
EDITORIAL

The Journal of Altmetrics is Launched – Editorial

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Almost a decade after its introduction to the scientific community, “Altmetrics” now has its’ own journal and a place in the mainstream evaluative methods of scholarly output.

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What are altmetrics? The term altmetrics – short for alternative metrics – appeared first in the “Altmetrics: A manifesto” (Priem, Tarborelli, Groth, & Neylon, 2010). The manifesto did not provide a definition, but a vision: “altmetrics expand our view of what impact looks like, but also of what’s making impact... they’re great for measuring impact in this diverse scholarly ecosystem”.

Through the years there were several attempts to develop that vision into a definition and provide a clear understanding of what the term actually captures. Here are some examples:

- NISO’s (2016) definition: “Altmetrics is a broad term that encapsulates the digital collection, creation, and use of multiple forms of assessment that are derived from activity and engagement among diverse stakeholders and scholarly outputs in the research ecosystem.
- Priem (2014) defines altmetrics as the “study and use of scholarly impact measures based on activity in online tools and environments” (p. 266).
- Bornmann (2014) states that “Altmetrics is a term to describe web-based metrics for the impact of publications and other scholarly material by using data from social media platforms” (p. 895).
- The Metric Tide (Wilsdon et al., 2015, pp. 5–6) states: “Altmetrics are non-traditional metrics that cover not just citation counts but also downloads, social media shares and other measures of impact of research outputs ... These are indicators derived from social websites, such as Twitter, Academia.edu, Mendeley, and ResearchGate with data that can be gathered automatically by computer programs”.
- Altmetric.com (n.d.) defines: “Altmetrics are metrics and qualitative data that are complementary to traditional, citation-based metrics.”
- Plum Analytics (2018) describe their mission as: “PlumX Metrics provide insights into the ways people interact with individual pieces of research output (articles, conference proceedings, book chapters, and many more) in the online environment.”

We see a variety of definitions, some are technical, others are broader but not detailed enough, thus it is important to clarify what the Journal considers as altmetrics. Our definition tries to be holistic on the one hand and detailed on the other hand.

Altmetrics has been coined as an umbrella term covering a large range of new online-based metrics related to scientific activities. They are expected to complement the more traditional science indicators (e.g. publication and citation counts) and methods for assessment with new tools and provide previously unexplored facets of “impact”. More importantly, they allow to unveil how research is communicated and received by wider public on social media platforms, in grey literature sources and on the Web in general. This allows for the broader analysis of the interactions between these diverse audiences and a large range of scholarly objects and research entities by (among others) viewing, reading, disseminating discussing, commenting, (dis)liking, and sharing scholarly-related information. As such, altmetrics go beyond just mere counting of events, because some of their forms (e.g., blogs, news, Facebook posts, comments, tweets) contain text, multimedia and the concurrence of ample audiences that open the possibility to study the interactions between these audiences and the scientific world. Thus, altmetrics track online attention and usage not just to journal articles, but to anything considered as part of the research process and all its related actors, including all sorts of scholarly-related outcomes (e.g., books, book chapters, scientific press releases, reports, patents, data, software and video) as well as all types of scholarly entities (e.g. researchers, research organizations, funders, journals, publishers, research topics, etc.).

Altmetrics are diverse and dynamic. Altmetrics are multi-faceted and fast. Fang and Costas (2018) showed that tweets and redds to research output accumulate half of the counts in only about 15 days. They are often viewed as “early signals of impact” (Wilsdon et al., 2017).

It should be noted that sometimes the early interest does not reflect on the traditional measure of citation impact collected years later. As an example, consider the first two top-ranked publications in the Altmetric Top-100 list for 2014 (<https://www.altmetric.com/top100/2014/>). The first one, “Experimental evidence of massive-scale emotional contagion through social networks” had an altmetric score of 5,044 at the end of 2014, and the second one “Variation in melanism and female preference in proximate but ecologically distinct environments” with an attention score of 4,083. The first article received 612 citations on Scopus, 458 citations on WoS and 1371 citation on Google Scholar until mid-July 2018. Its current altmetric score is 6868. The second article was cited only 4 times both on WoS and on Scopus and 7 times on Google Scholar – thus in this case the early attention did not predict future citation impact. It is also reflected in its current Altmetric attention score which decreased from 4,083 to 1,887.

Despite of their many advantages, altmetrics have some downsides that need attention, here are some:

- Most of the data are proprietary, and it is not clear how they are collected.
- Data are not monitored, and thus can easily be manipulated (more easily than citation counts).
- Reliability of the data – fluctuation in counts, stability of the platforms.
- Social media platforms are dynamic, they can lose popularity fast and even disappear (e.g Delicious, or Connotea), while other platforms may become more central for exposing and assessing research.
- Researchers and policy makers are not convinced of the added-value altmetrics provide (Aharony, Bar-Ilan, Julien, Benyamin-Kahana, & Cooper, n.d).

The most important challenges for me are to understand the meaning of altmetrics and what they measure (validity), why one gets involved, why others refrain from participating. Initial steps towards interpreting altmetrics were taken by Haustein, Bowman and Costas (2016).

That said, there is constant growth in the amount of research in the area of altmetrics which was demonstrated in a recent comprehensive literature review of the topic published by Sugimoto, Work, Larivière and Haustein (2017).

The need for a dedicated journal for altmetrics can also be demonstrated by the sheer growth in research articles in this area. Combining all the references in the above literature review with new articles that have ‘altmetrics’ as a topic in their title, abstract or keyword, we found 978 publications on altmetrics and related topics that are indexed in Web of Science and Scopus.

Figure 1 demonstrates the overall growth in publications on the topic. It is worth noting that as of July 2018, the number of publications is more than half the articles published in 2017. This in itself supports our assumption that there is need for a specialized publication outlet for research on altmetrics in the form of The Journal of Altmetrics.

The five most prolific publication sources on altmetrics are: Scientometrics (88), JASIST (38), PloS One (33), Profesional de la Informacion (29) and the Journal of Informetrics (25).

In order to analyze research on altmetrics, we considered only publications that were directly relevant, (publications providing background information were excluded) and had dois. This dataset is comprised of 693 publications. We retrieved citations from the Web of Science (WOS) and Scopus, reader counts from Mendeley and other altmetrics from the two major aggregators: Altmetric.com and PlumX.

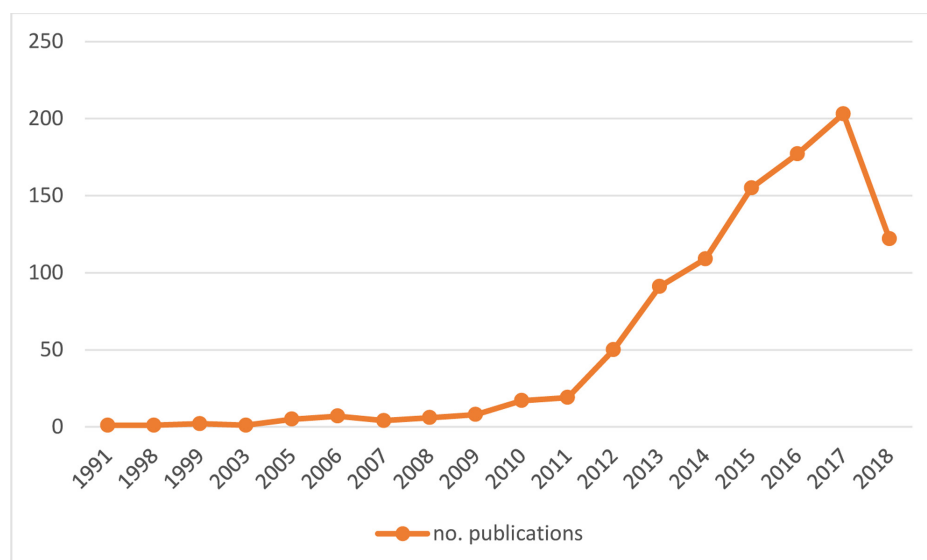


Figure 1: Altmetrics related publications per year.

Table 1: Yearly average counts by different indicators and sources. Cits. stands for citations and FB for Facebook, the numbers in bold are the largest numbers in each column.

Year of publication	Average Scopus citations	Average WoS citation	Average Mendley Readers	Average tweets – Altmetric	Average tweets – Plum	Average blog mentions – Altmetric	Average blog mentions – Plum	Average FB posts – Altmetric	Average likes, shares, comments on FB – Plum	Average Wikipedia mentions – Altmetric	Average Wikipedia mentions – Plum
2005	29.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2007	54.0	47.0	115.5	2.0	2.0	22.0	2.0	0.0	0.0	2.0	1.0
2008	45.7	38.3	102.0	8.7	6.7	4.0	1.0	1.0	3.0	1.0	1.0
2009	46.3	43.5	223.3	10.0	30.0	13.0	0.0	1.0	4.5	1.5	2.0
2010	54.4	23.4	88.6	9.8	8.0	2.6	2.5	0.0	0.0	1.0	1.0
2011	95.1	79.2	203.8	210.1	177.5	10.6	3.2	7.5	148.0	1.3	1.4
2012	46.0	43.6	103.6	72.3	47.9	7.2	2.7	2.8	13.8	1.0	1.7
2013	33.8	35.9	96.0	81.2	59.0	5.2	2.6	12.4	3,365.9	1.1	1.7
2014	27.9	29.1	115.6	214.2	162.8	5.8	4.8	14.8	322.5	1.4	1.4
2015	13.9	13.0	64.9	29.3	23.5	2.2	1.5	3.3	1,123.1	1.3	1.2
2016	7.4	5.5	47.2	35.1	27.9	1.6	1.5	2.2	2,290.6	1.0	1.1
2017	2.5	2.2	26.8	56.6	62.9	1.9	2.4	3.0	27.0	1.0	1.3
2018	0.4	0.2	14.4	40.2	41.3	1.6	1.2	1.8	18.4	1.0	1.0
Total	17.6	14.3	62.1	74.8	63.2	3.9	2.5	6.3	1,125.5	1.2	1.5

Table 2: Publications receiving the highest counts by source. A or P at the end of a source name means that it was reported by Altmetric or by PlumX respectively.

Data source	First author	Title	Source	Pub. Year
Scopus	Tenopir	Data sharing by scientists: Practices and perceptions	PloS1	2011
WoS	Eysenbach	Can tweets predict citations? Metrics of social impact based on Twitter and correlation with traditional metrics of scientific impact	JMIR	2011
Mendeley	Hall	The Kardashian index: A measure of discrepant social media profile for scientists	Genome Biology	2014
Twitter A & P, BlogA	Van Noorden	Online collaboration: Scientists and the social network	Nature	2014
Blog P	Faulkes	The vacuum shouts back: Postpublication peer review on social media	Neuron	2014
Facebook A	Van Noorden	Online collaboration: Scientists and the social network	Nature	2014
Facebook P	Mewburn	Why do academics blog? An analysis of audiences, purposes and challenges	Studies in Higher Education	2013
Wikipedia A	8 publications, each mentioned twice, including Van Noorden			
Wikipedia P	Piwowar	Altmetrics: Value all research products	Nature	2013

As expected, the highest coverage among the altmetric indicators is by Mendeley (97.3%) (Zahedi, Costas, & Wouters, 2014). Its coverage is higher than that of the citation databases (WoS –75.0%, Scopus 91.8%). Mendeley is followed by Twitter (Altmetric 70.0%, PlumX 65.1%) (Thelwall, Haustein, Larivière, & Sugimoto, 2013), blogs (Altmetric, 32.6%, PlumX 16.0%), Facebook (Altmetric 20.1%, PlumX 24.8%) and Wikipedia (Altmetric 6.6%, PlumX 8.4%). Altmetric.com and PlumX track other altmetric indicators as well, but these had negligible coverage, except for usage indicators, collected by PlumX. The altmetric coverage of “altmetrics” is considerably higher than those reported for a large dataset (more than 700,000 items) by Costas, Zahedi and Wouters (2015), indicating that altmetrics are a “hot” topic.

Table 1 displays the yearly average counts per publication for several indicators. Note that Altmetric counts the number of Facebook posts, while PlumX provides the sum of likes, comments and shares, thus the two are not comparable. Both Mendeley reader counts and tweets are much higher than citations.

Lastly, **Table 2** displays the “mosts” by different data sources. Interesting to note that the only item that appeared more than once was the article “Online collaboration: Scientists and the social network” (Van Noorden, 2014). This article presents the result of a large survey on how researchers use social media platforms.

In this editorial, I described what altmetrics means to the Journal’s Editorial Board and showed the growing interest in the topic which justifies the launch of a new specialty journal, the Journal of Altmetrics. We hope that soon the Journal of Altmetrics will be among the top journals that publish research on altmetrics and will join the established bibliometrics and research assessment journals such as Scientometrics and the Journal of Informetrics.

Competing Interests

The author has no competing interests to declare.

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