With Great Power Comes the Responsible Use of Metrics

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1. Where are we now?
2. The Responsible Metrics Movement
3. Supporting researchers with responsible metrics
1 Metrics today
Types of metric

Bibliometrics

- Statistical analysis of outputs
- Citation counts
- H-Index
- Journal Impact Factor
- Eigenfactor

Altmetrics

- Alternative metrics to judge new output types
- Social media
- News stories
- Public policy
- Peer review
- Patents
Levels of metric

- Individual scholarly contributions
- Venues of production
- Individual authors
- Groups and institutions

Model adapted from *Meaningful Metrics* / Roemer & Borchardt. Licensed under a CC-BY-NC 4.0 license.
Levels of metric

“Is Galaxy Chocolate Better Than Cadburys?”

Dr. Snickers

Journal of Chocolate Studies

Candy University

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Using metrics

- Judging research quality
- Publishing decisions
- Performance reviews
- Career advancement
Metric limitations

- Quantitative measures
- Potential bias
- Lack of consistency
- Potential for gaming
- Fit for purpose?
2 The Responsible Metrics Movement
| DORA (2012) |
|------------------|------------------|------------------|------------------|
| **Detail** the criteria used to assess both researchers and their work |
| Reinforce the idea that it is the **quality** of the piece of research that is important as opposed to the metric score of the title that it’s published in |
| Look at the **value and impact** of all research outputs |
| Review their use of metrics and use a **variety of measures** to assess researchers and their outputs |
## Leiden Manifesto (2015)

<table>
<thead>
<tr>
<th>Quantitative evaluation should support qualitative, expert assessment</th>
<th>Measure performance against the <strong>research missions</strong> of the institution, group or researcher</th>
<th>Protect excellence in <strong>locally</strong> relevant research</th>
<th>Keep data collection and analytical processes open, <strong>transparent</strong> and simple</th>
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<tbody>
<tr>
<td>Allow those evaluated to <strong>verify</strong> data and analysis</td>
<td>Account for <strong>variation</strong> by field in publication and citation practices</td>
<td>Base assessment of individual researchers on a <strong>qualitative judgement</strong> of their portfolio</td>
<td>Avoid <strong>misplaced concreteness</strong> and false precision</td>
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<td>Recognize the <strong>systematic effects</strong> of assessment and indicators</td>
<td><strong>Scrutinize</strong> indicators regularly and update them</td>
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The Metric Tide (2015)

**Robustness** – metrics should be based on the best data available

**Humility** – both qualitative and quantitative measures should be used

**Transparency** – the methods used to calculate metrics should be open and transparent

**Diversity** – metrics need to take into account differences in career stage and discipline

**Reflexivity** – metrics should be responsive to change
Responsible metrics

- Quantitative and qualitative
- Openness
- Quality
- Range
- Review
Supporting researchers with responsible metrics
Supporting researchers

- Practical support
- Advice
- Advocacy
- Sign your name
Learn more about RESPONSIBLE METRICS with our Research Support Handy Guide


Check out our other guides here: bit.ly/RS_HandyGuides