Research Metrics

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December, 2022

Agenda

Problem

Assessing the quality and impact of research outputs is necessary

Every Metric has its limitations

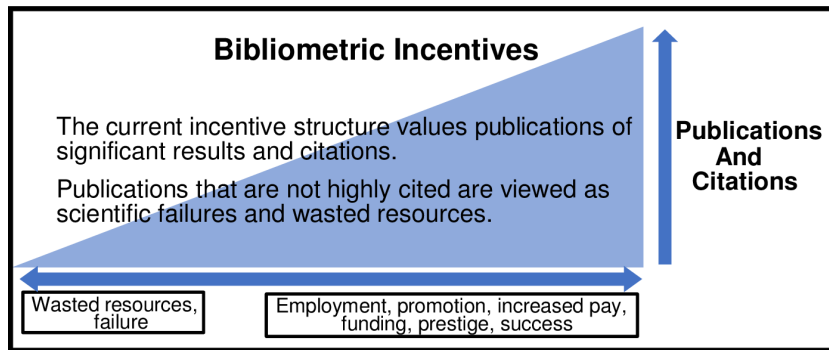**No easy way exists** to measure scientific performance

Figure 1: Bibliometrics incentives model.

Impact factor

The Impact Factor is the average number of citations received by articles in a journal within a two-year window

$$IF(x) = \frac{Citations(x)}{Publications(x-2) + Publications(x-1)}$$

For example, Nature had an impact factor of 49.962 in 2020:

$$IF(2020) = \frac{Citations(2020)}{Publications(2018) + Publications(2019)} = 49.962$$

Note that 2020 impact factors are reported in 2021; they cannot be calculated until all of 2020 publications have been processed by the indexing agency.

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Altmetric Attention Score

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

It is calculated using data collected around 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)
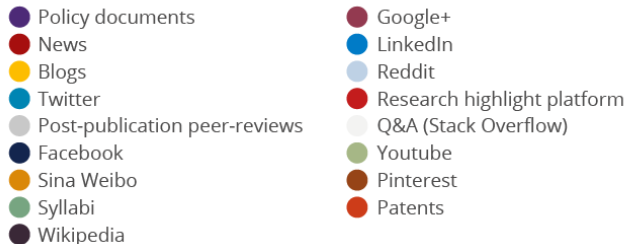- Youtube
- Pinterest
- Patents

Figure 2: The colors of different sources of attention

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✘ Altmetrics don't tell the whole story

✘ People can artificially inflate the altmetrics for their research

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✖ Altmetrics are relatively new, more research into their use is needed

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Blocks and columns and simple animation

Sample ordinary block

You can use *columns* environment to split a slide into 2 or more parts.

Props and cons lists

Use *propslist* and *conslist* enveroments to show props and cons as a list respectively.

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Props	Cons
✓ First benefit	✗ First disadvantage
✓ Second benefit	

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<table>
<tr><td colspan="2">Props</td><td colspan="2">Cons</td></tr>
<tr><td>✓</td><td>First benefit</td><td>✗</td><td>First disadvantage</td></tr>
<tr><td>✓</td><td>Second benefit</td><td>✗</td><td>Second disadvantage</td></tr>
<tr><td></td><td></td><td>✗</td><td>Third disadvantage</td></tr>
</table>

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✓ First benefit	✖ First disadvantage
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	✖ Third disadvantage

Sample example block

Example: For example you can implement props and cons with use of columns.

Sample citations

Citation in LaTeX with Bibtex

To cite something just add your bibitem in *references.bib* file and use *cite* command with corresponding name. Everything else will happen **automatically**!

I claim something very important and have to cite this paper [**?**], this article [**?**], book [**?**] and preprint [**?**].

Where to find citation bibtex item

Please use citation *BibTeX* item from Google Scholar

Inserting images

Figure 3: Big picture

If you want 2 side image, use *subfigures*

(a) White

(b) Blue

Figure 4: Main caption