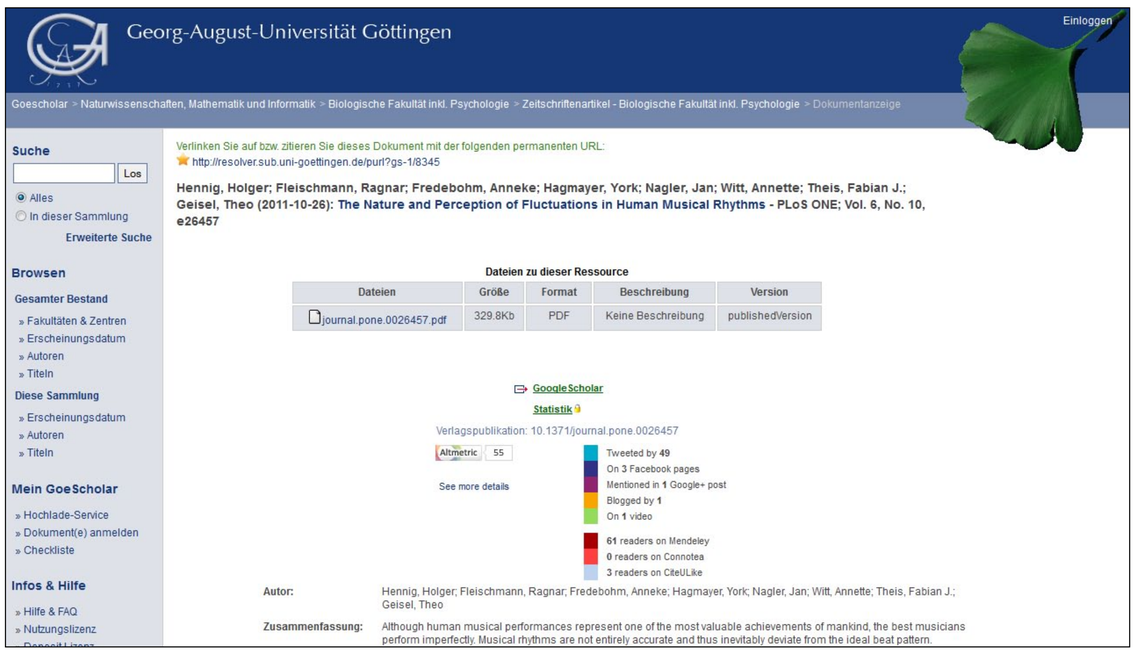
## Altmetrics in the Wild

Meanwhile, several tools are available for repositories to include Altmetrics for each single document. Three of the most popular services, ImpactStory, Altmetric.com, and Plum Analytics offer similar services for repositories. Whereas Altmetric.com is fee-based, the other two services come with a free API to reuse the service – in part with reduced functions.

PLUM ANALYTICS

ImpactStory.

Altmetric





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