March 27, 2018

From Altmetrics to Altmetrics.com Explorer for Institutions: A Progress Update

Christine N. Turner

From Altmetrics to Altmetrics.com Explorer for Institutions: A Progress Update

Christine Turner

Background

In November 2017, Sally Krash requested a recommendation of an altmetrics product, with pricing and an implementation plan for the campus. As a starting point, I educated myself about altmetrics, potential products and potential applications. Altmetrics, sometimes known as alternative assessment metrics or article level metrics, are means of demonstrating the real-time attention a research output gets in news outlets, social media and policy papers. The tools and practices for measuring attention and impact in new ways were born from the expanding channels of scholarly communication. Whereas bibliometrics focus on journal impacts and citation counts over time, altmetrics address a broader range of outputs measured - from articles, book chapters, datasets, code and software, conference presentations to electronic theses and dissertations, performing arts, video and teaching activities – and the places where these outputs garner immediate attention. Bibliometrics have been used most heavily to measure impact of scientific research published in articles; altmetrics can measure attention received by scholarly outputs in the social sciences and humanities. Bibliometrics and altmetrics can be complementary, or alternative, scholarship impact assessment tools. In December, Jennifer Friedman formed an Incites Benchmarking and Analytics working group. I joined this group that has become the InCites and Altmetrics Team (ICAT). Libraries services to the campus for altmetrics and bibliometrics are being developed hand-in-hand as scholarly impact assessment, starting with librarian skill development and education about appropriate and ethical use of these assessment metrics.

Who uses altmetrics?

In an increasingly assessment oriented culture with proliferating means of social engagement about scholarship, there has been a growing interest in new ways of capturing who's talking about what research. The general public, researchers, faculty, institutions, funders and publishers are among those interested in altmetrics. With altmetric icons, the general public and researchers can see what articles or other outputs are cited in tweets, news stories, policy papers, blog posts, etc. In January we implemented Almetric.com icons in Scholarworks and Discovery Search, so you may see these "badges" in your search results. These icons have an Altmetrics.com number and link to the Altmetrics.com page that shows the types of attention that item has received (see Appendix 1). The icons with links to a limited Altmetrics.com database are offered at no cost.

For more comprehensive, aggregate-level altmetric information and reporting, a subscription to a database is necessary. Faculty may use altmetric reports to demonstrate attention and impact of their work for their promotion and tenure files and grant applications. Institutions can monitor and promote the attention faculty research is getting, respond to media requests for experts on a trending topic, and compare department level outputs with other institutions. Funders can evaluate return on their investment dollars through what attention has been received for past research by topic or researcher. Publishers are also complementing impact factor data with altmetric data on their websites. The *Outputs of the NISO Alternative Assessment Metrics* report has a helpful chart of use cases (see Resources list below for citation and link).

In higher education, libraries are playing a lead or significant role in providing scholarship impact assessment services. These range from consultation and information services, to implementation of altmetric icons and links in institutional repositories and discovery systems, to implementation of

institution-wide research information management systems (RIMS). Libraries, as neutral purveyors of information across disciplines, are more often playing a greater role, not only in data gathering but in providing the context for that data. Examples of library services are provided in list of resources below.

The good, the bad and the in-between

Impact assessment tools evolve over time as the scholarly communication landscape shifts. Definitions and standards are in flux, as are their perceived importance. While altmetrics give us new tools, it is as important as ever to put these measurements in the context of norms of the discipline and the nature of the sphere of discussion. There are benefits to providing a range of data about how different forms of scholarly communication are received and discussed outside of scholarly journals. Whereas bibliometrics have historically measured author and journal impact in the STEM fields, altmetrics can provide data for the social sciences and humanities where scholarship may not be communicated as heavily through peer-reviewed journals. Altmetrics can also show us when a scholarly output has created "buzz" shortly after its release, giving us a sense of public attention and a potential leading indicator of impact. They provide us with a means of quantifying citations from Mendeley, Facebook, Tweeter, news stories, policy papers and other sources. These sources are segmented because they are not viewed as having equal impact.

Altmetrics (and bibliometrics) have real and potential weaknesses. Systems that count mentions can be manipulated by self-citation or purchasing boosted attention from social media tools. Outputs with multiple authors may represent a researcher's work unevenly. Discussion of a work in a negative frame is counted the same as a positive review. Another concern is that the use of altmetrics to identify "hot" topics and funding research in those areas skews the research process. Do metrics incentivize the rapid output of findings over quality, values-driven research? There are numerous potential benefits and pitfalls to monitor with the use of impact assessment tools on an individual and institutional basis.

Product overview

Elsevier and Digital Science are the two major companies that have developed databases of output "mentions" across various news, policy and social media channels. Elsevier has the Plum Analytics (https://plumanalytics.com/) suite of products and Digital Science has the Altmetric.com (https://www.altmetric.com/products/) suite of products. Different products are designed to meet the needs of different stakeholders. After integrating Altmetric.com badges in our institutional repository and discovery service for individual searchers at no cost, the Libraries' priority is providing aggregate level data for researchers and the institution. PlumX Dashboard (https://plumanalytics.com/products/plumx-dashboards/) and Altmetric.com Explorer for Institutions (https://www.altmetric.com/products/explorer-for-institutions/) are the two products that best fit our needs. I spoke with Rebecca Reznik Zellen about the Explorer for Institutions implementation at the UMass Medical School. I received price quotes for both products and arranged for a trial of Explorer for Institutions (EFI). Altmetric.com representatives came met with librarians and Dave Hart, Steve Battisti and Rachel Shipman from IT on January 10th. Our EFI trial gave us access to a limited set of data and it had not been paired with our institutional researcher data. Nevertheless, we were able to conduct some sample searches and see results for individual UMass Amherst faculty. Screenshots of searches for works by Assistant Professor Elizabeth Evans are included in Appendix 2.

Based on a significant price difference, concerns about integrating more Elsevier products into our workflows, and positive interactions with Altmetric.com personnel and responses to Explorer for Institutions, we've made a 3 year verbal commitment to Explorer for Institutions.

Explorer for Institutions (EFI) Implementation

Our EFI implementation requires additional, local infrastructure to build a robust system that reflects the range and depth of UMass Amherst research outputs. To identify UMass researchers in the Altmetric.com database and to aggregate researcher and departmental data, we need to provide EFI with:

- Author names
- Author identifiers, e.g. ORCID ID
- Unique identifiers for works produced, e.g. DOI, PubMed ID, ISBNs, etc.
- Departmental affiliation
- Organizational group hierarchy

To enable systems standardization, consistency and interoperability, this infrastructure is most sensibly built at an institutional level, with support from the Libraries. Thus collaboration with the Office of Research Development, Information Technology, Deans, and faculty is essential.

In January I learned that at the request of the Office of Research Development, Information Technology was investigating building a research information management system (RIMS) using VIVO, and they had contracted with Clarivate to get UMass disambiguated author research data from Web of Science. IT was also interested in integrating an altmetric product into the RIMS. I was interested in the Clarivate data for UMass authors and research outputs. We've had preliminary conversations and we have a meeting scheduled to discuss details on Friday, March 30th. Jennifer Friedman represents the Libraries on the VIVO working group.

The Libraries have recently become members of ORCID (https://orcid.org/) and will have access to tools that will facilitate the transfer of researcher data to our RIMS and EFI. Librarians can fulfill the role of educating faculty about the value of obtaining an ORCID ID. We are also new members of DataCite (https://datacite.org/), an organization that provides digital object identifiers (DOIs) to research outputs. These are two critical pieces of the research information management infrastructure and will also advance our EFI implementation.

Next steps

Digital Science requires a Master Order Form and an Altmetric EFI Order Form with terms and conditions. These have been reviewed by University Counsel and modified. They are near finalization pending the determination of how we will populate our EFI instance. This will be a topic of discussion with Loren Walker from the Office of Research Development and IT people on March 30th. We have a tentative contract start date of May 15th, 2018. Monies have been reserved in the FY'18 budget. Populating our EFI instance will be the first step of implementation and we will develop of a plan to maintain the data. ICAT will engage in training, followed by development of library services in support of research impact assessment. Expanding the use of ORCID IDs and DOIs, discussing metric standards for different disciplines, and contextualizing the data will be key components of this work.

RESOURCES

Further reading

Capenter, Todd. "Plum Goes Orange – Elsevier Acquires Plum Analytics," *Scholarly Kitchen*, 2/2/17. https://scholarlykitchen.sspnet.org/2017/02/02/plum-goes-orange-elsevier-acquires-plum-analytics/

Finnie, Ellen. "The Fox Guarding the Henhouse? Or, why we don't need another citation-based journal quality index," *In the Open*, 12/13/16 http://intheopen.net/2016/12/the-fox-guarding-the-henhouse-or-why-we-dont-need-another-citation-based-journal-quality-index/

Primary Research Group. *International Survey of Research University Faculty: Use of library assistance in navigating bibliometrics & altmetrics tools*. Columbia, SC: Primary Research Group, 2017

Roemer, Robin Chin and Rachel Borchardt, "Institutional Altmetrics & Academic Libraries," *Information Standards Quarterly*, Vol. 25, Issue 2, Summer 2013 http://www.niso.org/niso-io/2013/06/institutional-altmetrics-and-academic-libraries

Rouhi, Sara. "Guest Post – When Metrics and Politics Collide: Reflections on Peer Review, the JIF and Our Current Political Moment," *Scholarly Kitchen*, 9/18/17. https://scholarlykitchen.sspnet.org/2017/09/18/guest-post-metrics-politics-collide-reflections-peer-review-jif-current-political-moment/

Ruff, Corinne. "Academic Publishers Experiment with 'Altmetrics' to Track Reach and Impact," *The Chronicle of Higher Education*, 3/22/16 http://chronicle.com/article/Academic-Publishers-Experiment/235785?cid=at&utm_source=at&utm_medium=en&elqTrackId=2e6700c652304c71a34e39186b8b1122&elq=ed8223742dfa45c2bd41607e5a30ec9e&elqaid=8377&elqat=1&elqCampaignId=2731

Tattersall, Andy, Ed. *Altmetrics: A practical guide for librarians, researchers and academics*. London: Facet Publishing, 2016

Library activities and guides

Case Western Reserve University, "Scholarship Impact Metrics"
https://researchguides.case.edu/impact
Well organized.

Emory University, "Impact Factors and Citation Analysis"
http://guides.main.library.emory.edu/citationanalysis
Provides overview of services provided as well as information on metrics

North Carolina State University, "Measuring Research Impact"
https://www.lib.ncsu.edu/measuring-research-impact

Darby Orcutt of NCSU spoke at the 12/13/17 NISO webinar "Advancing Altmetrics: Best Practices and Emerging Ideas" about "Metrics and Altmetrics in Higher Education Administration"

Texas A&M Using Plum to Help Achieve Strategic Vision -
https://plumanalytics.com/learn/resources/texas-am-using-plum-to-help-achieve-strategic-vision/
PlumX press release about TAMU's development of VIVO for their scholar's portal with integration of PlumX

University of Arizona, "Measure your impact"
http://new.library.arizona.edu/research/support/impact

University of Illinois at Urbana-Champaign, "Understanding Impact Factor and Other Bibliometrics"
http://guides.library.illinois.edu/c.php?g=621441&p=4328606

UNC Health Sciences Library, "Measure Your Research Impact"
http://guides.lib.unc.edu/c.php?g=9248&p=45812
Includes "Related Guides" link to ORCID guide

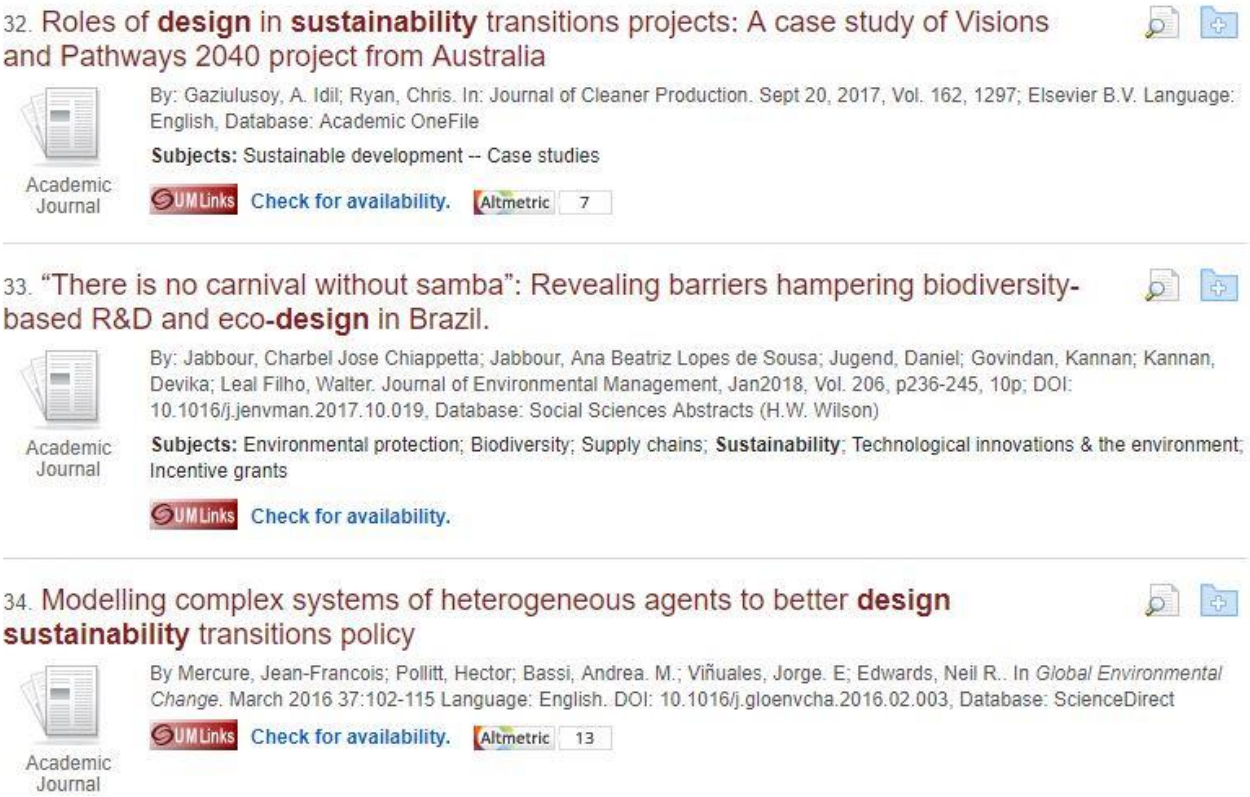
University of Pittsburgh, "Altmetrics: What are Altmetrics?"
http://pitt.libguides.com/Altmetrics
Includes "use cases" with tips for adding context to raw data. I exchanged emails with Lauren Collister. Pitt uses PlumX with ePrints.

University of Utah, "Bibliometrics and Impact Factor: Citation Searching"
http://campusguides.lib.utah.edu/c.php?g=160579&p=1049737
Lots of information here, not sure the layout/organization works

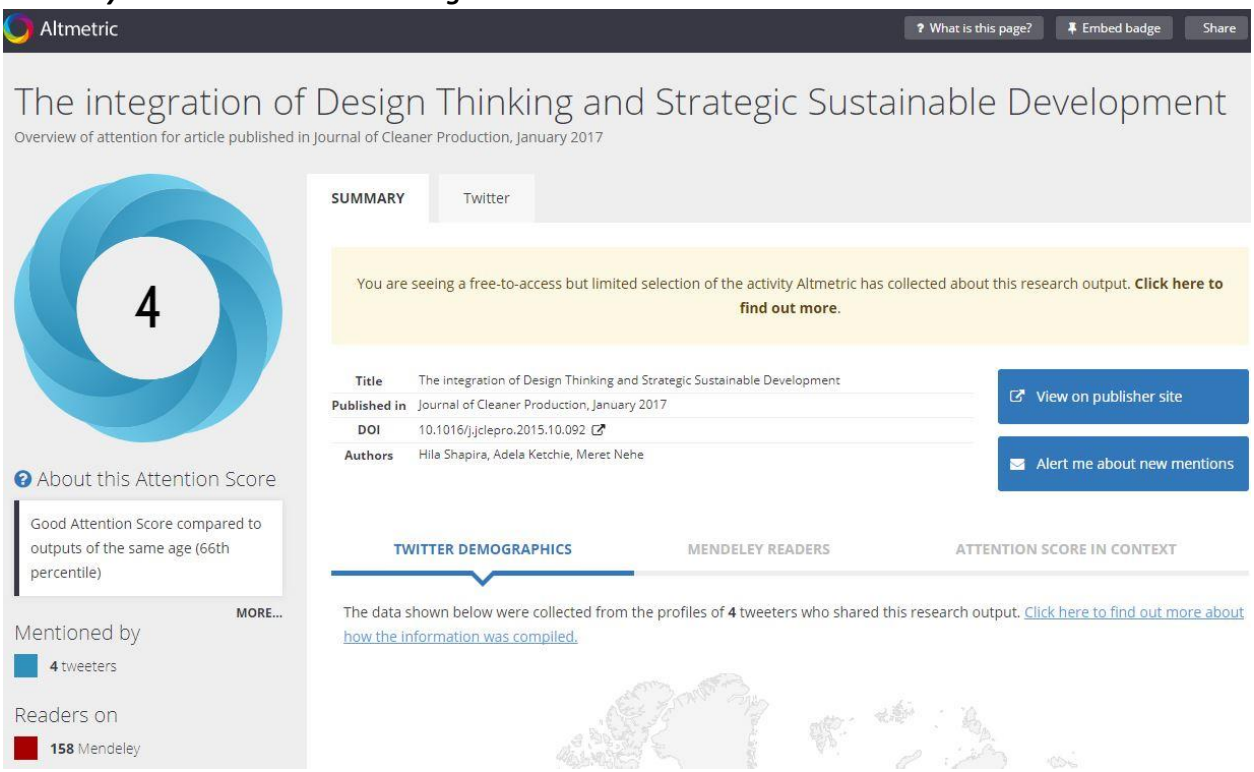
Recommended Practice
Outputs of the NISO Alternative Assessment Metrics Project -
http://groups.niso.org/apps/group_public/download.php/17091/NISO%20RP-25-2016%20Outputs%20of%20the%20NISO%20Alternative%20Assessment%20Project.pdf

APPENDIX 1

Discovery Search results page with Altmetric badge

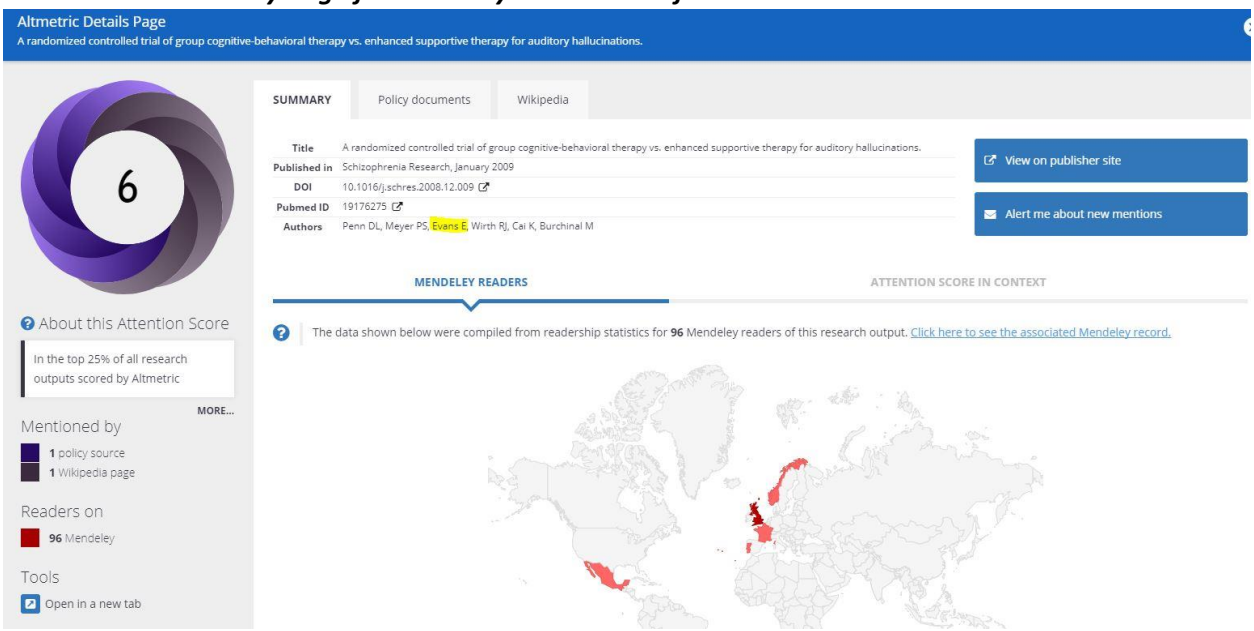


Discovery Search result Almetric badge link with details

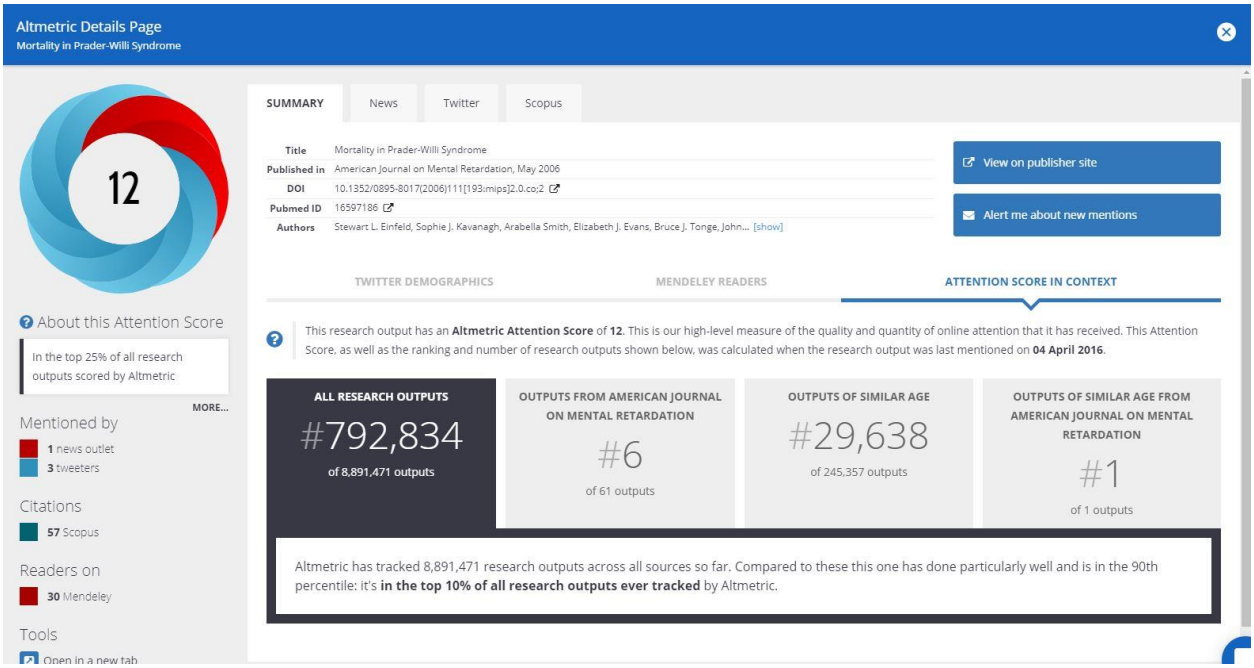


APPENDIX 2

Altmetric EFI Summary Page for article by Assistant Professor Elizabeth Evans



Altmetric EFI Attention Score in Context page for article by Assistant Professor Elizabeth Evans



EFI Search results page by ORCID ID for Assistant Professor Elizabeth Evans