

THE FAILURE OF ALTMETRICS

And what information scientists and library
professionals can do about it

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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.

Criticism: *Nature Materials* (2010)

“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)

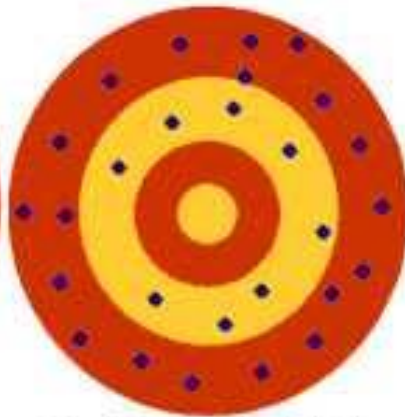
Altmetrics need a “far stricter protocol of data quality and indicator reliability and validity” before they can be appropriately applied to impact assessment.



Beyond validity and reliability



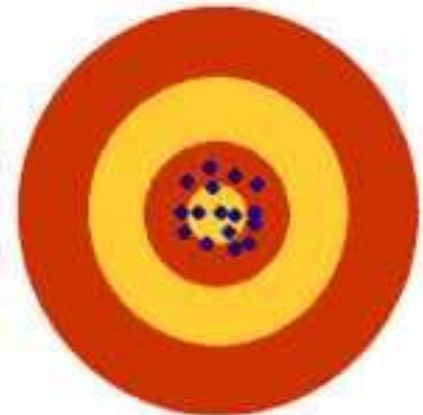
Reliable, not Valid



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. “argues 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”

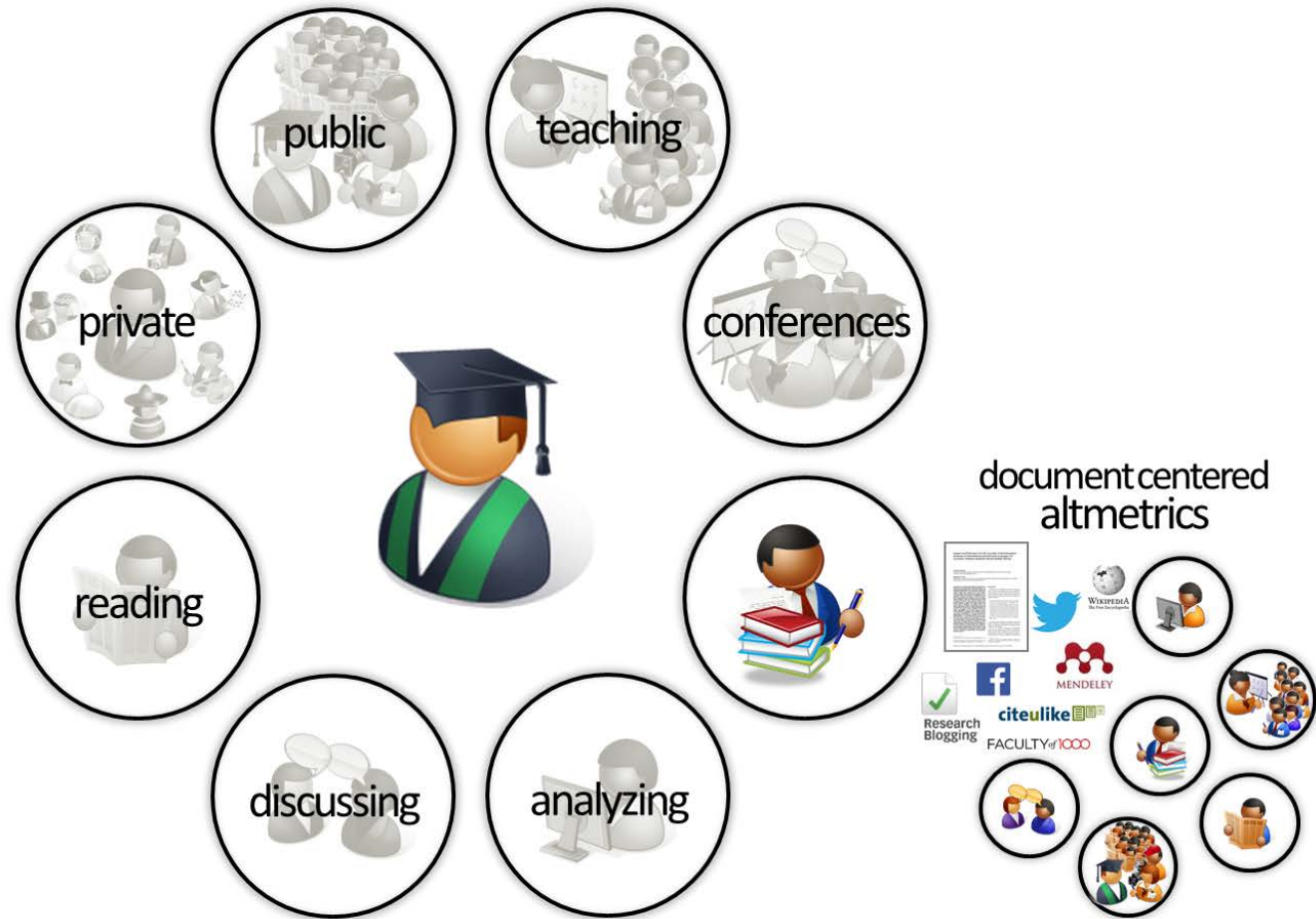
The promise of altmetrics



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

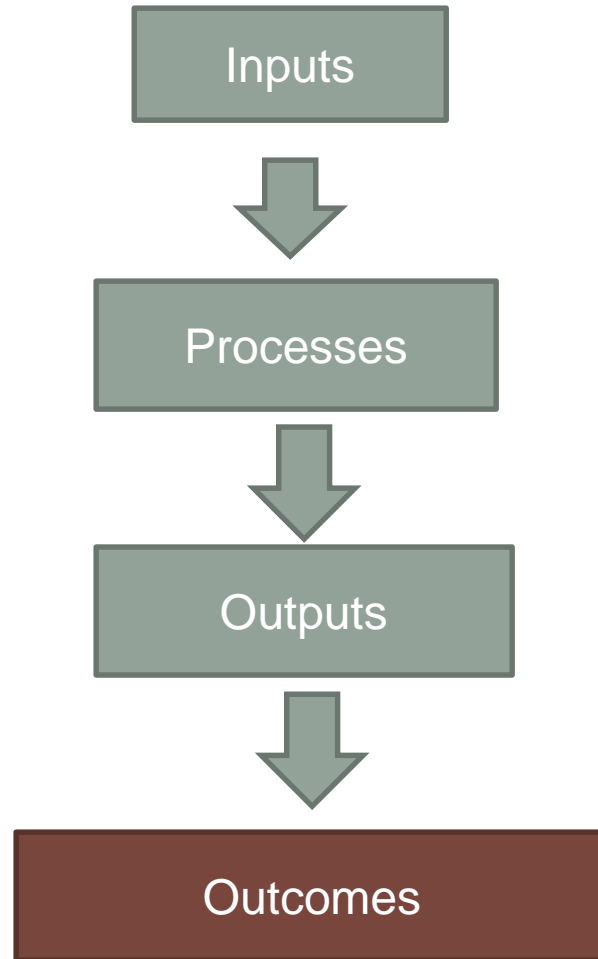
Defines outcomes as benefits to people: specifically, achievement or changes in

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

for program participants.

The Provision of Public Services

Outcomes
logic
model



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.



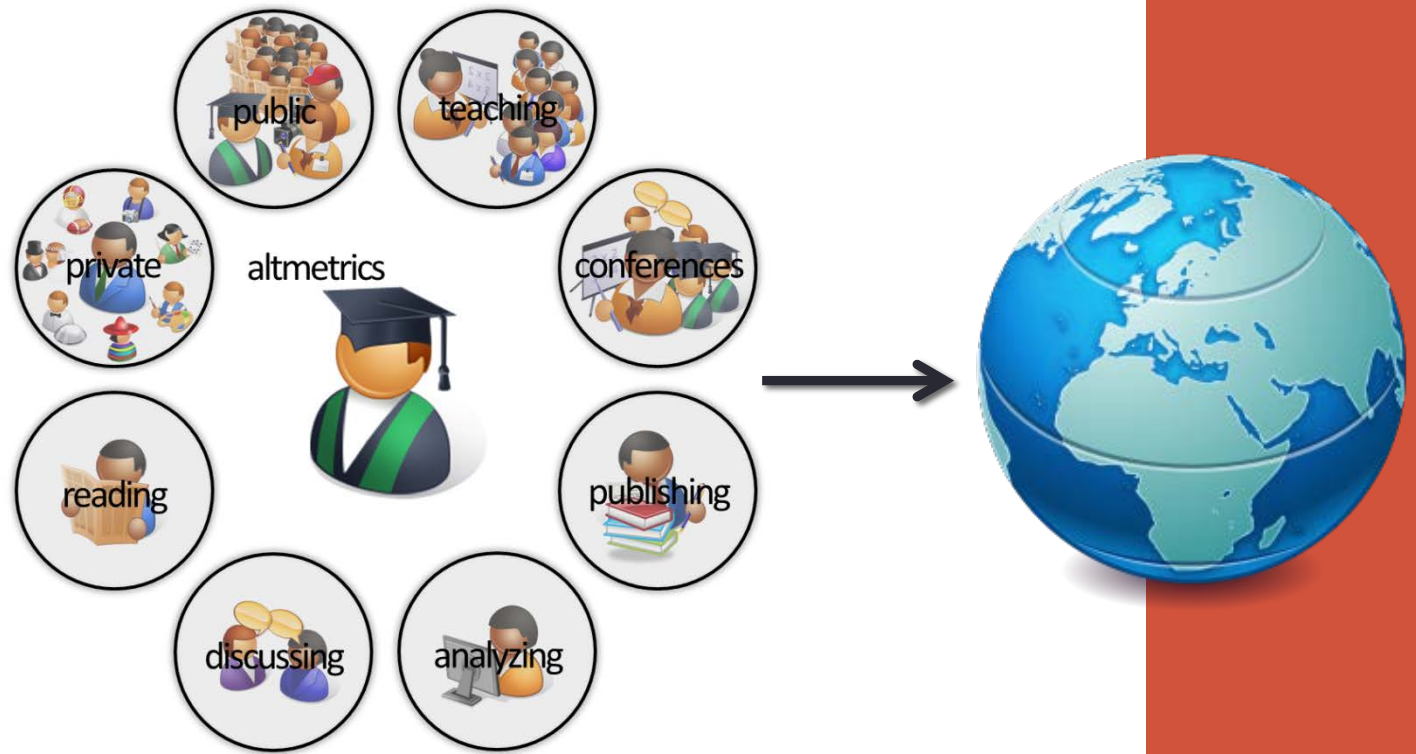
Outcomes in the library

- 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 \neq OUTCOMES



CAN SOCIAL IMPACT BE
REALIZED & MEASURED?

Axes of social impact

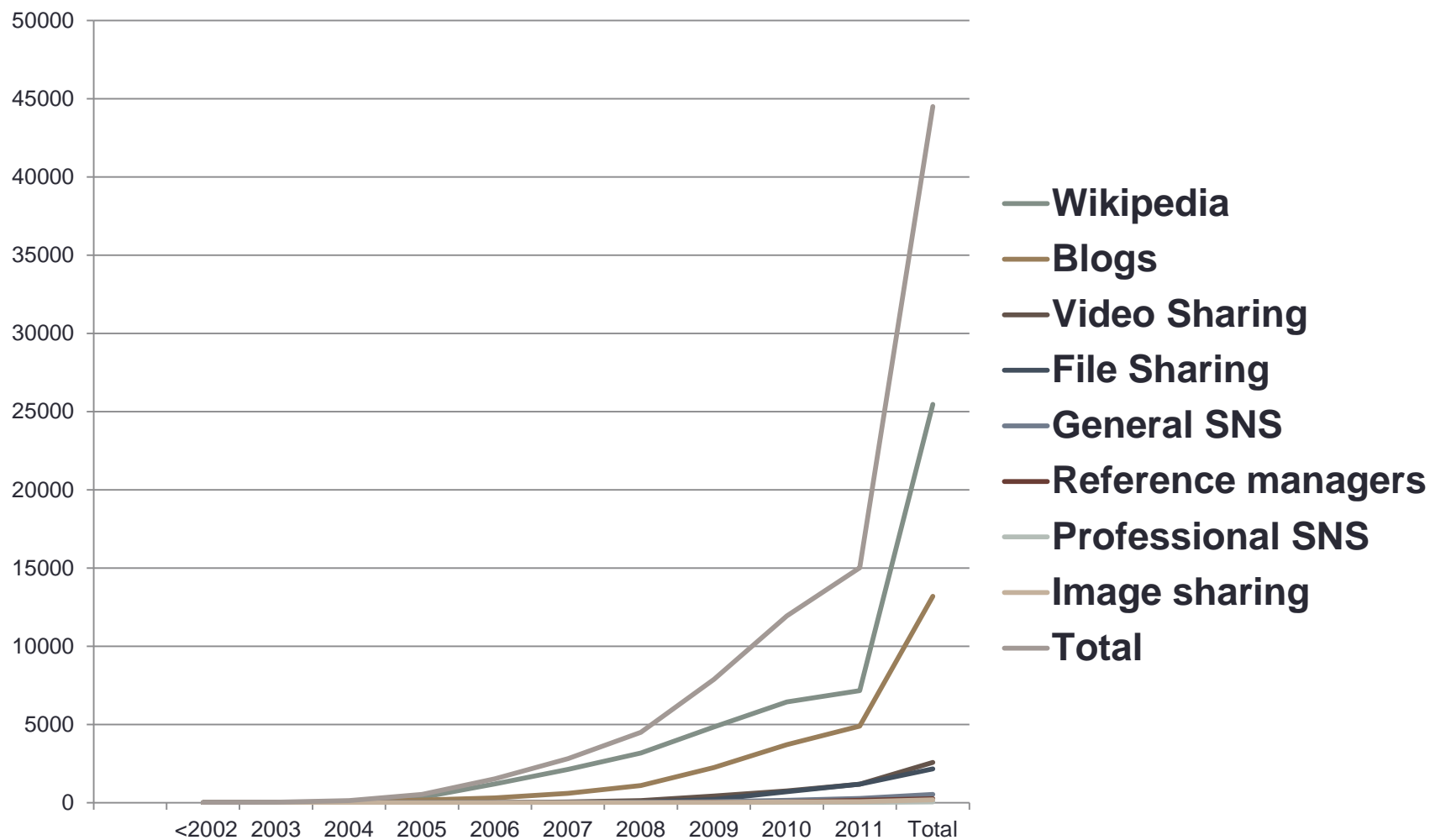


PRODUCTION

MakerSpaces in libraries

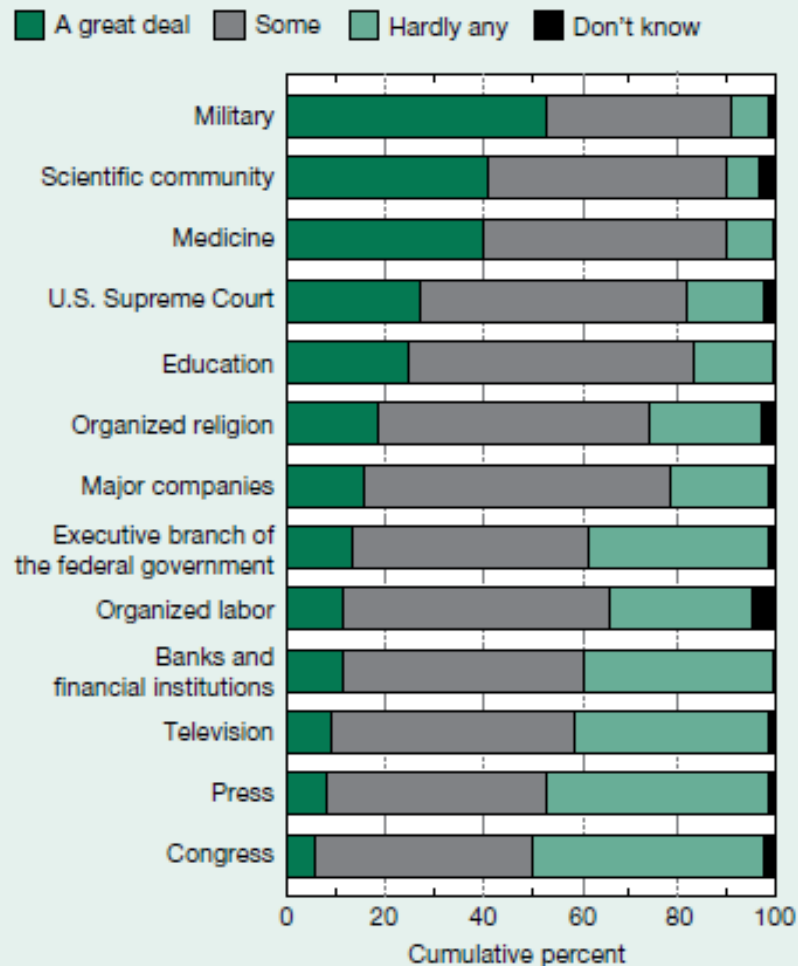


Diversifying genres



What does it matter who is speaking?

Figure 7-15
Public confidence in institutional leaders, by type of institution: 2012



Changing notions of authority



Harry Collins

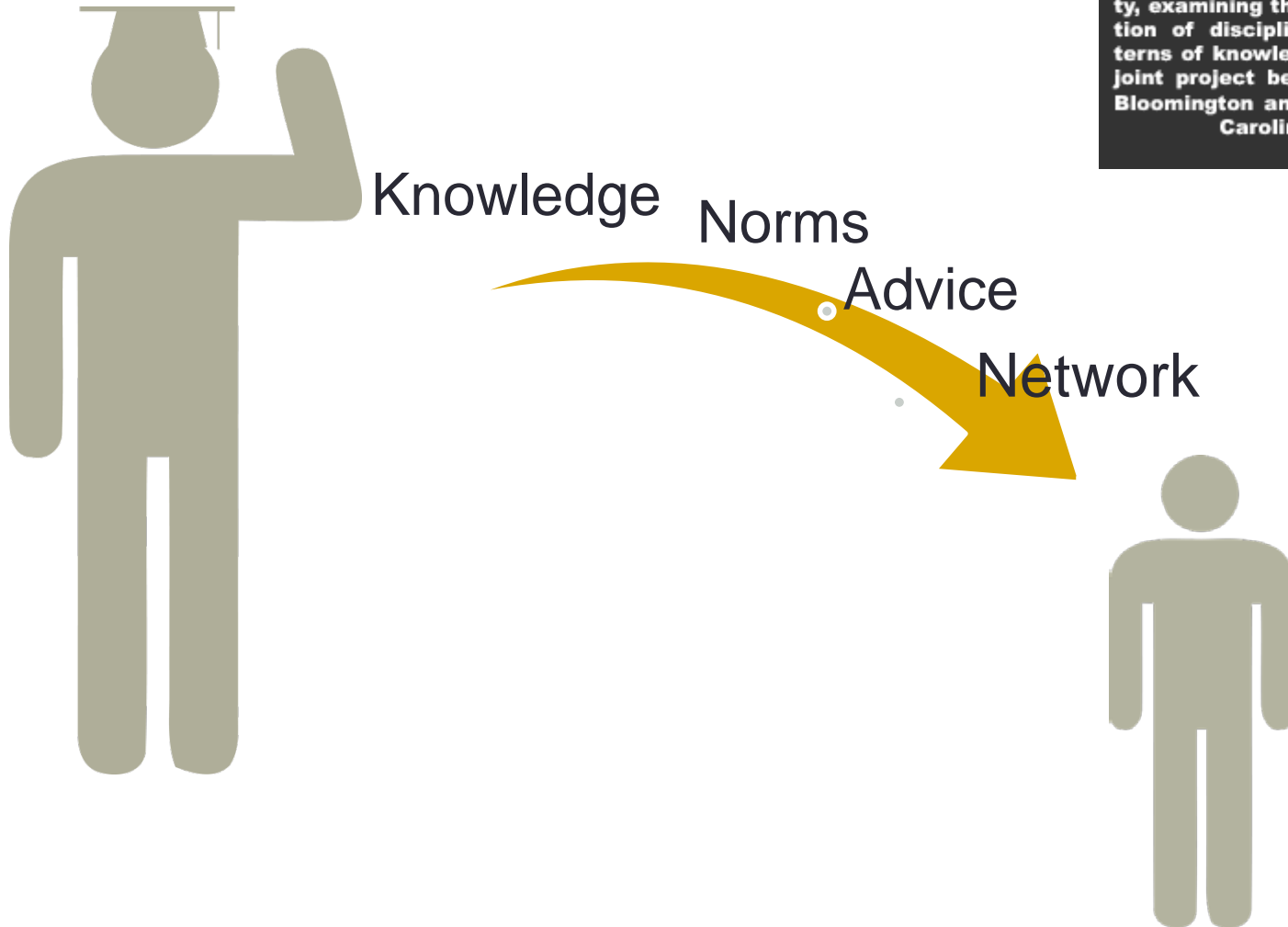
are we
all
scientific
experts
now?



Producing people



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

#rocketcats



Article level metrics

The image is a screenshot of a Nature article page. At the top, the Nature logo is visible with the tagline "International weekly journal of science". Navigation links include Home, News & Comment, Research, Careers & Jobs, and Current Issues. A search bar is located in the top right corner.

Total citations

Database	Citation Count
Web of Science	1
CrossRef	6
Scopus	10

Online attention

Altmetric score (what's this?)

992

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

[View less](#)

Affiliations | Contributions | Corresponding authors

Nature **501**, 97–101 (05 September 2013) | doi:10.1038/nature12...
Received 16 January 2013 | Accepted 18 July 2013 | Published online

[PDF](#) [Citation](#) [Reprints](#) [Rights & permissions](#) [Article metrics](#)

Cognitive control is defined by a set of neural processes that allow us to interact with our complex environment in a goal-directed manner¹. Humans regularly challenge these

[Video player](#)
PLAY 00:00 / 03:07

Social impact?

Article	Journal	C	T
Hess et al. (2011). Gain of chromosome band 7q11 in papillary thyroid carcinomas of young patients is associated with exposure to low-dose irradiation	PNAS	9	963
Yasunari et al. (2011). Cesium-137 deposition and contamination of Japanese soils due to the Fukushima nuclear accident	PNAS	30	639
Sparrow et al. (2011). Google Effects on Memory: Cognitive Consequences of Having Information at Our Fingertips	Science	11	558
Onuma et al. (2011). Rebirth of a Dead Belousov–Zhabotinsky Oscillator	Journal of Physical Chemistry A	--	549
Silverberg (2012). Whey protein precipitating moderate to severe acne flares in 5 teenaged athletes	Cutis	--	477
Wen et al. (2011). Minimum amount of physical activity for reduced mortality and extended life expectancy: a prospective cohort study	Lancet	51	419
Kramer (2011). Penile Fracture Seems More Likely During Sex Under Stressful Situations	Journal of Sexual Medicine	--	392
Newman & Feldman (2011). Copyright and Open Access at the Bedside	New England Journal of Medicine	3	332
Reaves et al. (2012). Absence of Detectable Arsenate in DNA from Arsenate-Grown GFAJ-1 Cells	Science	5	323
Bravo et al. (2011). Ingestion of Lactobacillus strain regulates emotional behavior and central GABA receptor expression in a mouse via the vagus nerve	PNAS	31	297

Institutional repositories

Rationale from a recent article on altmetrics in IRs

- “inform collection development”
- “encourage depositors to send more material”

Actions (login required)



View Item



Mendeley - Readers:

29



Scopus - Cited by:

4

Microsoft Academic Search - Cited by:

2

ENGAGEMENT

Crowdsourcing in libraries

flickr[®] from **YAHOO!**

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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 [pro](#)

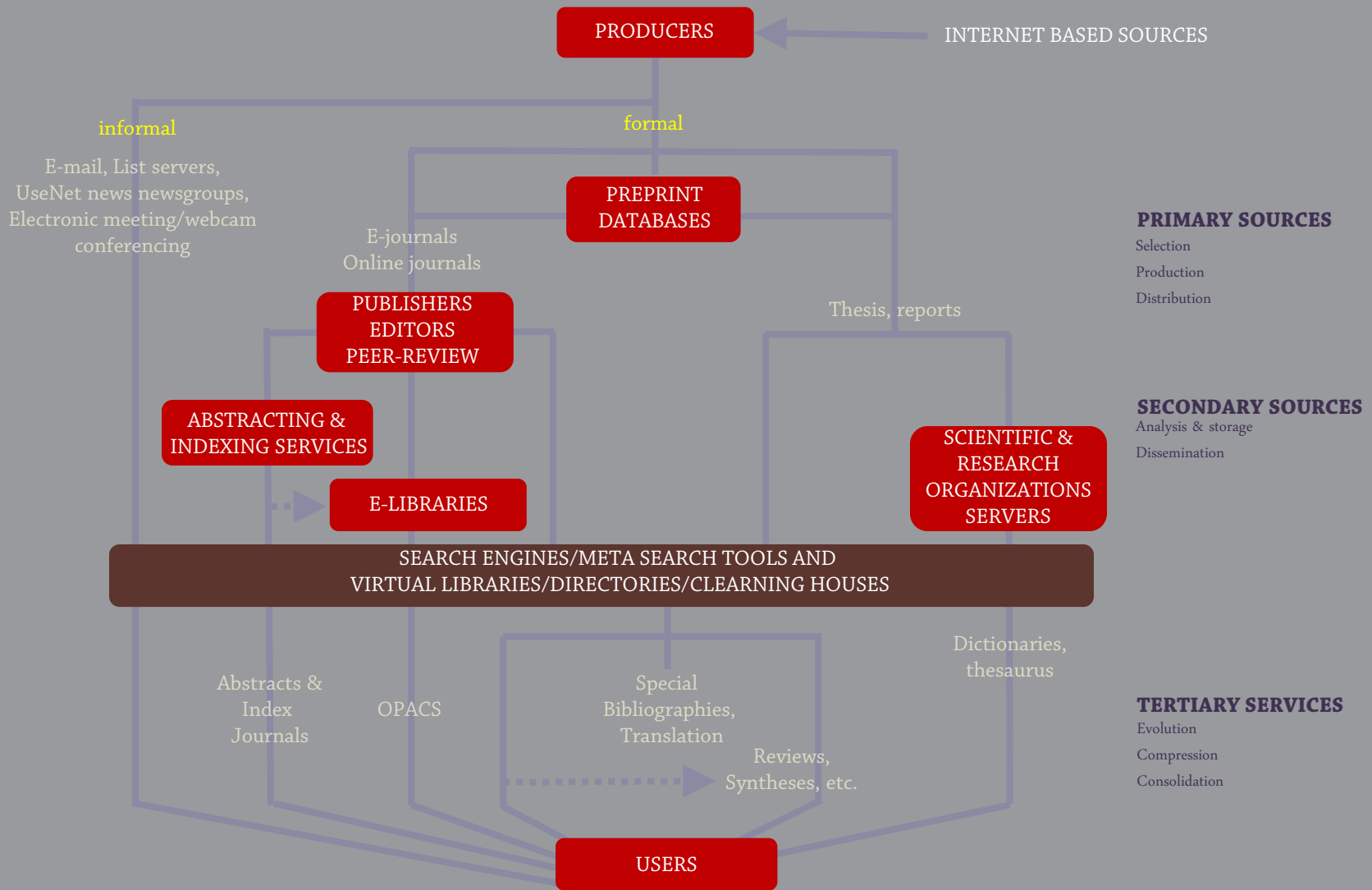
[Collections](#) [Sets](#) [Galleries](#) [Tags](#) [People](#) [Map](#) [Archives](#) [Favorites](#) [Profile](#)

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



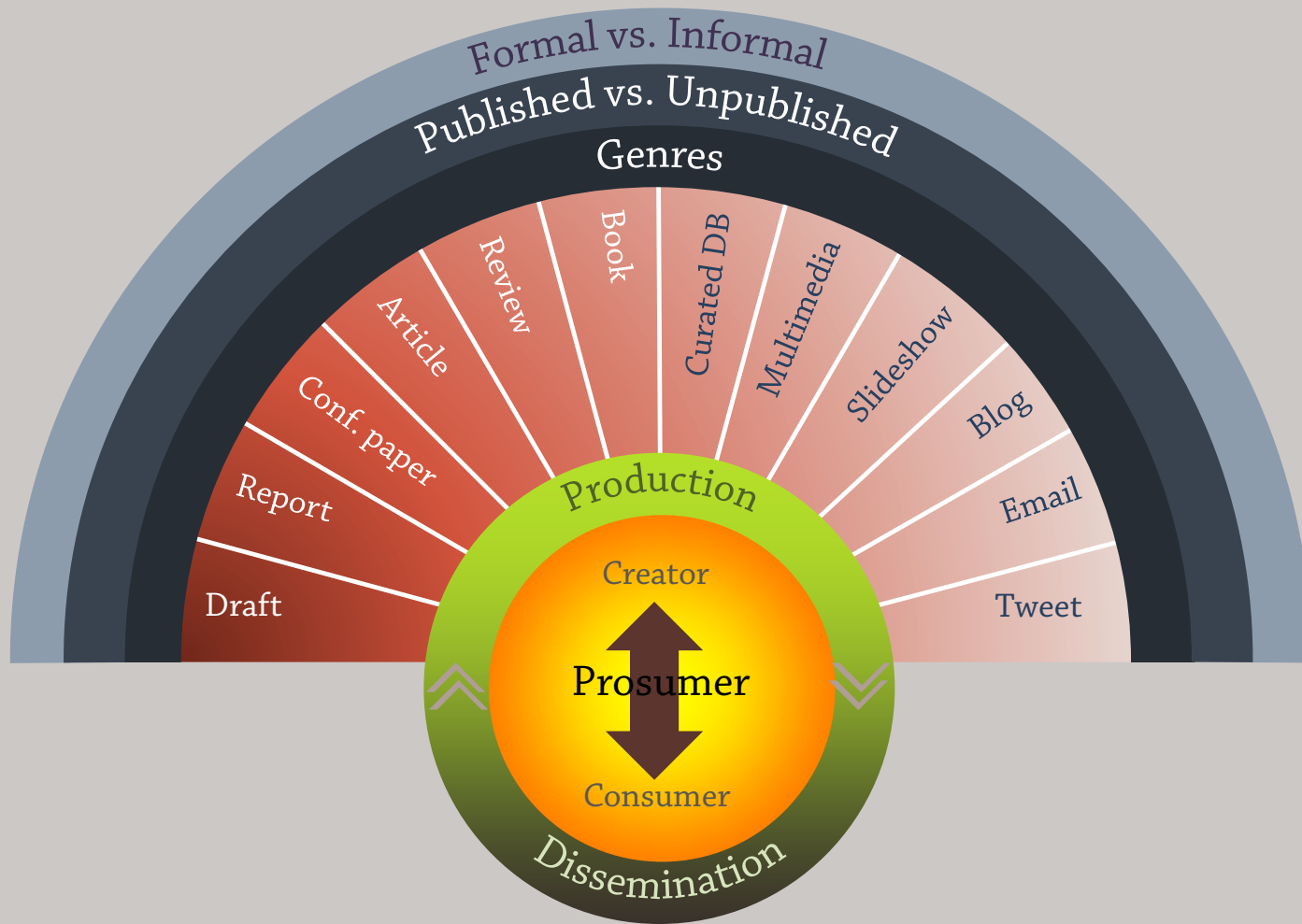
[Road to Scheveningen, Scheveningen, Holland] (LOC)





REVISED UNISIST

(SONDERGAARD, ANDERSEN, & HJØRLAND, 1971)



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

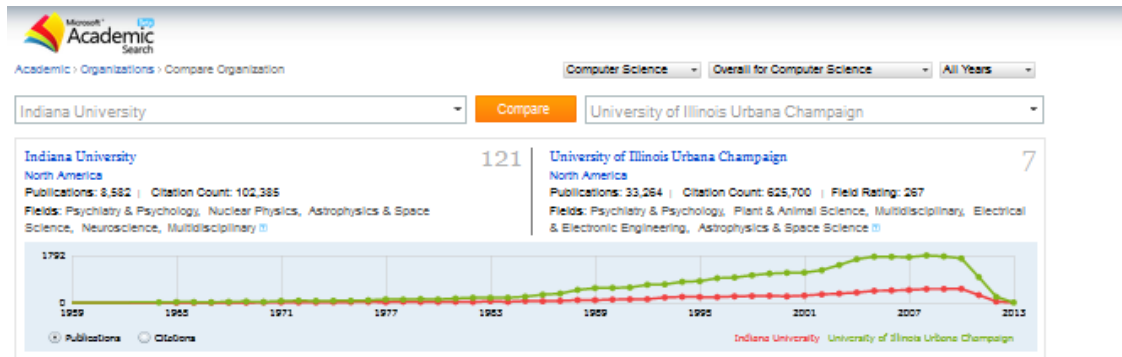


RESEARCHER



 **MENDELEY**
INSTITUTIONAL EDITION POWERED BY **SWETS**

Microsoft Academic Search



Keywords related to

- | Indiana University | Both Organizations | University of Illinois Urbana Champaign |
|----------------------------|--------------------------|-----------------------------------------|
| Ad Hoc Network Routing | Ad Hoc Network | Computer Vision |
| Case Base Reasoning | Ad Hoc Wireless Network | Design Pattern |
| Case Study | Computational Complexity | Design Pattern |
| Content Based Retrieval | Data Mining | Design Pattern |
| Distributed Computing | Data Mining | Design Pattern |
| Dynamic Source Routing | Data Mining | Design Pattern |
| Environmental Conditions | Data Mining | Design Pattern |
| Graphical Query | Data Mining | Design Pattern |
| Grid Applications | Data Mining | Design Pattern |
| Grid Computing | Data Mining | Design Pattern |
| Grid | Data Mining | Design Pattern |
| Image Database | Data Mining | Design Pattern |
| Knowledge Base | Data Mining | Design Pattern |
| Knowledge Sharing | Data Mining | Design Pattern |
| Mobile Host | Data Mining | Design Pattern |
| Neural Network | Data Mining | Design Pattern |
| Nonlinear Equation | Data Mining | Design Pattern |
| Numerical Method | Data Mining | Design Pattern |
| Optimal Routing | Data Mining | Design Pattern |
| Query By Image Content | Data Mining | Design Pattern |
| Unconstrained Optimization | Data Mining | Design Pattern |
| User Interface | Data Mining | Design Pattern |
| Video Database | Data Mining | Design Pattern |
| Web Service | Data Mining | Design Pattern |
| on-demand routing protocol | Data Mining | Design Pattern |

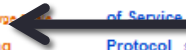
Authors (1071)

- Geoffrey Charles Fox**
 Publications: 764 | Citations: 6664
 Fields of study: Distributed & Parallel Computing, Algorithms & Theory, Scientific Computing
- Gregor von Laszewski**
 Publications: 164 | Citations: 2825
 Fields of study: Distributed & Parallel Computing, Algorithms & Theory, Networks & Communications
- Andrew Lumsdaine**
 Publications: 246 | Citations: 2908
 Fields of study: Distributed & Parallel Computing, Programming Languages, Software Engineering

Authors (2150)

- Jiawei Han (韩家炜)**
 Publications: 655 | Citations: 28942
 Fields of study: Economics & Business, Engineering
- Thomas S. Huang**
 Publications: 1172 | Citations: 19968
 Fields of study: Multimedia, Computer Vision, Machine Learning & Pattern Recognition
- David E. Goldberg**
 Publications: 504 | Citations: 33824
 Fields of study: Artificial Intelligence, Scientific Computing, Algorithms & Theory

Unique topics



Shared topics

Social Crawlytics

https://socialcrawlytics.com

Social Crawlytics

SIGN IN

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

Report status - in progress

- Total shares: 4710344
- Total pages added: 399020
- Total pages scanned: 84362
- Total download time: 10265.5 seconds
- Total download bandwidth: 6.02 GB

Page shares per network

Life time stats

Brands from the following brands use Social Crawlytics

Deloitte CITROËN Adobe eBay Microsoft radian6 UNRULY msn

Like 401 Tweet 2,997 Dribbble 164

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

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(no subject) - tjsugimoto@... x Altmetrics - Citation Analy... x New Tab x +

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Citation Analysis Guide

TAGS: [ALTMETRICS](#), [BIBLIOMETRICS](#), [CITATION ANALYSIS](#), [GOOGLE SCHOLAR](#), [H INDEX](#), [IMPACT FACTOR](#), [PATENTS AND TRADEMARKS](#), [SCOPUS](#), [WEB OF SCIENCE](#)

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> | [Print Guide](#)

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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?

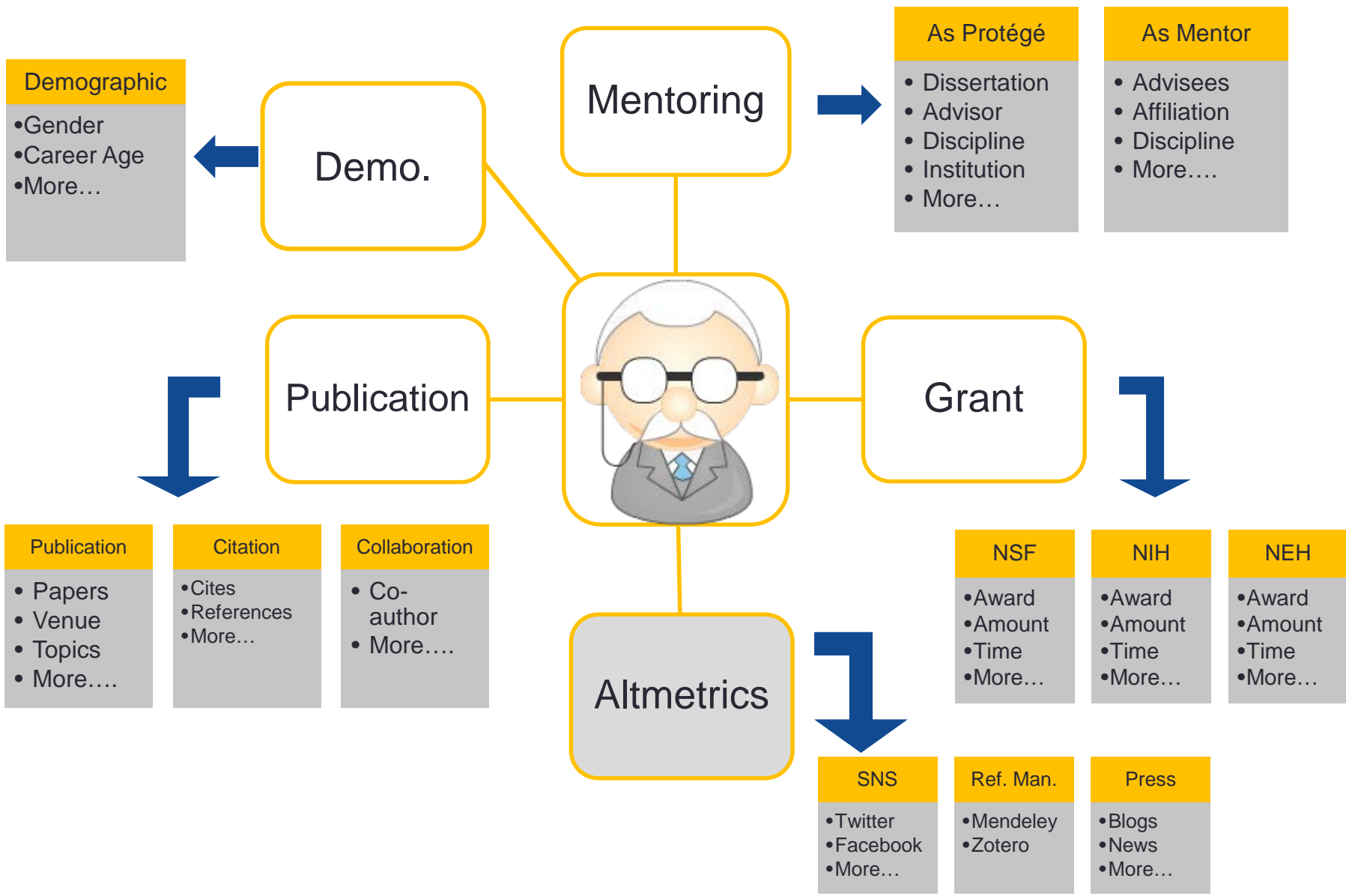
The widespread use of Social Media has prompted the consideration of a scholarly article's social media presence alongside more traditional methods of assessing impact, such as citation counting. This is done by evaluating measures such as bookmarks, links, blog posts, and tweets.

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.

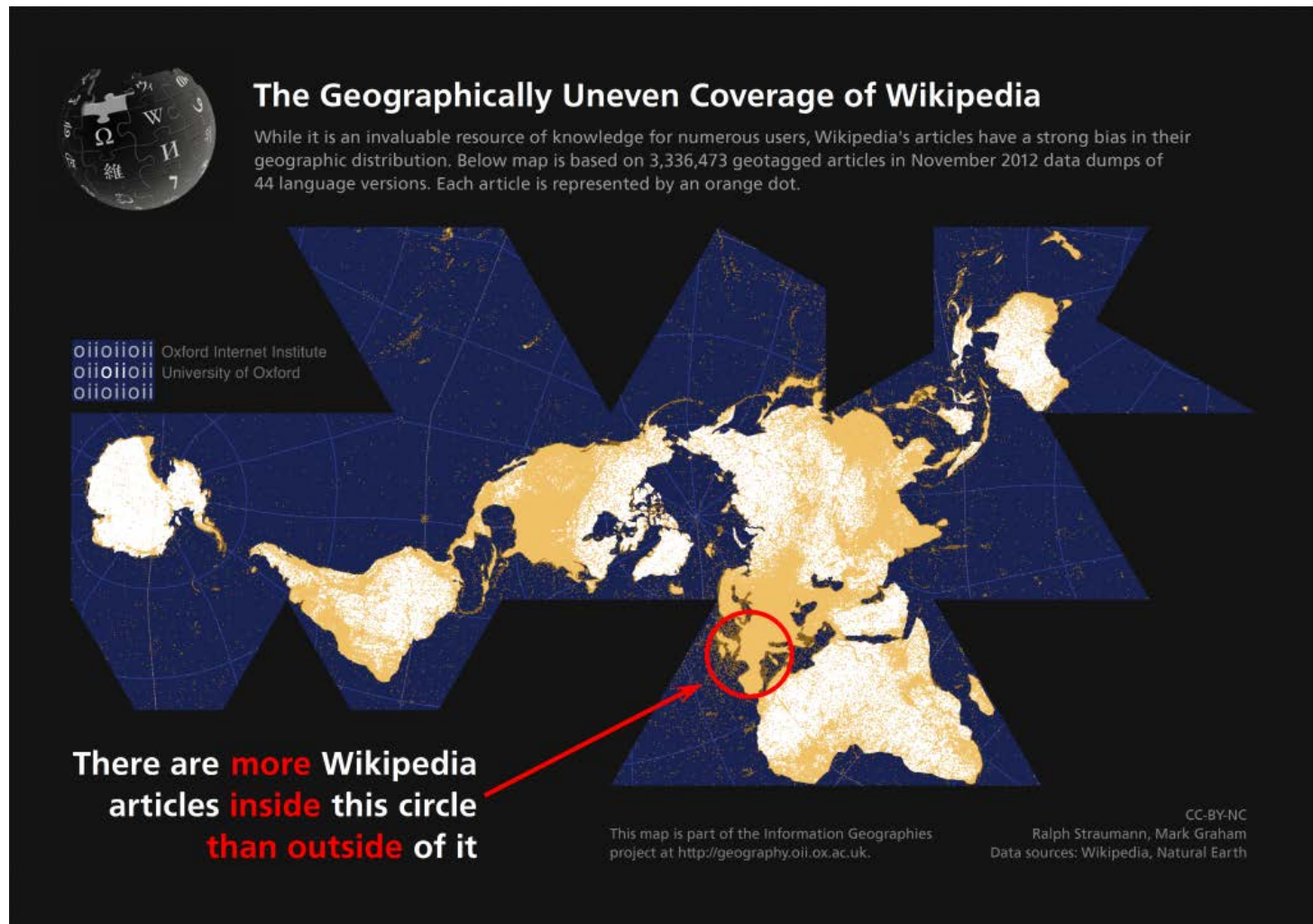
These measures are claimed to be easier and faster to implement than other scholarly metrics, and to be quantitative and objective gauges of the activity surrounding the appearance of a report. It is believed that this would help clarify and even rank the impact of an article in a way similar to that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

Standardization and unification



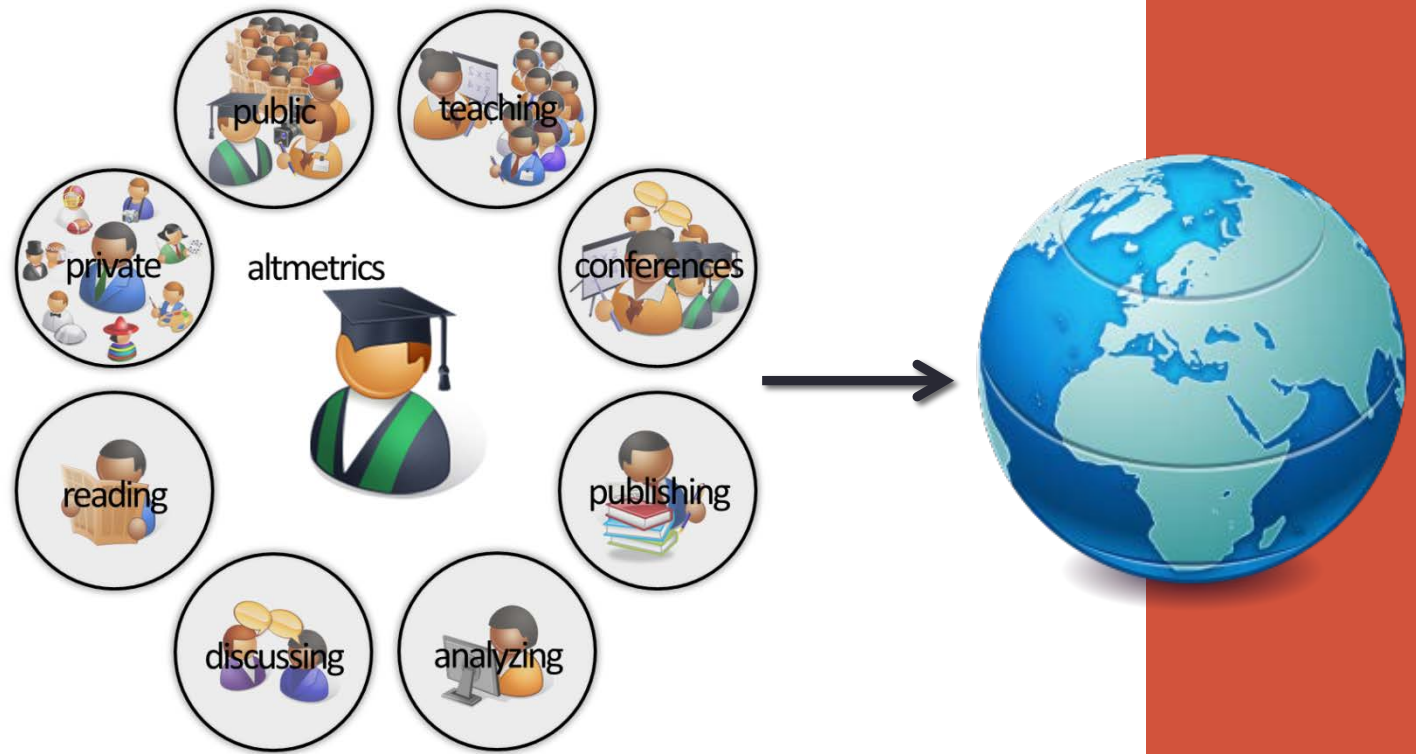


Providing access or amplifying disparities



Meanings and motivations





FROM ARTICLE LEVEL METRICS
TO SOCIAL IMPACT MEASURES

THANK YOU!

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WITH QUESTIONS

