

Measuring Impact With Altmetrics: Is There One Tool To Rule Them All?

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Introduction

Researchers, universities, and funding agencies have shown a growing interest in demonstrating not only the academic impact of research through publications and citations, but the public impact of that research. As a result, researchers are increasingly encouraged to engage with mass media and policy makers to promote the widespread impact of their work and to increase the likelihood of future funding opportunities.

Purpose

Altmetrics were developed to measure the impact of a scholar’s research outside of traditional academic circles by measuring such things as downloads from platforms such as Mendeley, social media shares in platforms such as Facebook and Twitter, as well as mentions in policy documents and the news media. Because news media content is often ephemeral and policy documents are not captured through many bibliographic databases, measuring impact in these areas can prove challenging due to inconsistent data sources and structures.








Methods

We examined seven tools that can be used to evaluate research impact beyond traditional scholarly metrics, and weighed their potential benefits and disadvantages. These tools were selected following review of the literature. While efforts have existed and are emerging to evaluate altmetrics tools we felt it important to evaluate the dual intention of these tools –

- **Function:** What does the tool capture? How unique is the content?
- **Intention:** What is the tool intended to do? How is a user expected to engage with it?
- **Audience/Business model:** Who is the intended audience? What are the costs involved?
- **Transparency (including Accuracy):** Where are the data coming from and how are they gathered? How accurate is this content?
- **Flexibility:** How can the tool be searched? How can the data be extracted or manipulated? How customizable is the tool?

The ideal tool would provide access to a broad array of content (function) from a wide variety of data sources, and the mechanisms for capturing and displaying this information would be clearly articulated (transparency). The tool would be intuitive and serve a range of needs (intention), and would be appropriate for individuals, groups, or institutions (audience/business model). The data could be queried in a range of ways and could be easily extracted for further analysis or use (flexibility).

Tools Evaluated

						
<ul style="list-style-type: none">• Includes media mentions, blogs, tweets, readers, etc.• Searchable by title, author, ORCID iD, DOI, etc.• “Altmetric Donut” illustrates extent and type of data available and can be integrated into other platforms	<ul style="list-style-type: none">• Faculty members provide expert commentary, opinion and ratings on an article.• Individual ratings are used to calculate the average star rating for each article, as well as the total star rating which they use to rank the articles	<ul style="list-style-type: none">• Open-source tool for individuals measuring and sharing impact• Users set up a personal profile (using Twitter) and highlight their achievements across traditional and nontraditional research outputs	<ul style="list-style-type: none">• Individuals can claim any publication or research output with a DOI• track social media engagement and full-text downloads of their work generate trackable links to share with major social media tools	<ul style="list-style-type: none">• A metrics dashboard integrated into the citation manager Mendeley• By connecting their Scopus IDs, users can view their stats, including media mentions, h-index, citations, readers, views	<ul style="list-style-type: none">• Tracks media mentions about researchers from a variety of English-speaking news outlets• Available through other Elsevier platforms such as Mendeley Stats, SciVal, and Pure	<ul style="list-style-type: none">• PlumX tracks five categories of metrics: usage, captures, mentions, social media, and citations.• These are visualized through their "Plum Print" icon, which is integrated into select products

Coverage & Content					Evaluation					More Information	
	Policy & Gov't Docs	News & Media	Social Media	Bibliometrics	Functionality	Intention	Audience & Business Model	Transparency & Accuracy	Flexibility	Associated Costs	URL
Altmetric Explorer	✓	✓	✓	✗	●	●	●	●	●	Fee-based	altmetric.com
F1000	✗	✗	✗	✓	●	●	●	●	●	Fee-based	f1000.com/prime
ImpactStory	?	✓	✓	✓	●	●	●	●	●	Free (with Twitter account)	profiles.impactstory.org
Kudos	✗	✗	✓	✓	●	●	●	●	●	Free (instructors) Fee (institutions)	growkudos.com
Mendeley Stats	✗	✓	✓	✓	●	●	●	●	●	Free	mendeley.com
Newsflo	✗	✓	✗	✗	●	●	●	●	●	Free (with select Elsevier products)	elsevier.com/solutions/newsflo
PlumX	✓	✓	✓	✓	●	●	●	●	●	Fee-based	plumanalytics.com

Conclusions

While we do not recommend any particular tool for purchase or use, this is an area of rapid growth and emerging tools and should be revisited periodically to determine what tools or functionality may be available to better meet users’ needs. While we found that no one tool met all of the articulated and anticipated needs, we developed an overarching rubric which allows us to clearly communicate the benefits and potential challenges of each of these diverse tools.

Challenges:

- The scope of the tools was often limited
- They consistently lacked functionality such as the ability to download search results.
- Tools frequently failed to simultaneously address both individual and institutional needs.
- Associated costs were often ambiguous
- As were the search algorithms and data sources included, with differing results (see Image 1)



Image 1.

Images from respective websites or the public domain.

Even though we don’t have a subscription, we’re still interacting with these tools (e.g., PlumX integrated in EBSCO, Newsflo and Pure, etc.). Altmetric Explorer - Free accounts for librarians

The full report is available at
z.umn.edu/altmetrics-evaluation