

# Scientific Metrics

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## 1 Introduction

- Impact factor
- Bibliographic Databases

**Assessing** the quality and impact of research outputs is necessary

**Every Metric** has its limitations

**No easy way exists** to measure scientific performance

**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

Scopus®



## 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

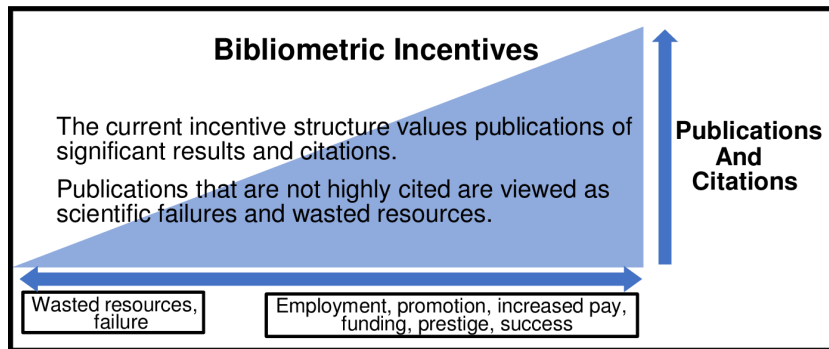


Figure 2: Bibliometric incentives model. <sup>1</sup>

<sup>1</sup><https://doi.org/10.1371/journal.pone.0195321.g001>

# Altmetric Attention Score

**Altmetric Attention Score** tracks online shares and conversations relating to a piece of published research.

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

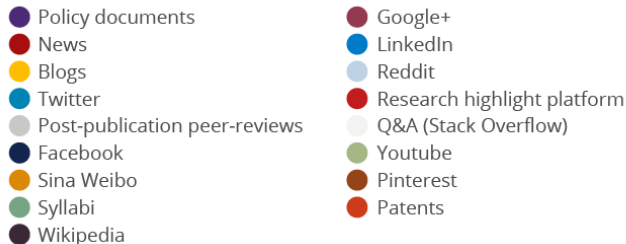


Figure 3: The colors of different sources of attention

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