Let’s All Agree on What We’re Counting and How:

Progress on standards for new metrics in scholarship

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About

- Non-profit industry trade association accredited by the American National Standards Institute
- Mission of developing and maintaining technical standards related to information, documentation, discovery and distribution of published materials and media
- Volunteer driven organization: 400+ contributors spread out across the world
- Responsible (directly and indirectly) for standards like ISSN, DOI, Dublin Core metadata, DAISY digital talking books, OpenURL, MARC records, and ISBN
1980s Alternative

John Taylor, Duran Duran
Since Jason Priem coined the term “altmetrics”

• There have been some 1,170 articles and posts (per Google Scholar) on the topic of altmetrics
• There have been eight altmetrics conferences
• There are now at least four companies focused on providing altmetrics-style analytics
When it becomes a standard, it's just not "alternative" any more...
But what’s the value in counting Tweets and Facebook likes?
More than just popularity

Research is pointing to the fact that there is a modest positive correlation between early-signal metrics (altmetrics) and later-signal metrics (citations)

Do altmetrics correlate with citations? Extensive comparison of altmetric indicators with citations from a multidisciplinary perspective by Rodrigo Costas, Zohreh Zahedi, Paul Wouters

Do Altmetrics Work? Twitter and Ten Other Social Web Services by Mike Thelwall, Stefanie Haustein, Vincent Larivière, & Cassidy R. Sugimoto

More importantly: Scholarship today is much more than journals.
How do we measure the impact of these different forms of output?
Would a researcher focus on only one data source or methodological approach?
There aren’t metrics and “altmetrics”; there are only metrics!
We have been using non-citation-based metrics for decades
so far this year, 101,679 books, 78,084 children’s books, 84,119 movies, 43,252 albums, 5,906 magazines, 10,882 audiobooks and 843 puppets circulated.

23,073 public computing sessions by 4,641 users, totaling 19,540 hours.

25,478 wireless sessions by 6,579 unique devices.

1,330 new user accounts created. 27,629 questions answered.

Traverse Area District Library (TADL)
What has changed is our ability to collect and analyze data in new ways
What are we lacking?
Different totals isn’t necessarily a sign of an error

Simply because two methods of calculation don’t yield the same result doesn’t mean that something nefarious is going on
Inconsistency on Twitter? Who knew?

For Details see: Zhiwu Xie’s (Virginia Tech) Lightening Talk: Twitter Inconsistency
What are the elements of metrics that we need to build trust?
Definition

Time Scale

Identification

Granularity

Exchange
I often sound like a broken record

- Defining what is to be counted = standards
- How to describe what to count = standards
- Identification of what to count = standards
- Procedures for counting or not = standards
- Aggregating counts from network = standards
- Exchange of what was counted = standards
NISO Alternative Assessment Metrics Initiative
Phase 1: Brainstorm
Phase 1 Meetings
October 9, 2013 - San Francisco, CA
December 11, 2013 - Washington, DC
January 23-24, 2014 - Philadelphia, PA
Round of 1-on-1 interviews – March/Apr
Phase 1 report published in June 2014
Meeting Lightning Talks

• Expectations of researchers
• Exploring disciplinary differences in the use of social media in scholarly communication
• Altmetrics as part of the services of a large university library system
• Deriving altmetrics from annotation activity
• Altmetrics for Institutional Repositories: Are the metadata ready?
• Snowball Metrics: Global Standards for Institutional Benchmarking
• International Standard Name Identifier
• Altmetric.com, Plum Analytics, Mendeley reader survey
• Twitter Inconsistency
Apis support used for altmetrics tend to come from big established groups - hard to democratize support (e.g. CrossRef)

**PROCES**

Who gets a seat at the table in process of stds bldg?

What can we learn from Crossref, Disability work?

How can altmetrics be grouped into different categories?

"All metrics" define a broader category of non-impact metrics.

Decouple presentation from analytics. How to control?

Collecting altmetrics data in a systematic way via APIs. Best practice.

Appropriate is setting inclusive standards to open appropriate metrics

Should we share identification?

Dois -> pmid handles -> dois

Tie this standard to government policy e.g. RCUK, assessment

Alerts for usage and preserivation

Competition context?
Define Impact

ID Static Hiddens

Primary/Secondary

Promoting Behavior

Attention vs Quality

Establish Baseline/Gap

TRANSPARENCY

Format neutrality
30 One-on-One Interviews
Lots and lots of ideas
Phase 2: Consensus
Phase 2

Presentations of Phase 1 report (June 2014)
Prioritization Effort (June - Aug, 2014)
Project approval (Nov - Dec 2014)
Working group formation (Jan - March 2015)
Consensus Development (March 2015 - Feb 2016)
Trial Use Period (Feb 15 - May 16)
Publication of final recommendations (Aug 16)
White Paper Released
200 + Ideas
Highlighting 25 Potential Work Topics

Definitions
Application to types of research outputs
Discovery implications
Research evaluation
Data quality and gaming
Grouping, aggregating, and granularity
Context
Adoption

NB: NISO isn’t pursuing ALL of these topics
Community Feedback on Project Idea Themes

1. Develop specific definitions for alternative assessment metrics.
2. Define subcategories for alternative assessment metrics, or on using a different term.
3. Agree on main use cases for alternative assessment metrics, as needed.
4. Define research relationships between different research outputs and develop a... (omitted due to length)

n=118

August 19, 2015
Community Feedback on Project Idea Themes

1. Develop specific definitions for assessment metrics.
2. Define subcategories for assessment metrics, as needed.
3. Define relationships between different assessment metrics and develop a comprehensive approach.
4. Agree on main use cases for assessment metrics and develop a framework for their application.
5. Develop strategies for improving data quality, e.g., by using APIs to extract data from social networking sites.
6. Agree on appropriate metrics for evaluating research efficiency across different metrics.
7. Research issues surrounding the use of persistent identifiers, e.g., through normalization of formats or open identifiers.
8. Study potential strategies for grouping and aggregating data sources, e.g., by journal or author.
9. Establish a context for defining and promoting the use of useful categories, e.g., by discipline.
10. Identify best practices for identifying organizations to include in further activities.
11. Identify best practices for defining and promoting the use of contributor roles, e.g., by discipline.
12. Identify best practices for grouping and aggregating data sources, e.g., by journal or author.
13. Identify best practices for defining and promoting the use of contributor roles, e.g., by discipline.
14. Identify existing standards that need to be applied in the context of the project.
15. Develop strategies for incorporating new methods, e.g., driven by researcher uptake.

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Top-ranked ideas
(very important & important >70%)

• Develop specific definitions for alternative assessment metrics. (87.9%)
• Promote and facilitate use of persistent identifiers in scholarly communications. (82.8%)
• Develop strategies to improve data quality through normalization of source data across providers. (80.8%)
• Identify research output types that are applicable to the use of metrics. (79.8%)
• Define appropriate metrics and calculation methodologies for specific output types, such as software, datasets, or performances. (78.1%)
• Explore creation of standardized APIs or download or exchange formats to facilitate data gathering. (72.5%)
• Research issues surrounding the reproducibility of metrics across providers. (70.7%)
Launched three working groups

A) Development of definitions and descriptions of use

B) Definitions for appropriate metrics and calculation methodologies for non-traditional output types. Also work toward promotion and facilitation of use of persistent identifiers

C) Development of strategies to improve data quality through source data providers
Group A: Development of definitions and descriptions of use

Conducted research to collect, collated and expand on existing definitions, concepts and use cases

Identified some elements where there is consensus, and identified others where there may be controversies. Working toward agreement

Second subgroup organizing and transforming research on a consolidated list of use cases into a set of formalized set
Group B: Non-traditional output types and Persistent identifiers

Reviewing existing work of related projects such as: COUNTER, bioCADDIE, RDA data publishing services, FORCE11 code citation working group

Brainstorming on what various non-traditional research outputs exist to determine what should be in scope for the work

Arranged partnership with a similar CASRAI group

General discussion on identifiers and applications
Group C: Strategies to improve data quality

Drafting a "Code of Conduct"

Recommendations focused on how data providers, aggregators and users should behave in order to introduce transparency and ensure that delivered data is trustworthy, replicable, consistently reported within and across sources, and accurately represents what it intends and/or purports to measure.
Alternative Assessments of our Assessment Initiative

White paper downloaded 7,700 times
21 substantive comments received

120 in-person and virtual participants at the meetings
These 3 meetings attracted >400 RSVPs for live stream

Goal: generate about 40 ideas, in total, generated more than 250

Project materials downloaded more than 62,000 times
>550 direct tweets, >350 RTs using the #NISOALMI hashtag

Survey ranking of output by 118 people
Eight articles in traditional news publications
18 blog posts about the initiative

29 conference presentations about this project
For more

Project Site:
www.niso.org/topics/tl/altmetrics_initiative/

White Paper:
Questions?

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