Scientific Metrics

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December, 2022

Agenda

Problem

Assessing the quality and impact of research outputs is necessary

Every Metric has its limitations

No easy way exists to measure scientific performance

Problem

The original purpose of scientific publishing was to enable the global sharing of scientific results, ideas, and discussions within the academic society for more effective scientific achievements.

Influence of a publication is used for :

    allocation of funding resources

    industrial and economic growth priorities

    education policies,

    the hiring of personnel academics

Bibliographic Databases

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What is a bibliographic database?

A bibliographic database is a repository of bibliographic or publication records.

They are built on the fact that citations in science serve as linkages between similar research items, and lead to related scientific literature

Frequently used biomedical databases include

Web of Science

Scopus

Google Scholar

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Scientific Metrics Types

Journal-level metrics are used to determine the impact a journal has on the scientific community

    Impact Factor

Article Metrics and Altmetrics are used to quantify the impact of published articles-how published papers are being discussed and shared.

    Citation Counts

    Attention Score

Author-level metrics assess the impact an author makes on the scientific community or field of the study.
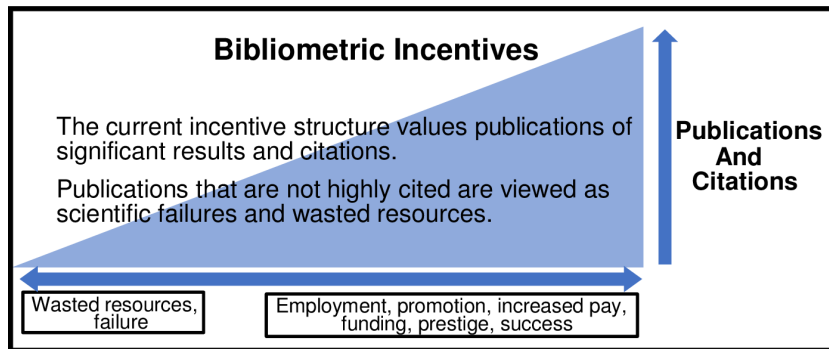
    H-Index

    G-Index

Figure 2: Bibliometric incentives model. [1]

Altmetric Attention Score

What is Altmetric Attention Score?

The Altmetric Attention Score is an automatically calculated, weighted count of all of the attention a research output has received

It is calculated using data collected from research articles such as mentions on social media, news outlets, blogs, patents, etc.

The Colors of the Donut

- Policy documents
- News
- Blogs
- Twitter
- Post-publication peer-reviews
- Facebook
- Sina Weibo
- Syllabi
- Wikipedia

- Google+
- LinkedIn
- Reddit
- Research highlight platform
- Q&A (Stack Overflow)
- Youtube
- Pinterest
- Patents

Figure 3: The colors of different sources of attention

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