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ISMPP University

Altmetrics: The state of the art for publication planning

November 18, 2020



Webinar will begin
promptly at:
11 AM ET / 4 PM GMT



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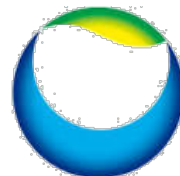
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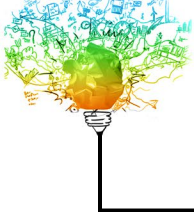
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- **Reminder to enter CMPP™ credits** earned at ISMPP West
- **Registration for the 2021 EU Meeting is now open!**
- **Call for abstracts** for the 17th Annual Meeting
 - Abstracts due **January 11, 2021**

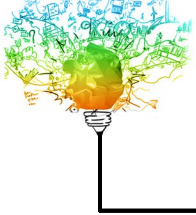




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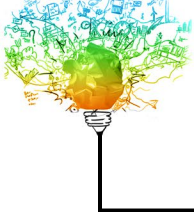
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- Use the fastest internet connection available to you
- If you are accessing the presentation over your computer, please be sure to increase the volume of your computer speakers



How To Ask Questions

- Feel free to ask a question at any time, however all questions will be held until the end the of the presentation.
- **To ask a question**, open the Q&A window, type your question into the Q&A box.
Click Send
- **Note:** Check **Send Anonymously** if you do not want your name attached to your question in the Q&A
- We will make every effort to respond to all questions live (out loud)



Tom Rees



Tom Rees, PhD, ISMPP CMPP™
Communications Director,
Oxford PharmaGenesis

- 20 years' experience in medical communications and publications planning
- Longstanding interest in the transformation of scientific publications in the digital environment, including all aspects of open science, increasing reach and engagement across broad stakeholder audiences, and article metrics
- Regular contributor to the US and European ISMPP meetings
- Currently serves on the ISMPP Social Media/Web-based Metrics Working Group

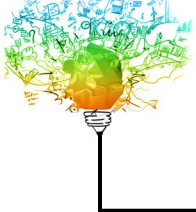
A portrait of a woman with shoulder-length brown hair, wearing black-rimmed glasses and a green sweater over a blue and white checkered shirt. She is smiling broadly, showing her teeth. The background is a blurred outdoor scene with a body of water and distant buildings under a cloudy sky.

- 10+ years in altmetrics
- Worked across library, publishing & tech sectors
- Metrics Toolkit & HuMetricsHSS co-founder
- Expertise in open science, research impact metrics, and “values-based evaluation” for corporate, publisher, government, and academic clients



Disclaimer

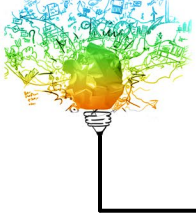
- Information presented reflects the personal knowledge and opinion of the presenters and does not necessarily represent the position of their current or past employers



Learning Objectives

At the end of this session, participants should be able to:

- Understand the origin of altmetrics, including their original purpose and how the data is collected
- Identify how altmetrics can be used in publication planning workflows
- Understand the implications of new advances in altmetrics for the biopharmaceutical industry in general and publication planners in particular



Agenda

- What are altmetrics?
- Publication planning & altmetrics
- Advances in altmetrics—what they mean for biopharma
- Discussion



What are altmetrics?

Origin, purpose, and mechanics



Altmetrics: Origin

altmetrics

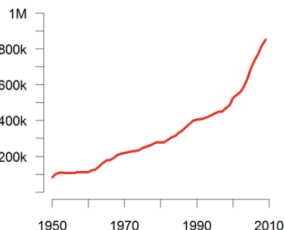
altmetrics: a manifesto

NO ONE CAN READ EVERYTHING. We rely on filters to make sense of the scholarly literature, but the narrow, traditional filters are being swamped. However, the growth of new, online scholarly tools allows us to make new filters; these altmetrics reflect the broad, rapid impact of scholarship in this burgeoning ecosystem. We call for more tools and research based on altmetrics.

As the volume of academic literature explodes, scholars rely on filters to select the most relevant and significant sources from the rest. Unfortunately, scholarship's three main filters for importance are failing:

- Peer-review has served scholarship well, but is beginning to show its age. It is slow, encourages conventionality, and fails to hold reviewers accountable. Moreover, given that most papers are eventually published somewhere, peer-review fails to limit the volume of research.
- Citation counting measures are useful, but not sufficient. Metrics like the h-index are even slower than peer-review: a work's first citation [can take years](#). Citation measures are narrow; influential work may remain uncited. These metrics are narrow; they neglect impact outside the academy, and also ignore the context and reasons for citation.

MEDLINE-indexed articles published per year



Impact



usage

downloads
views



peer-review

expert opinion



citations



alt-metrics

storage
links
bookmarks
conversations

Altmetrics: A manifesto, October 2010, altmetrics.org



W
ENGLISH

Alcohol and health
Cited by user Doc James on 30 Aug 2018
The median lethal dose of alcohol in test animals is a blood alcohol content of 0.45%.

Wikipedia citation

Dr Lisa Shaver
30 April 2019 · 🌐

No amount of alcohol is good for your overall health - that is the conclusion of a comprehensive study on alcohol consumption.
"The most surprising finding was that even small amounts of alcohol use contribute to health loss globally."
"We're used to hearing that a drink or two a day is fine. But the evidence is the evidence."
Alcohol was the leading risk factor for disease and premature death in

Social media links

THE LANCET

Log in 🔍 ☰

ARTICLES | VOLUME 392, ISSUE 10052, P1010-1026, SEPTEMBER 22, 2018

Alcohol use and burden for 195 countries and territories, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016

GBD 2016 Alcohol Collaborators · Show footnotes

Open Access · Published: August 23, 2018 · DOI: [https://doi.org/10.1016/S0140-6736\(18\)31310-2](https://doi.org/10.1016/S0140-6736(18)31310-2) · Check for updates

PlumX Metrics

Summary

Background

Alcohol use is a leading risk factor for death and disability, but its overall association with health remains complex given the possible protective effects of moderate alcohol consumption on some conditions. With our comprehensive approach to health accounting within the Global Burden of Diseases, Injuries, and Risk Factors Study 2016, we generated improved estimates of alcohol use and alcohol-attributable deaths and disability-adjusted

Publication

Code Green
@code_green

Replying to @TSvetlanab and @ForestMommy

Even though this is funded by BMGF, it is not unreliable as it is a systematic analysis/review of hundreds of research papers.

Alcohol use and burden for 195 countries and territories, 19...
Alcohol use is a leading risk factor for global disease burden and causes substantial health loss. We found that the risk o...
📄 thelancet.com

Social media links

alcohol

Global status report on alcohol and health 2018

World Health Organization

Public policy





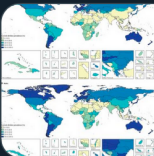
OK, but how do they *really* work?

- Links to research articles

Code Green
@code_green

Replying to @TSvetlanab and @ForestMommy

Even though this is funded by BMGF, it is not unreliable as it a systematic analysis/review of hundreds of research papers.



Alcohol use and burden for 195 countries and territories, 19...
Alcohol use is a leading risk factor for global disease burden and causes substantial health loss. We found that the risk o...
thelancet.com

- Keywords

msn | lifestyle
powered by Microsoft News

Search the web Sign in

Having a few alcoholic drinks a week may be better for your...

A new study in the **medical journal JAMA** found that middle-aged and older adults who drink alcohol in moderation appear to have better brain function than those who steer clear.

The study authors looked at 19,887 participants from the The University of Michigan's Health and Retirement Study and found that those who drank a glass or two a day had better mental recall abilities.

These participants had their mental functions tested numerous times between 1996 and 2008, as part of the study. Cognitive function was tested by measuring participants' total word recall, mental status, and vocabulary.

The ones that drank lightly had better vocabularies and word recall, and scored higher on cognition tests than the teetotallers.

The study defined low-to-moderate drinking as under eight drinks a week for woman and under 15 drinks a week for men. In the United



OK, but how do they *really* work?

- Platform-specific metrics

📍 GERMANY

Understanding Quantum Mechanics #7: Atomic Energy Levels

81,205 views • 7 Nov 2020

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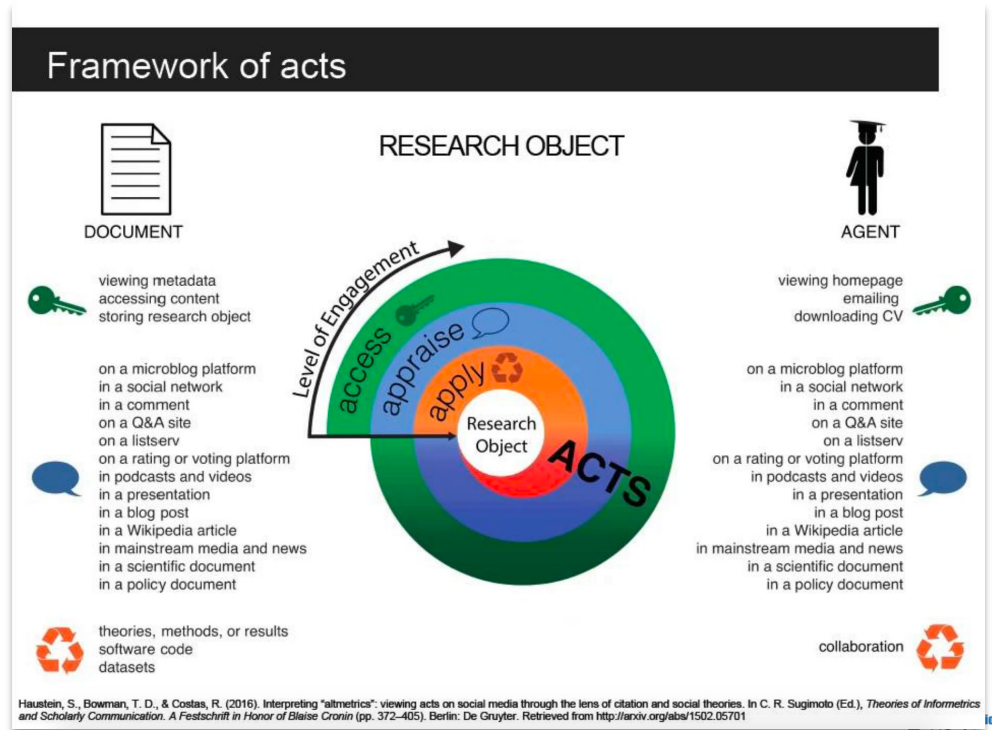
Breakdown:

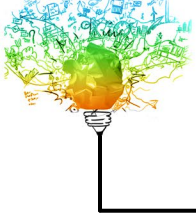
- 94.70% Publications
- 0.00% Questions
- 5.12% Answers
- 0.18% Followers



Data sources

- News
- Social media
- Public policy
- Patents
- Open peer review
- Expert recommendation
- Blogs
- Wikipedia
- ...and more!



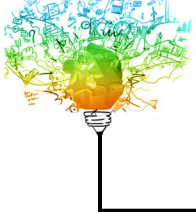


Altmetrics: What we know

Altmetrics for 2020 research

- 41% medical sciences
- 34% pharmacology
- 23% all research





Altmetrics: Purpose

Academia

- Promotion & tenure
- Institutional strategy

Publishing

- Author recruitment
- Content strategy

Government & funder

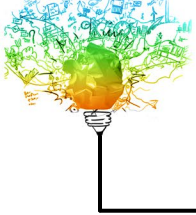
- Grantmaking
- Program evaluation

Corporate

- Market launch strategy
- Horizon scanning



Publication planning & altmetrics



Identify Digital Online Influencers

Name Organization, Country	↓ Publications	Citations	Citations mean
Ignacio Ivan Wistuba The University of Texas MD Anderson Cancer Center, Unite...	214	15,303	71.51
Ming Sound- Tsao University of Toronto, Canada	203	21,077	103.83
Fred R Hirsch University of Colorado Anschutz Medical Campus, United S...	157	14,759	94.01
Ritsuko R Komaki The University of Texas MD Anderson Cancer Center, Unite...	146	10,989	75.27
John Dorrance Minna The University of Texas Southwestern Medical Center, Unite...	144	15,708	109.08



Identify Digital Online Influencers

Digital Thought Leader Dashboard: Demo

Non-small-cell lung carcinoma Renal cell carcinoma Melanoma Multiple myeloma

ALL RESEARCH OVENOX OVENOX + NAXPOLYOND VIBRANAZOL FINOX ABARESPORINE

Top thought leaders discussing Non-small-cell lung carcinoma research.

Last updated December 7, 2018 [More info](#)

 Drew Moghanaki @DrewMoghanaki Richmond, Virginia MD, MPH - Radiation oncologist who works at a VA medical center, and believes in science. #radonc 2,620 followers	 Tom Varghese Jr. MD @TomVargheseJr Salt Lake City, Utah I'm a Dad, Husband, Thoracic Surgeon, and Health Services Researcher. Following or RT does not mean endorsement. 15,455 followers	 Anirban Maitra @Ailms1742 Houston, Texas Scientific Director of the Ahmed Center for Pancreatic Cancer Research at MD Anderson Cancer Ctr. Also a GI Pathologi... 8,273 followers	 Nathan A. Pennell MD, PhD @n8pennell Cleveland, Ohio Director @CleClinicMD Lung Cancer Program, @JOP_ASCO podcast editor. All opinions my own. #LCSM #COI: Advisor to AZ... 6,011 followers
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Measure the uptake of key scientific statements

Toxin	Citations (median)	Altmetric Attention Score (med)
A	84	2
B	70	1.8
C	71	47



Measure the uptake of key scientific statements

Statement	Citations (median)	Altmetric Attention Score (med)
Scale	29	2
Intervention	38	1



Publish strategically

▼ JOURNAL/COLLECTION Q e.g. Physics Letters, arXiv, figshare	▼ TOTAL MENTIONS	▼ NEWS MENTIONS	▼ BLOG MENTIONS	▼ POLICY MENTIONS	▼ PATENT MENTIONS	▼ TWITTER MENTIONS
Journal of Medicinal Chemistry 10,833 mentioned research outputs in your search	83,827	684	718	155	69,576	10,640
Bioorganic & Medicinal Chemistry Letters 5,521 mentioned research outputs in your search	30,320	148	185	27	26,516	2,820
International Journal of Pharmaceutics 4,952 mentioned research outputs in your search	22,310	227	85	77	16,573	4,792



Publish strategically

▼ JOURNAL/COLLECTION e.g. Physics Letters, arXiv, figshare	▼ TOTAL MENTIONS	▼ NEWS MENTIONS	▼ BLOG MENTIONS	▼ POLICY MENTIONS	▼ PATENT MENTIONS	▼ TWITTER MENTIONS
ChemRxiv 99 mentioned research outputs in your search	15,409	39	10	0	0	15,317
Nature 379 mentioned research outputs in your search	19,268	1,189	204	94	2,128	14,811
Australian Prescriber 512 mentioned research outputs in your search	14,185	316	30	64	92	13,367
Frontiers in Pharmacology 2,599 mentioned research outputs in your search	14,479	423	92	12	34	13,029

2020-11-14
11:28 PM UTC



Tweet by **Frontiers in Pharmacology (@FrontPharmacol)**

New Research: Vulnerabilities of the SARS-CoV-2 Virus to Proteotoxicity—Opportunity for Repurposed Chemotherapy of COVID-19 Infection <https://t.co/7FGrTIGL4d> #pharmacology

Cites the following research output:



Vulnerabilities of the SARS-CoV-2 Virus to Proteotoxicity—Opportunity for Repurposed Chemotherapy of COVID-19 Infection

Article in Frontiers in Pharmacology, October 2020

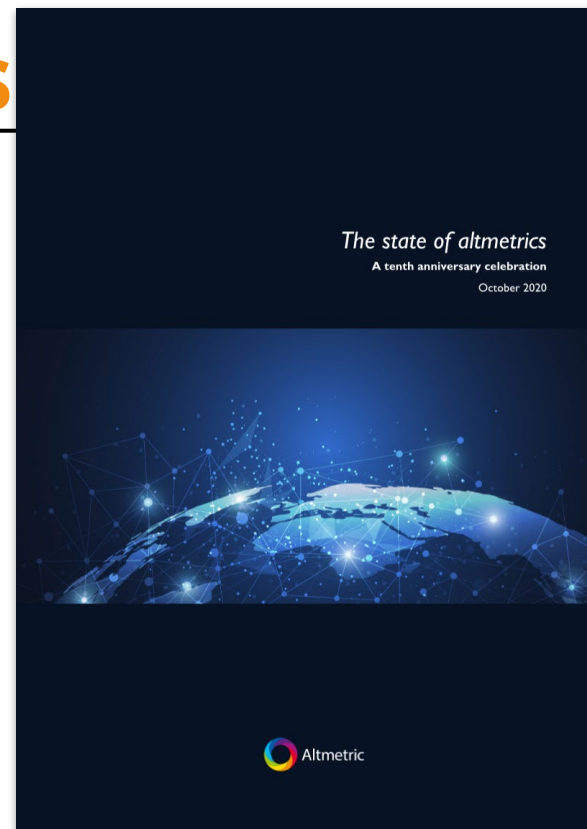


Advances in altmetrics

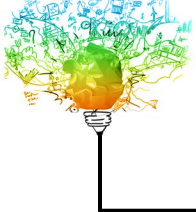
...and what they mean for biopharma



The State of Altmetrics



<http://bit.ly/7AMStateReport>

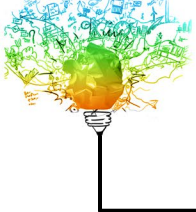


Altmetrics & open science

- There is an open access advantage re: altmetrics in many fields
- The field is challenged by a dearth of open APIs

“Most APIs are heavily restricted or very expensive to use at scale (e.g., Twitter) or they just don’t exist: ever-greater swaths of the scholarly conversation now disappear into the profiteering maw of ResearchGate and other walled gardens, never to be seen again.” – Jason Priem



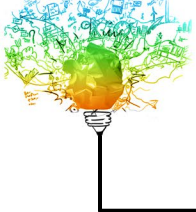


Altmetrics & open science

- Open research practices will make for a deeper understanding of how research is communicated

“If we have an environment with better interoperability and transparency, **we will be able to have more breadth and depth of altmetrics digital traces.** Richer contextual clues will help altmetrics researchers better understand both what altmetrics can and cannot reflect.”
– Shenmeng Xu





Altmetrics & open science

Takeaways:

- *Open access and altmetrics are deeply interlinked*
- *Some interactions cannot be measured – this closes off ability to track entire markets*
- *Industry practice and regulation may affect the extent to which altmetrics exist for pharma research*

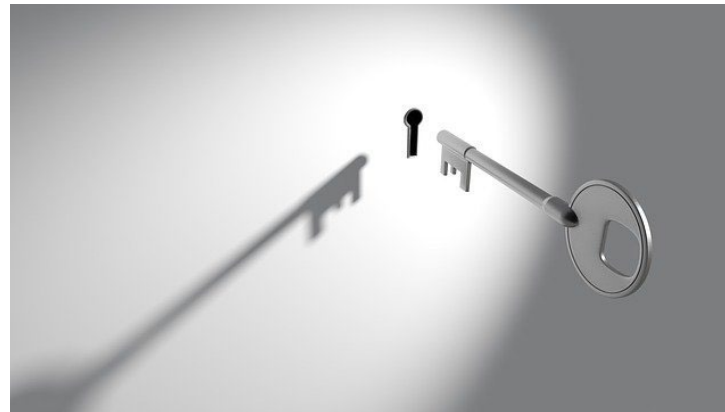
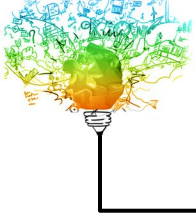


Image by Arek Socha from Pixabay

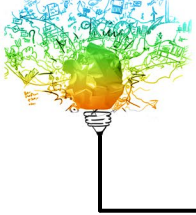


Altmetrics & machine learning

- Machine learning = algorithms to make predictions based on existing data

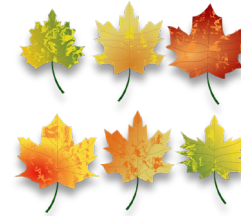
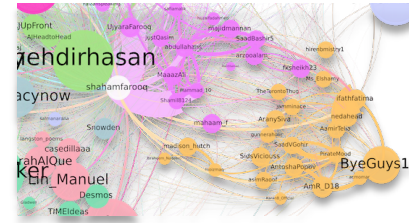


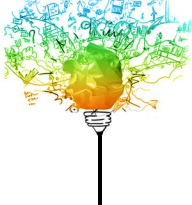
Image by [Ahmed Gad](#) from [Pixabay](#)



Altmetrics & machine learning

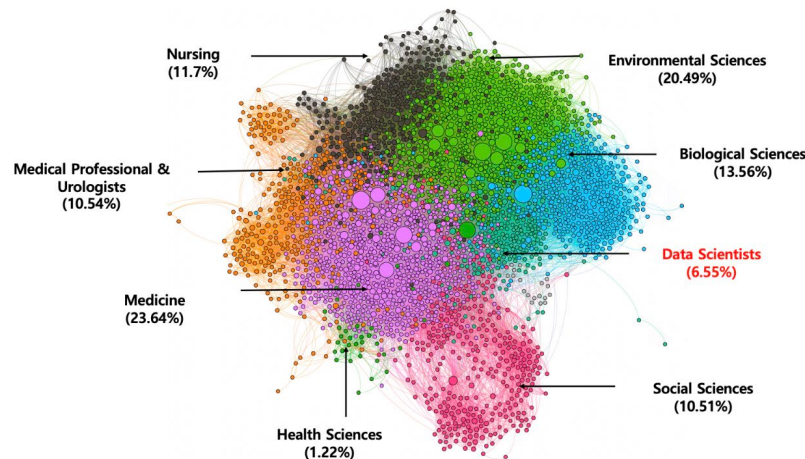
- Cluster analysis
- Feature learning
- Deep learning

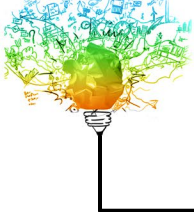




Altmetrics & machine learning

- Using cluster analysis to identify user communities sharing research
- Feature learning can predict publications with high citation rates
- Deep learning to identify bots

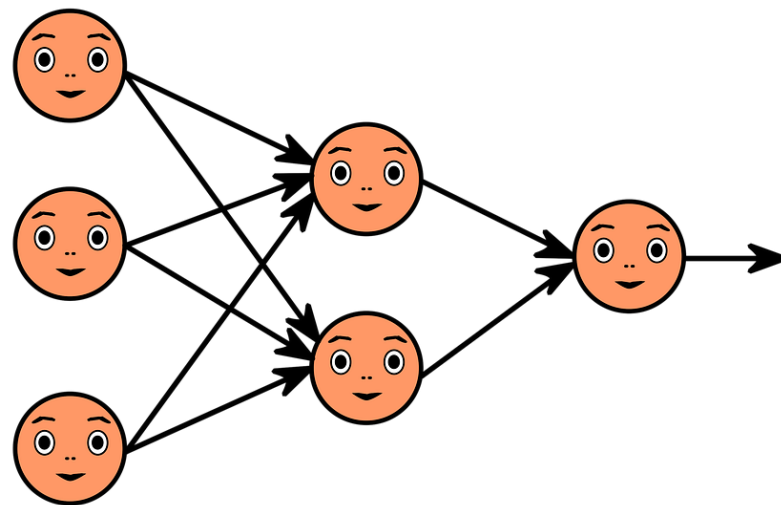


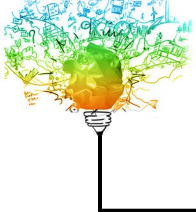


Altmetrics & machine learning

Takeaways:

- *Cluster analysis useful for identifying audiences*
- *Feature learning may help you understand the key drivers for successful publications*
- *Altmetrics data providers may develop new techniques for filtering out bot “noise”*





The future of altmetrics

- Community and customer survey
- “What is the past, present, and future of altmetrics for you and your industry?”



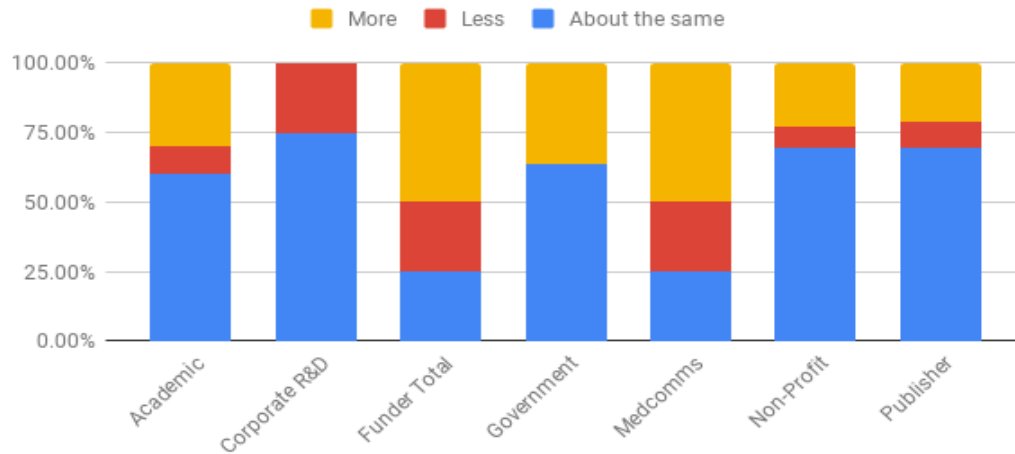


The current state of altmetrics

Most increased use:
pharma and funders

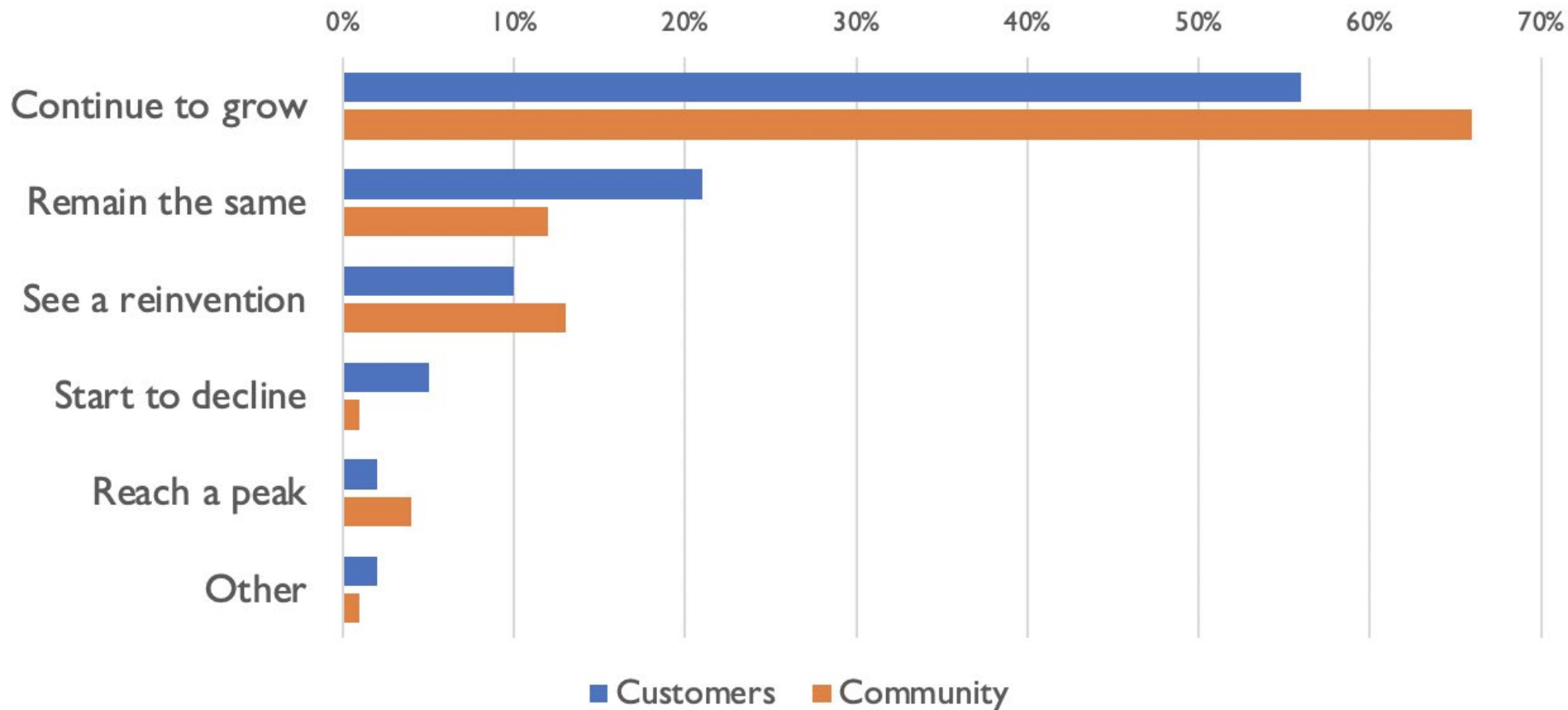
Most decreased use:
same

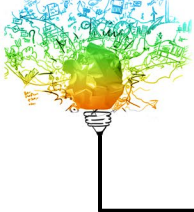
Compared to 2 years ago, how often are you using altmetrics?
(By industry)





Answers to "What's the future of altmetrics use in your field?"





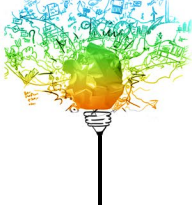
The future of altmetrics

Takeaways

- *Industry innovators will continue to find new ways to measure and predict success*
- *A majority of users predict continued growth in altmetrics*

Beyond the report

- *Analysis will move from counts to context*
- *Data visualization will play a larger role in explaining impact*
- *Increased transparency*
- *Continue to grapple with disinformation*



Thank you!

Stacy Konkiel

stacy@altmetric.com

Resources

- [How Article-Level Metrics Can Improve Your Publication Planning](#), MAP Newsletter, March 2020
- [State of Altmetrics report](#), October 2020

Understanding altmetrics: what are they, how can you use them, and what do they mean?

Key insight: the wide variety of article-level altmetrics allows different types of audience engagement to be assessed



Key insight: providers take differing approaches to evaluating and recording altmetrics



The mission of Altmetric is to track and to report online activity around scholarly literature in an accessible and reliable format. We collect what people are saying about published research outputs across scholarly and non-scholarly forums, such as the mainstream media, policy documents, social networks, blogs and peer review to provide a more robust picture of the influence and reach of scholarly work. The Altmetric Attention Score is an indicator of the volume of attention an output has received that far.



PlumX Metrics provides insights into the ways people interact with individual pieces of research output: articles, conference proceedings, book chapters, etc. In the online environment, examples include when research is mentioned in the news or a website. Collectively known as PlumX Metrics, these metrics are divided into five categories: Citations, Usage, Captures, Mentions and Social Media. To help to make sense of the huge amounts of data involved and to enable analysis by comparing like with like.



Crossref Event Data is an open-access set of application programming interfaces (APIs) that captures and records activity for content registered in Crossref. These events can occur in a range of different environments, from social (e.g. Twitter) to reference sites (e.g. Wikipedia). Event Data captures and records these events to give a fuller picture of how research connects, providing open, transparent and accessible information about the provenance and context of every event.

ResearchGate

ResearchGate is a social network for scientists. It assigns 'Research Interest' to publications based on a paper's citations, recommendations and reads. The RG score is a separate score assigned by the platform to individual researchers based on how engaged they are on the platform, and how often others interact with the scholarly works they post to the site.

Journal websites

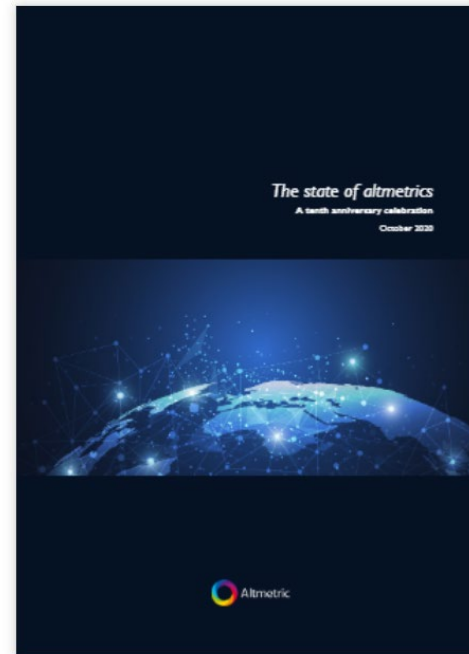
Journals sometimes provide metrics not available from other sources, such as article views and downloads. These metrics may be available on the journal website. Some journals will provide these metrics to authors upon request.

Key insight: metrics for a given article may vary between providers, reflecting the different technical approaches — use multiple sources for a complete picture



This graphic article 'Understanding altmetrics' has been developed as part of the efforts of the ISMP® Social Media and Open Access Metrics Working Group. Altmetric, Crossref, PlumX Metrics.

The state of altmetrics: a tenth anniversary celebration





How To Ask Questions

- Feel free to ask a question at any time, however all questions will be held until the end the of the presentation.
- **To ask a question**, open the Q&A window, type your question into the Q&A box. **Click Send**
- **Note:** Check **Send Anonymously** if you do not want your name attached to your question in the Q&A
- We will make every effort to respond to all questions live (out loud)



Please capture a screenshot to submit for credit

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Altmetrics: The state of the art for publication planning

November 18, 2020



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promptly at:
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