Altmetric and the Explorer for Institutions: uncovering research attention and pathways to impact
Today’s Agenda:

- Introductions
- Research impact assessment and communication
- altmetrics: a complementary metric
- Altmetric data capture and aggregation
- Putting altmetrics into action
- Altmetric Explorer features and live demo
- Questions throughout!
Current landscape of impact evaluation and research communication
Scholarly communication as an iterative process
Peer review

Benefits

• Encourages evaluation of research on its own merits
• Promotes rigorous review standards to ensure quality and provide valuable feedback to authors
• Can protect candid and valuable feedback, encourage objectivity

Limitations

• Time consuming and resource intensive
• Proponents of open science argue "blind" peer review system lacks accountability
• Rare for understanding the importance of non-article and non-monograph works

Emergence of open and post-publication peer review forums.
Research exploring exergames is still in the early stages; however, the results thus far have shown these active video games may be a promising tool to combat the rise of obesity and inactivity. For example, research suggests that exergame play is of a light to moderate intensity (equivalent to walking or light jogging), significantly increases heart rate, and significantly increases energy expenditure without participants perceiving themselves as working harder (Haddock, Siegel, & Wikin, 2009; Maddison et al., 2007; Staiano & Calvert, 2011). Other research suggests competitive exergame play may lead to weight loss for adolescents (Staiano, Abraham, & Calvert, 2012). These initial studies are promising because video games avoid many of the common barriers that prevent people from exercising. For example, exergames are a one-time cost, while expensive gym memberships are a recurring fee and jogging shoes need to be replaced after extensive use. Additionally, exergames can be played in the comfort of one’s home, important for those who may not have any nearby fitness facilities or who have some anxiety about their physical appearance in a public setting. And once purchased, exergames can be used immediately at any time of the day or night.
Relative Citation Ratio

Name: Relative Citation Ratio

Can apply to: journal articles

Metric definition: A field-normalized indicator of influence, used by the NIH for evaluating the relative merits of biomedical research articles
RESEARCH ➔ ACCOUNTABLE TO MORE AUDIENCES AND STAKEHOLDERS

- Academia
- Practitioners
- General Public
- Educators and students
- Media and influencers
- Artists
- Funders
- Unaffiliated researchers
- Special interest groups
- Government and policy makers
- Corporations
Altmetrics: Complementary data, unique insights
ALTMETRICS →

- Indicators of non-traditional attention and engagement with digitally published research and scholarship

What does that mean?

“Alternative” metrics

What do they track?

Online interactions with (potentially) any digital object produced in the research life-cycle
Usage statistics

Total Article Views

16,425

May 16, 2011 (publication date) through Jul 25, 2017

<table>
<thead>
<tr>
<th></th>
<th>HTML Page Views</th>
<th>PDF Downloads</th>
<th>XML Downloads</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLOS</td>
<td>13,417</td>
<td>970</td>
<td>85</td>
<td>14,472</td>
</tr>
<tr>
<td>PMC</td>
<td>1,670</td>
<td>283</td>
<td>n.a.</td>
<td>1,953</td>
</tr>
<tr>
<td>Totals</td>
<td>15,087</td>
<td>1,253</td>
<td>85</td>
<td>16,425</td>
</tr>
</tbody>
</table>

8.31 % of article views led to PDF downloads
Different buckets of data . . .

**Web analytics**
- Web traffic/funnel analysis
- Dark data
- Page hits/downloads
- Readership statistics
- Reference managers (*Mendeley, Cituelike*)
- Social networks (*Researchgate, Academia.edu*)

**Citation metrics**
- Journal or author-level
- Can be slow to accumulate
- Most relevant to journal articles
- Never intended as a quality indicator
- Only reflect influence among other researchers who read/cite journals articles
Outputs, Sources, & Mentions

• **Output**: an individual research publication

• **Attention source**: digital forum or platform where research is shared (social media, news outlets, policy documents/websites, etc.)

• **Altmetric mention**: a share, reference to, or engagement with a digitally published research output
A typical timeline of attention

- The first tweets appear
- News outlets pick up the research
- People start to bookmark and share it on other social networks
- People read, comment and blog about it
- Wikipedia articles are updated with references
- It gets featured as a research highlight
- Citations in other articles and policy documents appear
2017 study compared over 1m Scopus citation records and associated Altmetric data

Authors looked at 15 different disciplines against various Altmetric attention sources

Concluded blogging about research correlated with a 5% average increase in citations

In some subject areas, like health and nursing sciences, the citation increase was over 36%
Altmetric Data and Attention Score

Tracking the reach of research and analyzing its online attention
Capturing Attention

Follow a list of domains.
E.g. duke.edu, mdanderson.org

Search for links to those domains in attention sources.
E.g. blogs, news, policy documents, social media.

Collate attention.
Disambiguation across different versions.

Display data in Altmetric Details Pages.
The Colors of the Donut

- Policy documents
- News
- Blogs
- Twitter
- Post-publication peer-reviews
- Facebook
- Sina Weibo
- Syllabi
- Wikipedia
- Google+
- LinkedIn
- Reddit
- Faculty1000
- Q&A (Stack Overflow)
- Youtube
- Pinterest
- Patents
What is the donut? What does it indicate?

<table>
<thead>
<tr>
<th>Mention type</th>
<th>Weight Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>News</td>
<td>8</td>
</tr>
<tr>
<td>Blogs</td>
<td>5</td>
</tr>
<tr>
<td>Twitter</td>
<td>1</td>
</tr>
<tr>
<td>Facebook</td>
<td>0.25</td>
</tr>
<tr>
<td>Sina Weibo</td>
<td>1</td>
</tr>
<tr>
<td>Wikipedia</td>
<td>3</td>
</tr>
<tr>
<td>Policy Documents (per source)</td>
<td>3</td>
</tr>
<tr>
<td>Patents</td>
<td>3</td>
</tr>
<tr>
<td>Q&amp;A</td>
<td>0.25</td>
</tr>
<tr>
<td>F1000/ Publons/ Pubpeer</td>
<td>1</td>
</tr>
<tr>
<td>YouTube</td>
<td>0.25</td>
</tr>
<tr>
<td>Reddit/Pinterest</td>
<td>0.25</td>
</tr>
<tr>
<td>LinkedIn</td>
<td>0.5</td>
</tr>
</tbody>
</table>

- Tweeted by 293
- Blogged by 4
- On 200 Facebook pages
- Mentioned in 6 Google+ posts
- Picked up by 1 news outlets
- Mentioned in 1 LinkedIn forums
- Reddited by 2
- On 1 videos
- 166 readers on Mendeley
- 1 reader on Connotea
- 3 readers on CiteULike
Score weighting determined by 3 factors:

<table>
<thead>
<tr>
<th>Volume</th>
<th>Sources</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Altmetric Attention Score for an output rises the more people or sources mention it.</td>
<td>Each mention source contributes a different amount to the Score based on the relative reach of source.</td>
<td>Who mentioned the research item? The author of record? The publishing journal?</td>
</tr>
<tr>
<td>We only count one mention from each person, per source, towards the Attention score.</td>
<td>Ex: news story from <em>The New York Times</em> would be weighted higher than a trade publication.</td>
<td>Ex: a science communicator or practitioner sharing research to new audiences carries more weight than a journal tweeting the same link.</td>
</tr>
</tbody>
</table>
Altmetric data alongside citations and other metrics
Putting Altmetric Data to work for you: Suggestions and Examples
Interpreting Altmetric data

- How can we strategize around the sentiment tendencies of different source types?
- What geographic and other demographic data would inform our goals?
- Where do our audiences access information and who are we not yet reaching?
- How might Altmetric data tell us more about the research landscape?
- Why is contextual information paramount?
How do we foster high value engagement?

Questions to ask:

- How do we currently define impact at our institution?
- What Altmetric data points best support our values and vision?
- How would these vary by discipline or subject area?
- What stakeholders would benefit from attention data insights?
- What audiences do we want our research to reach?
- How can we incorporate this information into existing workflows?
Provide richer examples of impact in grant applications

1. Citations in government policy
2. Research leading to advanced technologies adopted by municipal groups
3. Attention in interdisciplinary fields
Align with institution-wide goals and initiatives

Multi-tiered engagement approach including:

- Streamlined, targeted social media
- Coordination with Elements publication management
- Cross-promotion with ORCID
- Recognition/support of research department outreach efforts

Key Campus Partners:

1. Office of Faculty Affairs
2. University Libraries
3. Communications and Strategic Relations
4. Department Communicators
5. Chairs and Deans
6. Department IT and Support Staff
Share evidence of societal influence

For example, this paper in Nature from 2017 was widely debated online in March, got mentioned in the UK Parliament in June, and was in the news again during hurricane season at the end of August.

ZOOMING IN: POLICY
There has been one policy document mentioning this article by the UK Parliament.
Stirling’s Top Ten most shared 2017 articles

Here’s the Top Ten 2017 Stirling papers with the highest Altmetric scores.

Congratulations to all our authors who made it into the Top Ten!!


Full-text available from: http://hdl.handle.net/1893/25471


Full-text available on request from: http://hdl.handle.net/1893/26115
Share diverse metrics and attention
Share reach of published data alongside record

World beer consumption & scientific productivity.
02.04.2013, 15:42 by Christopher Lofie

Global productivity analyses. Published in this paper.
Letter to the Editor: A global comment on scientific beer.

Sentiment Analysis of the Presidential US Election 2016
20.10.2016, 04:56 by Martin Sykora, Thomas Jackson, Suzanne

This project entails a web-based interactive set of visual advanced sentiment analysis over the US presidential media (Twitter) data.

REFERENCES
- http://envis.lboro.ac.uk/us-election/

KEYWORD(S)
- politics
- twitter
- social media
- analytics
- sentiment analysis

Be the first to comment.
Altmetric data to inform research support and collection development

- New areas of study often build upon primary sources or emerge before a chain of citations develops
- Many interdisciplinary and translational fields produce mixed media and non-article research outputs that don’t benefit from Journal Impact Factor-focused metrics
- Understand all potential impact: change in public perception, influence on instruction or policy, etc.
Altmetric Explorer

Access to unique, curated attention data
New Highlights Tab: Essential data insights

Get at-a-glance data insights immediately after logging in.

- Summary statistics
- Attention breakdown
- Top outputs
- Most mentioned by
- Top journals & collections
- Latest news highlights
- Latest mentions
- Attention by region
- Distribution of Altmetric Attention Scores
Current, targeted, and wide-reaching attention
Quick or advanced search options across full database
More info for more insights: sortable/exportable citation data!
Identify key influencers and digital communicators

- Search mentions for any query by mention source-type, specific source, mention date range, or country
- Search for multiple sources/outlets/authors/countries at once in any combination
- Easily filter the Mentions Tab by News Highlights only (mentions from high-profile, internationally-recognized news outlets)
- Export all mentions details as csv or connect to JSON API endpoint.
Immediate and longitudinal analysis

- Monitor online engagement with research in real time and longitudinally.

- Focus in on specific attention sources of value to you and your stakeholders.
Example: Tracking conversations around patient safety
Analyze and highlight global reach

- Attention distribution maps available for Twitter, Facebook, News, and Policy
- Identify the total number of mentions and number of unique mention authors (e.g., tweeters, news outlets)
- Click through to mentions by country
- Export as csv or connect to API
Custom, live-updating reports to visually share data from any search with internal or external stakeholders
Diverse book attention across varied and unique outlets including Wikipedia, patents, policy, syllabi and book review sources.
Book attention data: in numbers

- 922k+ books and chapters with attention in the Altmetric Book Index
- ~50 publishers and aggregators supported
- 3m+ mentions of books

Mentions of all books by Altmetric attention source
Amazon book sharing attention

- In addition to tracking attention to books hosted on publisher platforms, we also capture mentions linking back to Amazon.

  - **575,000** Amazon book mentions received via Twitter
  - **23,940** of those tweets mention books in our database
  - ~**20,000** mentions from sources such as news, blogs and policy documents
The Explorer API: Basics

- Programmatic access to all of the research outputs and attention data within your instance of the Altmetric Explorer
- For customers with an institutional data implementation, imported information such as author names, department or group names, and institutional research outputs are all searchable via the Explorer API
- Similar to the data contained in CSV exports + access it programmatically and check for updates
- Generally follows JSON API specification
- API Key and Secret for each Altmetric Explorer account
Multiple access points via the Explorer
What can you do with the API?

- Display a list of the research outputs receiving the most attention by specific department.
- Display a list of the research outputs with the most policy mentions or Wikipedia citations on your website.
- Display a map of news attention for a specific timeframe or based upon a topical keyword.
- Display a chart of attention over time for a researcher or department’s outputs.
- Integrate into other dashboards and applications.
Live Demo: 
Digging into the Altmetric database
Institutions and Altmetric:

Use Cases, Ideas, and Exercises
Use case 1 – Stay on top of research trends and predict impact

• Uncover and track potentially impactful research areas and outputs
• Ensure valuable scholarship doesn’t wait for citation delay to receive vital attention
• Inform Collection Development or Acquisitions
LifeArc uses altmetrics to “identify groundbreaking science with potential for patient impact as soon as it is published. . . We think that social media activity is one of the ways to be alerted to ground-breaking science. It is basically a “wisdom of the crowds approach” based on the assumption that if the science has the potential to make a great impact, then people will read it, share it and talk about it.”

- Dr. Kerstin Papenfuss, Therapeutics Review Team Leader
Using Altmetric data to help inform collection development decisions

- New areas of study often build upon primary sources or emerge before a chain of citations develops
- Many interdisciplinary and translational fields produce mixed media and non-article research outputs that don’t benefit from Journal Impact Factor-focused metrics
- Understand all potential impact: change in public perception, influence on instruction or policy, etc.
Use case 2 – Analyze and report on successes

• Demonstrate reach of grantees contributions across multiple attention sources

• Report on successes across entire program area, or during specific timeframe
Understand reach & report value to stakeholders

Problem: The World Bank publishes hundreds of policy papers and reports each year, but struggle to know if they are reaching the right audiences and how they are being received and interpreted by the people that see them.

Solution: The World Bank worked with Altmetric to set up tracking for all of versions of their published outputs, which are often hosted in several different places online.

Result: Altmetric data offers transparency for their internal teams to better assess their reach, and ability to hone in on high-value engagement for reporting back to internal and external stakeholders, including general public.

Jose DeBuerba, Senior Publishing Officer, Head of Marketing at World Bank Publications

“The Altmetric data and reporting functionality provided by this platform enable us to track the influence of our work on public policy. This is incredibly useful insight into the real world application and value of our research outputs which we were previously unable to track.”
Use Case 3 – Benchmark communications and outreach efforts

• Share research impact success stories and manage reputation
• Disseminate content strategically to targeted audiences
• Assess success of social media and marketing campaigns
Use Altmetric to monitor effects of targeted marketing and social media efforts.
“I realized that when I put these blog posts up pointing to my research the downloads of them increased dramatically, from a factor of 100 in some places...Of course, you can’t know who is actually reading an article from downloads alone. But, the really interesting thing happened about 2 years later when citations started to appear. It became clear that the articles that I had posted quite a lot online were the ones that other people had found and were citing.”

Dr. Melissa Terras, Director of UCL Centre for Digital Humanities
Use Case 4 – Demonstrating your successes

- Immediately identify high profile mentions of your institution’s research and track discussions over time
- Provide stakeholders with evidence of impact and value by incorporating Altmetric data and Badges in proposals, reporting, and online materials/websites.
Showcasing reach
Share reach of published data alongside record
Try it out!

Assess/compare the reach of your research against other publications in the same research area

- Use Search bar to set a keyword search of publication titles, journals, and collections mentioning a research area.

- Save searches, receive weekly reports, and set up alerts to stay apprised of new mentions and trending conversations.
Create a custom Altmetric report for a researcher at your institution

- Save a search based of the researcher’s publications through the My Institution tab, or by author search or ORCID ID
- Customize a report for to reflect the data points of interest to the researcher
Questions?
Thank you!

Engagement questions:
lily@altmetric.com

Technical questions:
clientsupport@altmetric.com