

Metrics - to - Altmetrics : A Role of Library and Information Professionals

ODISHA LIBRARY ACADEMY WEBINAR SERIES -I
16th May 2020

Dr. Mahendra N Jadhav

Librarian

Indian Institute of Technology Madras

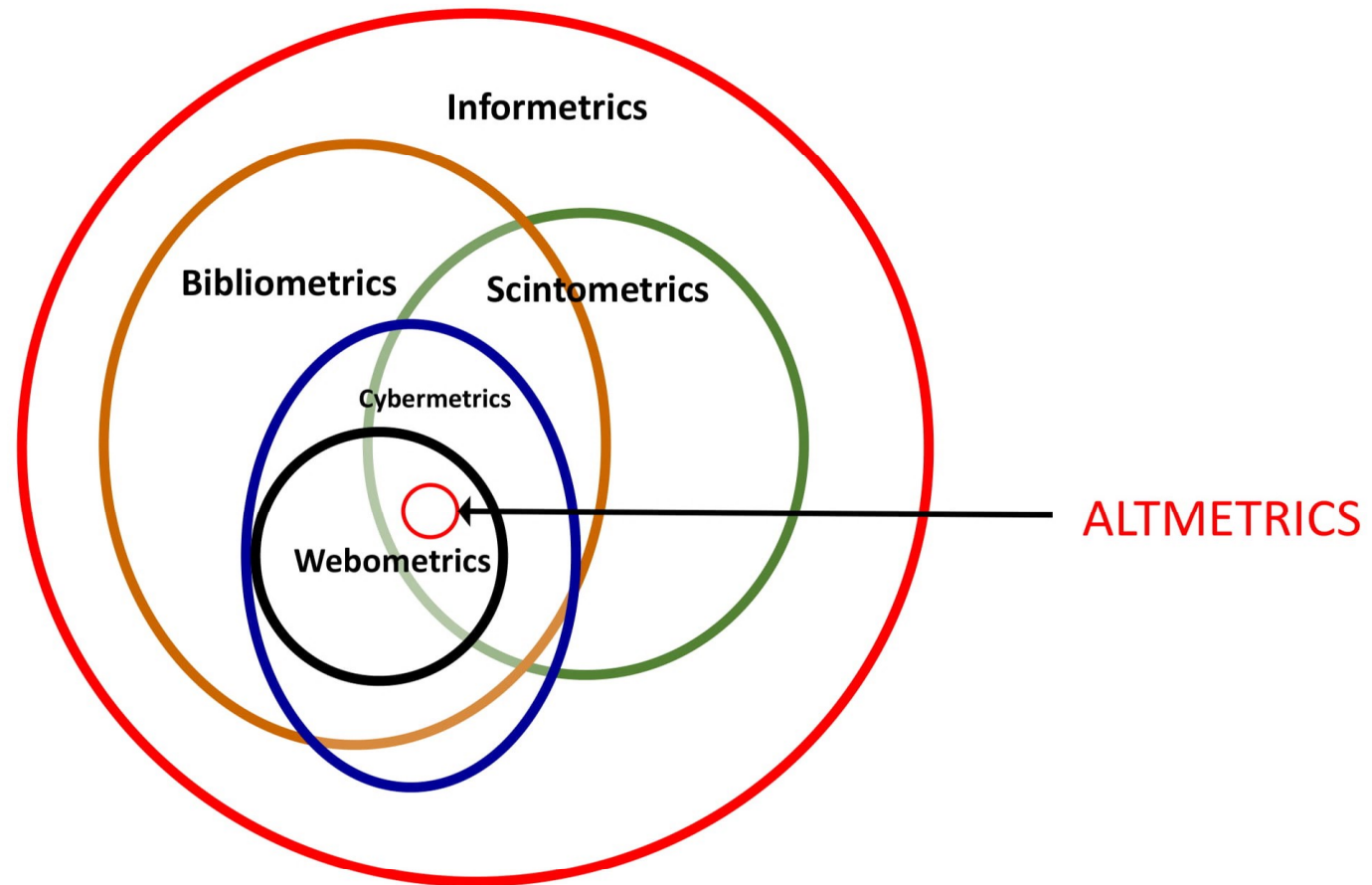
Presentation Outlines

- Introduction to metrics
- The Role of LIS Professional in Research Process
- Altmetrics
- Development of Altmetrics
- How it works ? Case of IIT Madras.
- Who can use it & how to intergrade it.
- Benefit of Altmetrics
- Similar metrics
- Conclusion

Introduction

- A metric is a quantifiable measure that is used to track and assess the status of a specific process based on standardized procedures, calculation methods and systems for generating a number.
- This includes the production, dissemination use of all forms of Information, regardless of its form or origin.
- Informatics
- Bibliometric
- Scientometrics
- Cybermetrics/Webometrics

The Relationship between the Different Metrics




(Holmberg, 2016)

The Role of LIS Professional in Research Process




Idea/Problem
Literature Survey

LIS Professional
host catalogue and
also help to search
the contents



Review of
research/
Filter/Exp.

LIS Professional
help to conduct
systematic review
of literature



Publish &
disseminate
the research

LIS professional
help for publishing
and OA, AW, IL,
Social Media



Measure
Impact of
Research &
Discussion

LIS Professional
expert in
bibliometric, to
measure the
impact

Traditional Metrics

Web Analytics

Altmetrics



Indian Institute of Technology Madras
Scholars Profiles
The Central Library Initiative



Vidwan-ID : 42764

Edit Profile

Citations / H-Index

19347
CITATIONS

H 66
H-INDEX

16841
CITATIONS

Google Scholar

CITATION

26803
Total

14983
(2013-)

H INDEX

78
Total

58
(2013-)

I-10 INDEX

340
Total

237
(2013-)

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

Traditional Metrics

Web Analytics

Altmetrics



Indian Institute of Technology Madras

Scholars Profiles

The Central Library Initiative



Vidwan-ID : 42764

Edit Profile

Citations / H-Index

19347
CITATIONS

H 66
H-INDEX

16841
CITATIONS

Google Scholar

CITATION

26803
Total

14983
(2013-)

H INDEX

78
Total

58
(2013-)

I-10 INDEX

340
Total

237
(2013-)



Alt

Complimentary
to traditional
citation metrics



Metrics

Score is an *indicator*
and underlying
qualitative data tells
you that who's
saying what about
research

The study and use of scholarly impact measures
based on activity in online tools and environments

Priem, J. (2014). Altmetrics. In Cronin, B. & Sugimoto, C.R. (Eds.). *Beyond Bibliometrics: Harnessing Multidimensional Indicators of Scholarly Impact*. MIT Press, 2014.

Development of the Altmetrics

- Founded by a Scientist 2010
- Small data science company, owned by Digital Science

Altmetrics is an alternative method to complement the traditional method to measure impact of scholarly articles in social web ecosystem

- Real-time, immediate feedback on attention to scholarly content
- Not intended as an indicator of quality

Development of the Altmetrics

- Institutional platform (+ additional products), it explorer, and allows researchers, departments, and institutions to track their Altmetrics and across entire database
- It help people to understand how much research is being received and used and by who
- Can help to provide further evidence of engagement and 'societal impact'
- It gives credit for research outputs other than articles.
- Funder and other impact assessors want to see broader picture of “**impact of research**”

How it works ?

An output of the
journal article
datasets etc.

An Identifier of the
documents (DOI,
PMID, etc.)

Indicated in the
sources from
where they
tracked

Follow the list of
sources

Search for the
link papers

Aggregate the
data

Display data in
Altmetrics page



Altmetrics track Unique IDs ..of Research outputs

- ADS ID
- arXiv ID
- Clinical Trials, Govt. Records
- Digital Object Identifier
- Handles
- ISBNs
- PubMed ID
- RePEC ID
- URN

- Astrophysics data system
- Physics, Mathematics & Computer Science
- Medical /Biomedical
- Journal article and datasets
- General -repositories
- Books
- Health Sciences
- Economics
- General

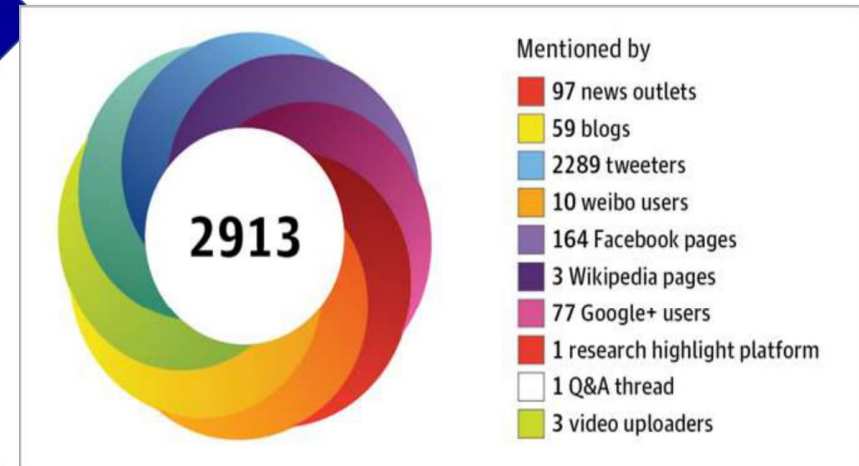
Altmetrics track discussions of research in 15 distinct sources

What does that mean?

Alternative matrix

What do they track?

Online engagement with digitally published research



Source Altmetrics track the data

- Policy documents published online
- Mainstream media (news sites)
- Social reference managers (e.g., Mendeley, CiteULike)
- Peer-review platforms (e.g., Publons, PubPeer, F1000)
- Wikipedia
- Blogs (curated list of scientific blogs)
- Social media (e.g., Twitter, Facebook, Google+, LinkedIn)
- Other sources such as YouTube, Reddit and Pinterest

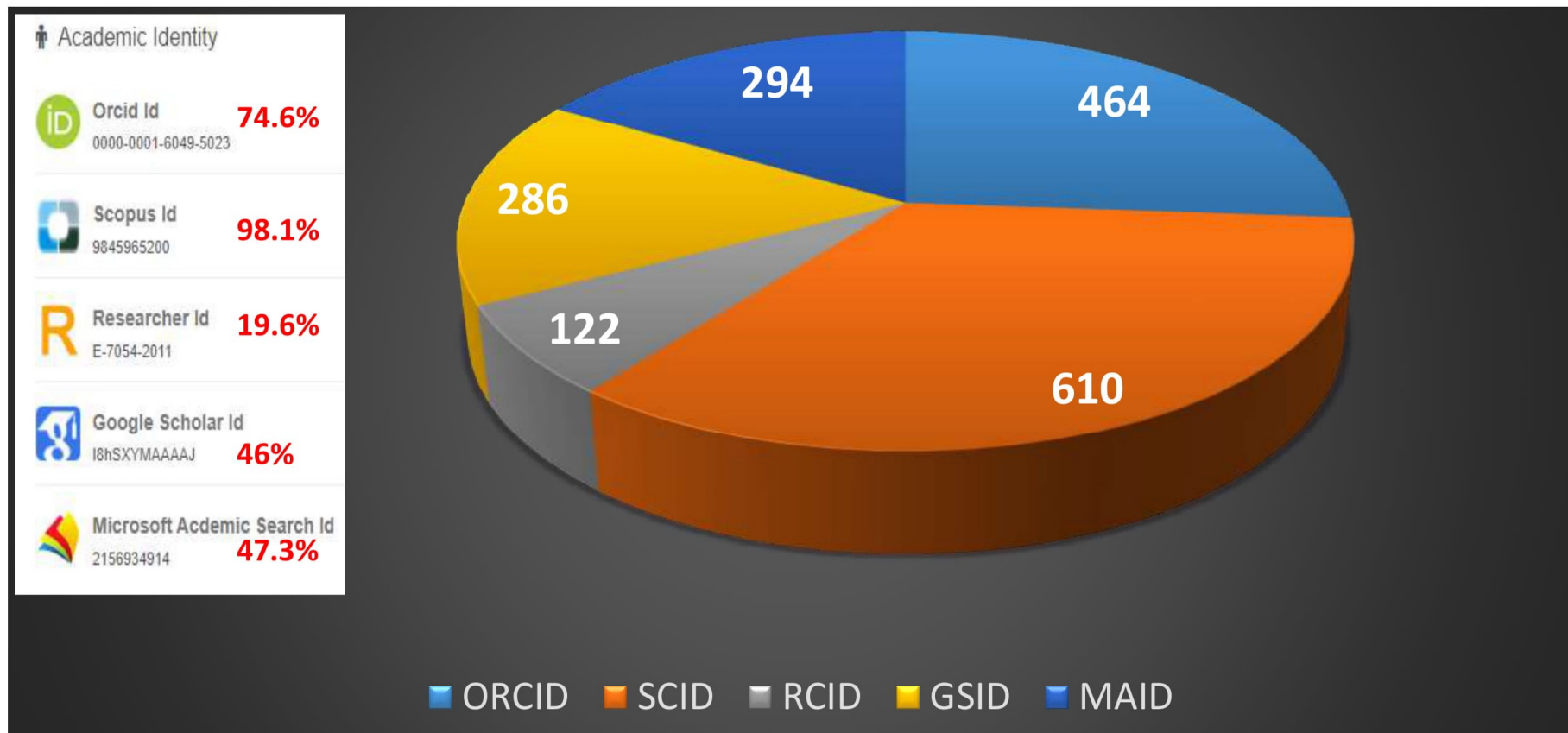
Altmetrics Data Provider



About IIT Madras

- National Importance Institute, 60 years Old
- NIRF Rankings 2015-2019: Top Rank Engineering Colleges, India
- Top - Atal Ranking of Institutions on Innovation Achievements - 2019
- Students Strength – 5900 UG + 3700 (MS+PhD) =9600+
- Faculty -600+ , Staff 860+
- Publications- 38356 (Affiliation ID: 60025757)
- Eight Degree Programme offered from 16 Departments
- **Library**- Print Collection <4 Lakhs, e-Journals 10+K, eBooks-11K (PA) 1.75Lakhs (SM), Patrons 14K+, e-databases-25, Research Support tools -9

Academic Identity of IIT Madras –(622 Scholars)



How to create Academic Identity

- Scopus Author ID – When you published – Index Journal
- WoS – Researcher ID - When you Published –Index Journal
- Microsoft Academic by Registering your self
- Google Scholar – By Gmail account and having publications
- ORCID- Open and Researcher Contributor ID – by Registration

Export/Import from Google Scholar/Scopus to ORCID

MAHENDRA N JADHAV English

▼ Funding (0) ? + Add funding ⌵ Sort

Funding captures grants and other awards you have received to support your research. [Add funding.](#)

▼ Works (32 of 32) ? + Add works ⬇ Export works ⌵ Sort

COMBINE DELETE

☐ An Information Literacy Program: Bridging Gap between Users and Library
Proceeding of National Conference on Role of Academic Libraries for Excellence in Research
2018 | conference-paper
Source: MAHENDRA N JADHAV ★ Preferred source

☐ Knowledge Discovery in Databases (KDD), Process, Major Steps, Applications and
their Resources in Modern Era
Modern Trends in Library & Information Science in Digital Environment
2016 | book-chapter
Source: MAHENDRA N JADHAV ★ Preferred source

Search & link
Add ArXiv ID
Add DOI
Add PubMed ID
Import BibTeX
Add manually

Who can use it

Who's talking about your research?

Thousands of conversations about scholarly content happen online every day. Altmetric tracks a range of sources to capture and collate this activity, helping you to monitor and report on the attention surrounding the work you care about.

For Publishers

For Institutions

For Researchers

For Funders

For R&D

For Researcher



Altmetric Bookmarklet

The is free browser plug in let's you instantly see the Altmetric data for any publication with DOI. If you click on Donut to view the full details of page for each research output



Altmetric Badges

It is free to use and can be embed in your individual profile or publications page to showcase the online attention surrounding



Altmetric API

The Altmetric API free to use for research purpose you can use it to query our entire database.(9 M+ research output records)

How to Integrate it ? <http://api.altmetric.com/embeds.html>

You can specify the style of badge you'd like to embed with a data-badge-type attribute. A selection of the badge types available are:

Badge type

Example

Code

donut

64x x 64px



```
<div class='altmetric-embed' data-badge-type='donut' data-doi='10.1016/S0140-6736(11)61619-x'></div>
```

medium-donut

120px x 120px



```
<div class='altmetric-embed' data-badge-type='medium-donut' data-doi='10.1016/S0140-6736(11)61619-x'></div>
```

Small badge

85px x 15px



```
<div class='altmetric-embed' data-badge-type='4' data-doi='10.1016/S0140-6736(11)61619-x'></div>
```


How are researchers & institutions using Altmetrics?

➤ Research and evaluation services

- Identify & track influential research; assess impact & reach

➤ Grants and reporting

- Target new grants & grantees; demonstrate value to stakeholders

➤ Communications and reputation management

- Track press/social media; connect to opinion leaders

➤ Marketing and promotion

- Highlight vital findings; benchmark campaigns and outreach

➤ Collaboration and partnerships

- Discover disciplinary intersections & collaborative opportunities

DISCOVERY : Find trending research , Unearth conversations among new audiences, Locate collaborators & research opportunities Identify key opinion, leaders, Uncover disciplinary, intersections

SHOWCASING - Identifying research to share, Share top mentions, Impact on public policy, Real-time tracking, Identifying key researchers Recognizing early career researchers

REPORTING - Grant applications, Funder reporting, Impact requirements, Reputation management, Benchmarking, Recruitment & review, Integration into researcher profiles /repositories

Benefit- Explorer-for-institutions

- Using Altmetrics for collection development
- Achieve organizational objectives
- Improve grant application success
- Track influence as it happens
- Attract alumni donations
- Ensure effective reputation management
- Support your researchers
- Inform strategic decision making

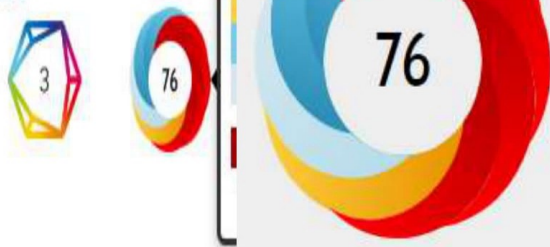
Benefit- Explorer-for-institutions

- Navigation and browsing
- Explore the research from your institution
- Instant access to the entire Altmetric database
- Report on outcomes and trends
- Analyze and report on attention for the research that matters to you want – custom, excel, API etc.
- Features checklist -Fully auditable, reliable data ,Relevant sources, visualization, Real-time updates

Sparse Game Changers Restore Collective Motion in Panicked Crowds

Kulkarni, Ajinkya;Thampi, Sumesh P.;Panchagnula, Mahesh V.

Article Physical Review Letters, Volume 122, Year 2019
DOI:10.1103/PhysRevLett.122.048002



Phase synchronization and collective interaction of a laboratory scale spray combustor

Pawar, Samadhan A.;Panchagnula, Mahesh V.;Sujith, R. I.

Article Proceedings of the Combustion Institute, Volume 37, Year 2018
DOI:10.1016/j.proci.2018.08.045

Altmetric

Sparse Game Changers Restore Collective Motion in Panicked Human Crowds

Overview of attention for article published in Physical Review Letters, January 2019

76

3

SUMMARY

News

Blogs

Twitter

Reddit

Misc.

Dimensions citations

Title

Sparse Game Changers Restore Collective Motion in Panicked Human Crowds

Published in

Physical Review Letters, January 2019

DOI

10.1103/physrevlett.122.048002

Pubmed ID

30768343

Authors

Ajinkya Kulkarni, Sumesh P. Thampi, Mahesh V. Panchagnula

TWITTER DEMOGRAPHICS

MENDELEY READERS

About this Attention Score

In the top 5% of all research outputs scored by Altmetric

Mentioned by

8 news outlets

1 blog

4 tweeters

1 Redditor

Citations

3 Dimensions

The data shown below were collected from the profiles of 4 tweeters who shared this research output.

Phase separation in binary fluid mixtures with symmetric Schmidt numbers: A DPD study

Similar Matrix



- Dimensions is a research insights platform that brings together information about funding, publications, policy, patents, and grants. The Dimensions Badge provides a free and easy way to showcase the number of citations that your publications have received

```
<span class="__dimensions_badge_embed__" data-doi="10.1001/jama.2016.9797"></span><script async  
src="https://badge.dimensions.ai/badge.js" charset="utf-8"></script>
```

PlumX Metrics



- PlumX Metrics provide insights into the ways people interact with individual pieces of research output
- Metrics into 5 separate categories:
 - Citation
 - Usage
 - Captures
 - Mentions
 - Social media

Note: CrossRef is aware of a bug with incorrect citation counts and working towards resolution.

PlumX Metrics

Sign in ?

Embed PlumX Metrics



Rate Control versus Rhythm Control for Atrial Fibrillation after Cardiac Surgery.

Citation Data: The New England journal of medicine, ISSN: 1533-4406, Vol: 374, Issue: 20, Page: 1911-21

Publication Year: 2016

122	42	1,012	2	382
Citations	Usage	Captures	Mentions	Social Media

Rectangular Strip
 Metric Options: ☒ Counts ☐ 1 Year ☐ 3 Year ⓘ

Home

Overview

Highlights

- > Clinical Citations
- > News Mentions
- > Twitter

Metrics Details

CITATIONS	122
Citation Indexes	114
Scopus ↗	114
CrossRef	47
PubMed Central ↗	25
Clinical Citations	8
DynaMed Plus Topics	4
PubMed Guidelines	4
USAGE	42
Abstract Views	27
EBSCO	27
Link-outs	15

Most Recent Tweet

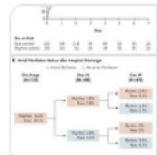
See all tweets >



Segun Olusanya
@iceman_ex

Replying to @iceman_ex
People who are reluctant to give perioperative drugs to prevent AF may have a point, in that we currently don't know if the risks outweigh the benefit

Especially when papers like this exist showing no difference between a rate or rhythm control strategy
nejm.org/doi/full/10.10...



Rate Control versus Rhythm Control for ...
Original Article from The New England Journal of Medicine — Rate Control versus Rhythm Control for Atrial Fibrillation after Cardiac
nejm.org

Article Description




Atrial fibrillation after cardiac surgery is associated with increased rates of death, complications, and hospitalizations. In patients with postoperative atrial fibrillation who are in stable condition, the best initial treatment strategy--heart-rate control or rhythm control--remains controversial.

Bibliographic Details

PMID: [27043047 ↗](#)
DOI: [10.1056/nejmoa1602002 ↗](#)
PMCID: [PMC4908812 ↗](#)
CLINICALTRIALS.GOV IDENTIFIER: [NCT02132767 ↗](#)


<https://plu.mx/plum/a/?doi=10.1056%2Fnejmoa1602002>

Example - Article published on 13th May

[MENU](#) **nature medicine**    

Letter | **Published: 13 May 2020**

Infection of bat and human intestinal organoids by SARS-CoV-2


Jie Zhou , Cun Li, Xiaojuan Liu, Man Chun Chiu, Xiaoyu Zhao, Dong Wang, Yuxuan Wei, Andrew Lee, Anna Jinxia Zhang, Hin Chu, Jian-Piao Cai, Cyril Chik-Yan Yip, Ivy Hau-Yee Chan, Kenneth Kak-Yuen Wong, Owen Tak-Yin Tsang, Kwok-Hung Chan, Jasper Fuk-Woo Chan, Kelvin Kai-Wang To, Honglin Chen & Kwok Yung Yuen 

[Nature Medicine \(2020\)](#) | [Cite this article](#)

420 [Altmetric](#) | [Metrics](#)

Abstract

A novel coronavirus—severe acute respiratory syndrome

Download PDF 

Sections

Figures

References

Abstract

Main

Methods

Data availability

References

Acknowledgements

Author information

Ethics declarations

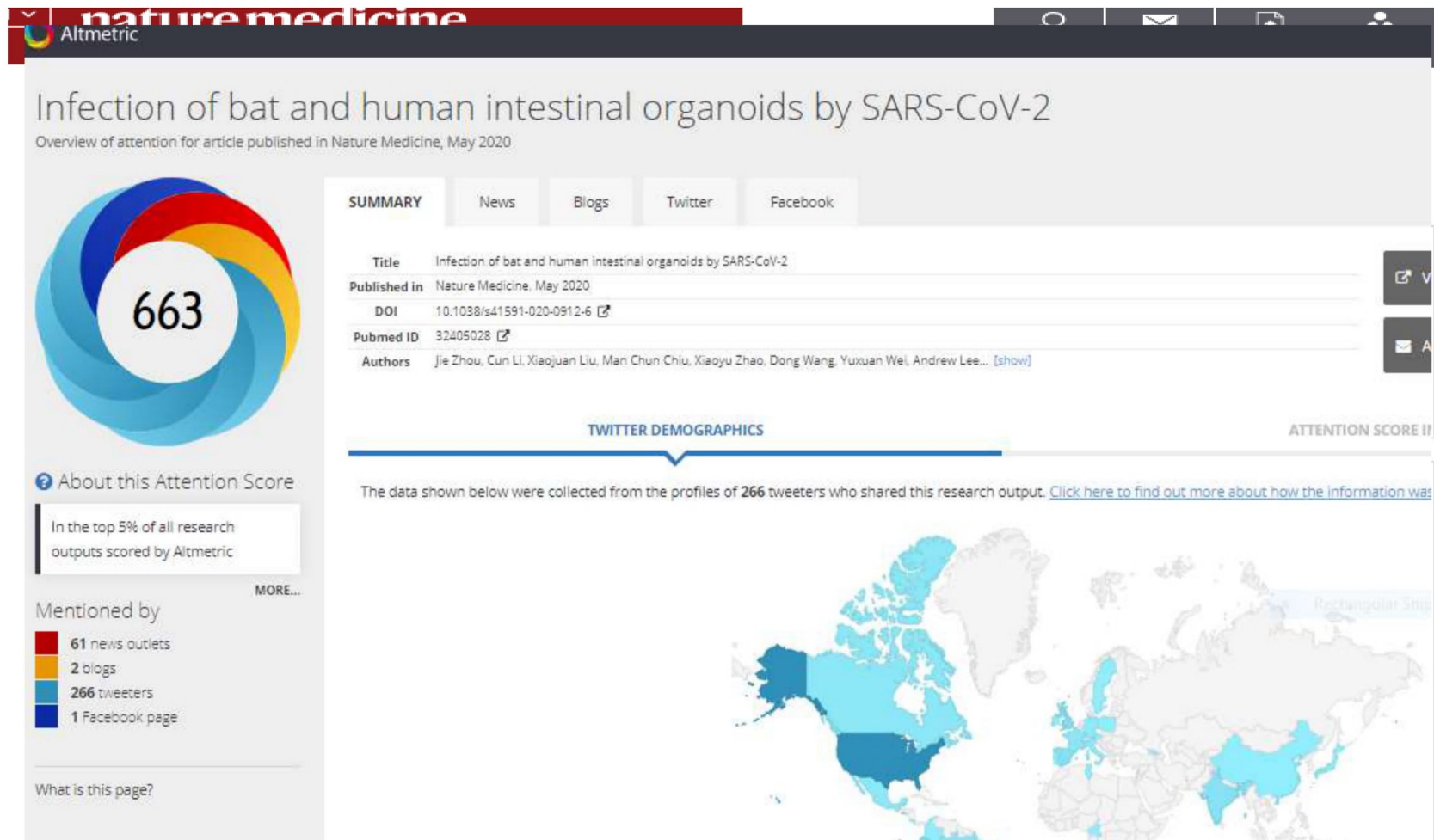
Additional information

Extended data

Supplementary information

Rights and permissions

Example



Conclusion

- Altmetrics is a new measurement tool so it is still in the experimental and development stage.
 - The ability to measure the number of citation based on social web quickly;
 - The ability to measure the diverse impact from a scholarly article quickly;
 - Improving information sharing and collaboration among the authors.
 - NISO –Altmetric standard is development stage
- Limitation
 - Social websites tend to have no quality control; so Altmetrics cannot measure the quality of scholarly article.
 - Concerns about data manipulation on the metrics.

References

- Holmberg, K. (2016). Altmetrics for Information Professionals : Past, Present and Future. USA: Elsevier. - Scientific Figure on Research Gate. Available from: https://www.researchgate.net/figure/The-Relationship-between-the-Different-Metrics-based-Research-Area_fig2_308504716 [accessed 14 May, 2020]
- How to make better collection management decisions by combining traditional metrics and altmetrics
- <https://www.altmetric.com/libraries-ebook/>
- https://www.doria.fi/bitstream/handle/10024/97529/Nixon_Altmetric_Workshop.pdf?sequence=1&isAllowed=y
- <https://www.altmetric.com/about-altmetrics/tips-tricks/>
- https://www.niso.org/sites/default/files/stories/2017-08/IP_Lin_Fenner_PLOS_altmetrics_isqv25no2.pdf
- <https://pitt.libguides.com/altmetrics>
- <https://plumanalytics.com/>
- https://www.force11.org/sites/default/files/d7/presentation/12973/am2-_altmetrics_and_the_evolution_of_scholarly_impact_assessment_altmetrics_troia_lily.pdf
- <https://becker.wustl.edu/impact-assessment/how-to-use>



Indian Institute of Technology Madras
Chennai - 600 036, India



Thank You

jadhavm@iitm.ac.in