Measurement matters

*If we can tell the good research from the bad:*

- Researchers can build on high quality work and pursue promising directions
- HEIs can appoint and promote good researchers, support good departments
- Funders and governments can benchmark performance and fund high quality research
- Publishers can develop new products and services and improve existing ones

…and if we can put numbers on it, we can be more objective in our decisions!
For researchers, quality = publishing
Metrics everywhere!
The Times Higher Education World University Rankings 2015-2016 list the best global universities and are the only international university performance tables to judge world class universities across all of their core missions - teaching, research, knowledge transfer and international outlook.

World University Rankings 2015-2016

- Rank 1: California Institute of Technology, United States of America
- Rank 2: University of Oxford, United Kingdom
The UK punches above its weight as a research nation

While the UK represents just 0.9% of global population, 3.2% of R&D expenditure, and 4.1% of researchers, it accounts for 9.5% of downloads, 11.6% of citations and 15.9% of the world’s most highly-cited articles. Amongst its comparator countries, the UK has overtaken the US to rank 1st by field-weighted citation impact (an indicator of research quality). Moreover, with just 2.4% of global patent applications, the UK’s share of citations from patents (both applications and granted) to journal articles is 10.9%.
Research Excellence Framework

The Research Excellence Framework (REF) is the new system for assessing the quality of research in UK higher education institutions.

The results of the 2014 REF were published on 18 December 2014.

The research of 154 UK universities was assessed. They made 1,911 submissions including:
- 52,061 academic staff
- 191,150 research outputs
- 6,975 impact case studies

The overall quality of submissions was judged, on average to be:
An alternative to REF2014?

Can the research excellence framework run on metrics?

An Elsevier analysis explores the viability of a ‘smarter and cheaper’ model

June 18, 2015

By Paul Jump  Twitter: @PaulJump
NEW CUYAMANA

Population  562
Ft. above sea level  2150
Established  1951

TOTAL  4663
Research evaluation

As a world-leading university, Imperial College London seeks to enable our staff to research and teach at the very highest level within a challenging, supportive and outward-looking environment.

The College is committed to ensuring that our procedures for assessing the achievements of all staff are fair, transparent, and robust.

This is an area of College culture that we aim to keep under constant review and one where we are determined to make further improvements.

The Richardson review

The 2015 Richardson review on “Application and Consistency of Approach in the Use of Performance Metrics” identified the principle of a transparent and robust profile of activities - including, for example, research, teaching, mentoring and citizenship - showing a thoroughly evidence-based way in hiring and promotion decisions at Imperial.

Work to implement this review is ongoing and will mesh with the action plan that is being formulated following December 2016 of the report on our institutional culture.

The Declaration on Research Assessment

As of January 2017, Imperial is a signatory of the San Francisco Declaration on Research Assessment (DORA).
“I have asked HEFCE to undertake a review of the role of metrics in research assessment and management. The review will consider the robustness of metrics across different disciplines and assess their potential contribution to the development of research excellence and impact...”

David Willetts, Minister for Universities & Science, Speech to Universities UK, 3 April 2014
The Metric Tide

Report of the Independent Review of the Role of Metrics in Research Assessment and Management

http://www.hefce.ac.uk/rsrch/metrics/

http://www.responsiblemetrics.org
The Metric Tide

Headline findings (a selection)
Across the research community, the description, production and consumption of ‘metrics’ remains contested and open to misunderstandings.
Peer review, despite its flaws and limitations, continues to command widespread support across disciplines. Metrics should support, not supplant expert judgement.
Inappropriate indicators create perverse incentives. There is legitimate concern that some quantitative indicators can be gamed, or can lead to unintended consequences.
Indicators can only meet their potential if they are underpinned by an open and interoperable data infrastructure.
Our correlation analysis of the REF2014 results at output-by-author level has shown that individual metrics cannot provide a like-for-like replacement for REF peer review.
Responsible metrics

Responsible metrics can be understood in terms of:

- **Robustness**: basing metrics on the best possible data in terms of accuracy and scope;
- **Humility**: recognizing that quantitative evaluation should support – but not supplant – qualitative, expert assessment;
- **Transparency**: keeping data collection and analytical processes open and transparent, so that those being evaluated can test and verify the results;
- **Diversity**: accounting for variation by field, using a variety of indicators to reflect and support a plurality of research & researcher career paths;
- **Reflexivity**: recognizing the potential & systemic effects of indicators and updating them in response.
The community needs a mechanism to carry forward this agenda. We propose a Forum for Responsible Metrics, to bring together key players to work on data standards, openness, interoperability & transparency.
Annex A

UK Forum for Responsible Research Metrics – aims and objectives

This paper sets out the aims and objectives of a proposed Forum for Responsible Research Metrics, seeking to position its work alongside that of other initiatives, and offering suggestions for possible membership, mechanisms for action, and outputs.

Background

In July 2015, the Independent Review of the Role of Metrics in Research Assessment and Management (‘The Wilsdon Review’) published its final report, The Metric Tide.¹

The report’s central observation was that the metrics agenda is growing in importance in the UK and globally, with increased pressure on HEIs, researchers, funders and policymakers to develop effective and appropriate strategies for using metrics in the management and assessment of research. Alongside this, the report found widespread evidence that the description, production and consumption of metrics remains contested and open to misunderstandings, with a wide mixture of positive and negative effects noted, and legitimate concerns raised over gaming of metrics and a lack of transparent, open and interoperable data infrastructure to support existing and new metrics systems.

As a way forward, the report proposed a new agenda for responsible metrics as the basis for developing appropriate and intelligent uses of quantitative indicators in the governance, management and assessment of research. Responsible metrics can be understood in terms of the following...
Forum for Responsible Research Metrics

- Partnership between HEFCE, RCUK, Wellcome, Jisc and Universities UK
- Chaired by David Price, UCL Vice-Provost for Research
- Met in December 2016 and May 2017
- Focus on:
  - Infrastructure improvements (standards, interoperability, coverage etc.)
  - Culture change (reducing focus on ‘bad’ metrics, understanding behaviour)
  - REF (but not just REF!)
- Action plan
- Town Hall meetings
- Notes and papers to be published very soon!
Thank you for listening

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