THE FAILURE OF ALTMETRICS

And what information scientists and library professionals can do about it

CASSIDY R. SUGIMOTO
INDIANA UNIVERSITY

IU Digital Library Brown Bag
Brown Bag Series hash tag: #dlbb
Speaker twitter handle: csugimoto
THE METRIC MENAGERIE

Tweets, likes, and other social media metrics in the library
ALTMETRICS FAILED.

“Two years on since the publication of altmetrics manifesto, little has changed in academia. Social media has not been taken up as an integral part of the academic measurement of scientific achievement. There seems to be a lot of skepticism concerning its real value. Resistance to such change is rooted in that these new evaluation methods have not sufficiently been validated to be ready for adoption.”
Criticism: Wouters & Costas (2012)

Altmetrics need a “far stricter protocol of data quality and indicator reliability and validity” before they can be appropriately applied to impact assessment.
Beyond validity and reliability

- Reliable, not Valid
- Valid, not Reliable
- Neither Valid, nor Reliable
- Both Valid, and Reliable
The vision of altmetrics: Priem (2014)

1. “an approach to uncovering previously invisible traces of scholarly impact by observing activity in online tools and systems”

2. “agues that citations, while useful, miss many important kinds of impacts”

3. “citations are products of a slow rigid formal communication systems, while scientific ideas themselves are born, nursed, and raised in messy, fast-moving informal invisible colleges”
The promise of altmetrics
The critique of citations
The reality of altmetrics
Broadening the conversation

- Cronin (1998): measuring “the diverse ways in which academic influence is exercised and acknowledged” on the web.

- Force11 manifesto (2011): “we need to derive new mechanisms that will allow us more accurately to measure true contributions”

- REF (2014): defines impact “as an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia”
IMLS Outcomes Based Evaluation

Defines outcomes as benefits to people: specifically, achievement or changes in:

- **Skill**
- **Knowledge**
- **Attitude**
- **Behavior**
- **Condition, of**
- **Life status**

for program participants.
The Provision of Public Services

Inputs

Processes

Outputs

Outcomes
Inputs in the library

Organizations do not exist to purchase stuff.

And measurements of these things should not determine the value of an organization.
Processes in the library

Organizations do not exist to conduct activities.
And measurements of these things should not determine the value of an organization.
Outputs in the library

 Organizations do not exist to achieve results.

 And measurements of these things should not determine the value of an organization.
Outcomes in the library

- To provide access to knowledge.
- To contribute to an informed citizenry.
- To improve the lives of patrons.
- To further knowledge.
- To lead to improvements in future generations.

Organizations exist to achieve outcomes.

We need measurements of outcomes.
ALTMETRICS ≠ OUTCOMES
CAN SOCIAL IMPACT BE REALIZED & MEASURED?
Axes of social impact

Production

Assessment

Dissemination

Engagement
PRODUCTION
MakerSpaces in libraries
Diversifying genres

[Graph showing the growth of different genres from 2002 to 2011, including Wikipedia, Blogs, Video Sharing, File Sharing, General SNS, Reference managers, Professional SNS, and Total.]
What does it matter who is speaking?
Changing notions of authority
Producing people

Knowledge → Norms → Advice → Network

The MPACT Project is an academic genealogy project devoted to defining and assessing mentoring as a scholarly activity, examining the emergence and interaction of disciplines, and identifying patterns of knowledge diffusion. MPACT is a joint project between Indiana University Bloomington and the University of North Carolina at Chapel Hill.
DISSEMINATION
Open <fill in the blank>
A tale as old as time

“It is one of the noblest duties of a university to advance knowledge, and to diffuse it not merely among those who can attend the daily lectures—but far and wide”

Daniel Coit Gilman (1878) at the establishment of the Johns Hopkins University Press
Ein Schloß mit fliegender Katze an Fichten für Zünden.
Article level metrics

Total citations

1. Web of Science
2. CrossRef
3. Scopus

Online attention

Altmetric score (what's this?)

- Tweeted by 497
- On 39 Facebook pages
- Mentioned in 19 Google+ posts
- Picked up by 64 news outlets
- 1 Reddit
- Blogged by 26
- 1 F1000
- 2 Video

Cognitive control is defined by a set of neural processes that allow us to interact with our complex environment in a goal-directed manner. Humans regularly challenge these...
### Social impact?

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<thead>
<tr>
<th>Article</th>
<th>Journal</th>
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<tbody>
<tr>
<td>Hess et al. (2011). Gain of chromosome band 7q11 in papillary thyroid carcinomas of young patients is associated with exposure to low-dose irradiation</td>
<td>PNAS</td>
<td>9</td>
<td>963</td>
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<td>Yasunari et al. (2011). Cesium-137 deposition and contamination of Japanese soils due to the Fukushima nuclear accident</td>
<td>PNAS</td>
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<td>639</td>
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<td>Sparrow et al. (2011). Google Effects on Memory: Cognitive Consequences of Having Information at Our Fingertips</td>
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<td>Onuma et al. (2011). Rebirth of a Dead Belousov–Zhabotinsky Oscillator</td>
<td>Journal of Physical Chemistry A</td>
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<td>549</td>
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<td>Silverberg (2012). Whey protein precipitating moderate to severe acne flares in 5 teenaged athletes</td>
<td>Cutis</td>
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<td>477</td>
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<td>Reaves et al. (2012). Absence of Detectable Arsenate in DNA from Arsenate-Grown GFAJ-1 Cells</td>
<td>Science</td>
<td>5</td>
<td>323</td>
</tr>
<tr>
<td>Bravo et al. (2011). Ingestion of Lactobacillus strain regulates emotional behavior and central GABA receptor expression in a mouse via the vagus nerve</td>
<td>PNAS</td>
<td>31</td>
<td>297</td>
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Institutional repositories

Rationale from a recent article on altmetrics in IRs
• “inform collection development”
• “encourage depositors to send more material”
ENGAGEMENT
Crowdsourcing in libraries

The Library of Congress uses Flickr – so can you! Flickr is a great way to stay in touch with people and explore the world. It’s free and fun!

The Library of Congress' photostream

[The Oude Gracht Hamburgerbrug, Utrecht, Holland] (LOC)

[Road to Scheveningen, Scheveningen, Holland] (LOC)
NEW MODEL
#SixWordPeerReview

• Your bibliography is a giant selfie
• I don’t get paid for this
• Too much data, too little evidence
• How could you not cite Wellman? [tweeted by Wellman]
• Have you tried a linear regression?
• Taking my time. Love, your Competitor
• Contradicts my findings. Can’t be true.
• I thought of this in 1973
• Please do more experiments for me
ASSESSMENT
Mendeley Institutional Edition
Microsoft Academic Search

Unique topics

Shared topics
Social Crawlytics

Identify your competitor's most shared content.

Social metrics, most shared authors, scheduled monitoring and a robust API - ALL FOR FREE!

SIGN UP WITH TWITTER

435.8 Million URLs Scanned
28.3 Billion Shares Counted
22.2 Thousand Active Users

Explore Propensity
Find out where your competitor's content is being shared and promoted.

Enterprise Scale
Let our enterprise scale technology do all the hard work of sifting through data.

Social Media Analytics
Monitor, schedule and analyse social sharing metrics in one intuitive dashboard.
Campbell’s Law

“The more any quantitative social indicator is used for social decision-making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor.”
THE FUTURE OF ALTMETRICS

Challenges and opportunities ahead
Citation Analysis Guide

This guide is designed for those who need information on how to use library resources for citation analysis. This includes information about impact factors, journal rankings, altmetrics and how to find who has cited an article.

Last Updated: Apr 10, 2014
URL: http://guides.lib.umich.edu/citation

Overview Getting Started Citation Analysis Journal Rankings Terms and Definitions H-index Altmetrics Tutorials

Altmetrics

Literature Spotlight
The Bulletin of the Association for Information Science and Technology published a special issue on altmetrics in its April/May 2013 issue.

This issue covered topics including the relationship between altmetrics and open access, altmetrics and repositories, and the usefulness of altmetrics to scholarship in developing countries.

What Are Altmetrics?
The widespread use of Social Media has prompted the consideration of a scholarly article’s social media presence alongside more traditional methods of assessing impact, such as citation counting. This is done by evaluating measures such as bookmarks, links, blog posts, and tweets.

The terms “altmetrics” (alternative metrics) and “article-level metrics” have been used to describe these approaches. Since many publishers have feature-rich websites allowing considerable activity on the part of page visitors, it is possible in principle and not difficult in practice to gather various measures of activity surrounding a research report.

These measures are claimed to be easier and faster to implement than other scholarly metrics, and to be quantitative and objective gauges of the activity surrounding the appearance of a report. It is believed that this would help clarify and even rank the impact of an article in a way similar to that of scholarly metrics.
Standardization and unification
Providing access or amplifying disparities

The Geographically Uneven Coverage of Wikipedia

While it is an invaluable resource of knowledge for numerous users, Wikipedia's articles have a strong bias in their geographic distribution. Below map is based on 3,336,473 geotagged articles in November 2012 data dumps of 44 language versions. Each article is represented by an orange dot.

There are more Wikipedia articles inside this circle than outside of it

This map is part of the Information Geographies project at http://geography.ox.ac.uk.

Data sources: Wikipedia, Natural Earth
Meanings and motivations
FROM ARTICLE LEVEL METRICS TO SOCIAL IMPACT MEASURES
THANK YOU!

CONTACT
CASSIDY R. SUGIMOTO
SUGIMOTO@INDIANA.EDU
WITH QUESTIONS