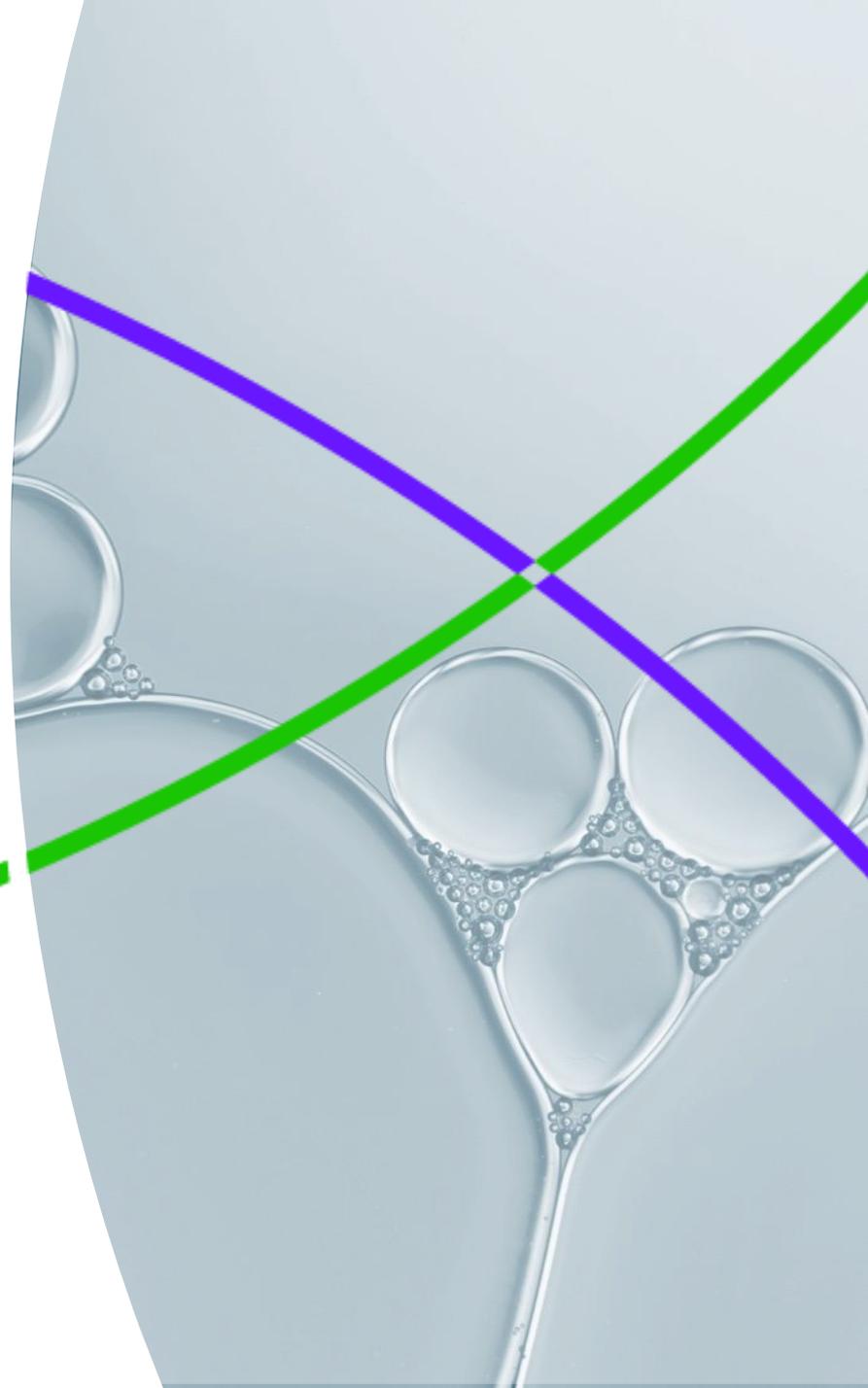


Quality and Impact in a Changing World

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Editor-in-Chief, Web of Science
Beijing, 30th October 2018



Outline

- My background
- What do we mean by quality?
- What do we mean by impact?
- How has this changed over time?
- How can Web of Science help improve the quality and impact of your journals?

My background

- ❖ BA Hons, Chemistry, University of Oxford
- ❖ PhD, Molecular Genetics, Imperial College
- ❖ EU-funded Marie Curie post-doctoral fellowship, TIGEM, Milan
- ❖ Wellcome Trust-funded Principal Investigator, KCL
- ❖ Editorial Director, BioMed Central
- ❖ Publishing Director, Open Access, Nature Research



Imperial College
London



What do we mean by quality?

The following are essential components of **research quality**:

- ❖ The underlying hypothesis must be scientifically valid
- ❖ Experimental design
 - appropriate methodology
 - appropriate sample set (input)
 - appropriate controls
- ❖ Quality of the data set (output)
 - size of data set
 - completeness of the data set
 - clarity/ambiguity of the data set
- ❖ Are the conclusions supported by the results?
 - cherry picking
 - appropriate statistical analysis
 - acknowledgement of context of surrounding literature

How can editors help promote quality?

Editors could consider the following to improve the **quality of research articles**:

- ❖ Ask authors to make underlying data available
 - reproducibility
- ❖ Publish negative results
- ❖ Minimise (unconscious) bias
 - e.g. double-blind peer review
- ❖ Promote accountability of peer reviewers
 - e.g. transparent or open peer review
- ❖ Improve transparency of editorial decision-making
- ❖ Improve clarity of language

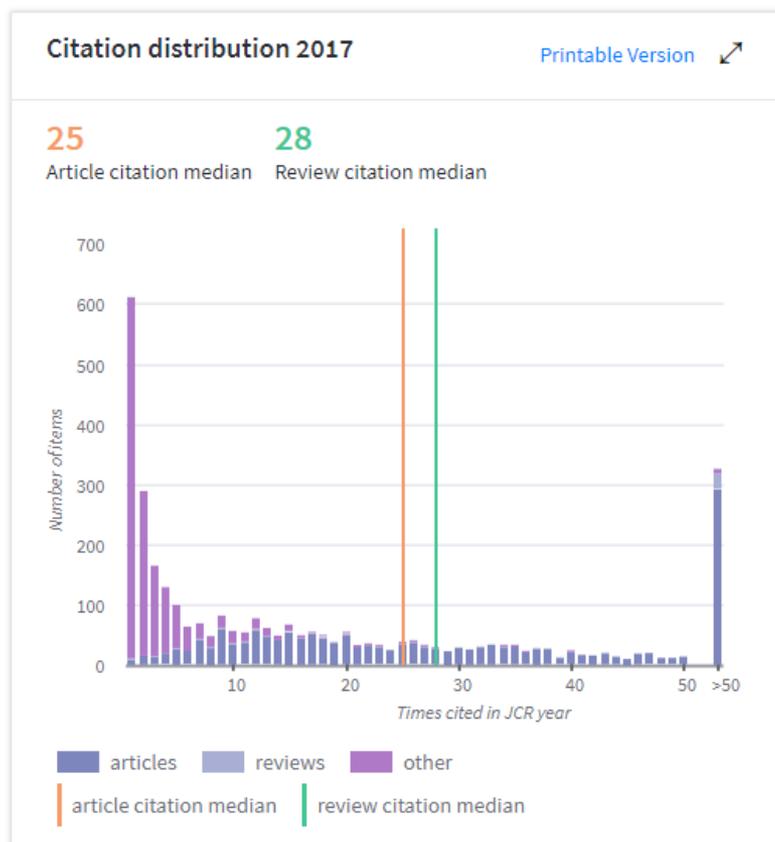
What do we mean by impact?

The JIF is a journal level metric and should not be used as an indicator of impact for individual articles or researchers

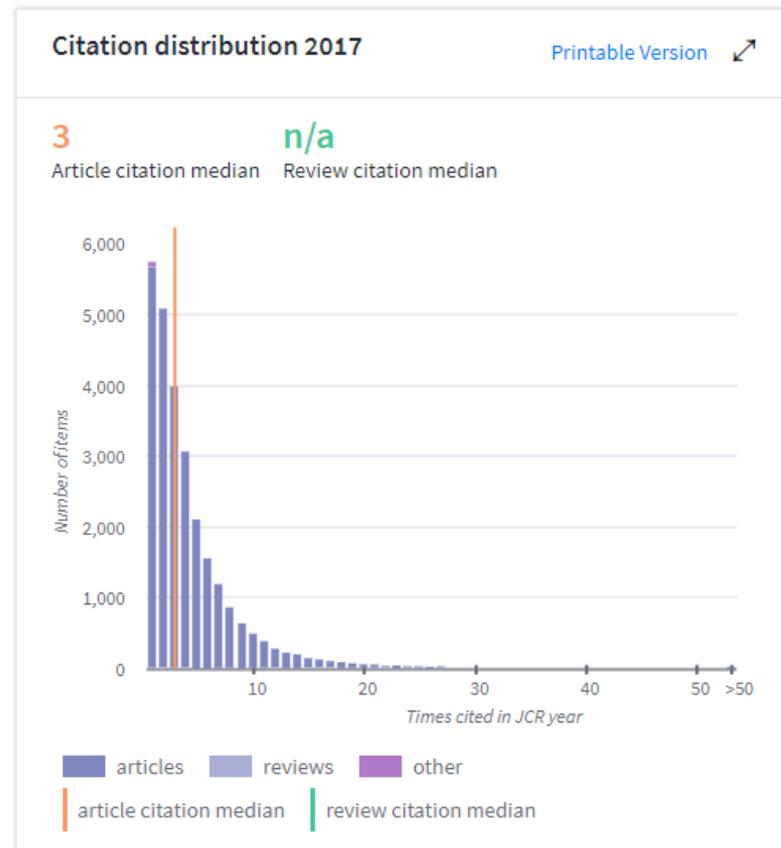
- ❖ The most impactful research changes our fundamental understanding of a field or opens up new paths of investigation
- ❖ Citations are often used as a proxy for measuring impact
- ❖ Journal Impact Factor (JIF) is a ratio of citations and citable articles published in a defined time-frame

$$2017 \text{ JIF} = \frac{\text{Citations in 2017 to items published in 2015 and 2016}}{\text{Number of citable items published in 2015 and 2016}}$$

Journals display broad citation distributions at article level



JIF ~ 40



JIF ~ 4

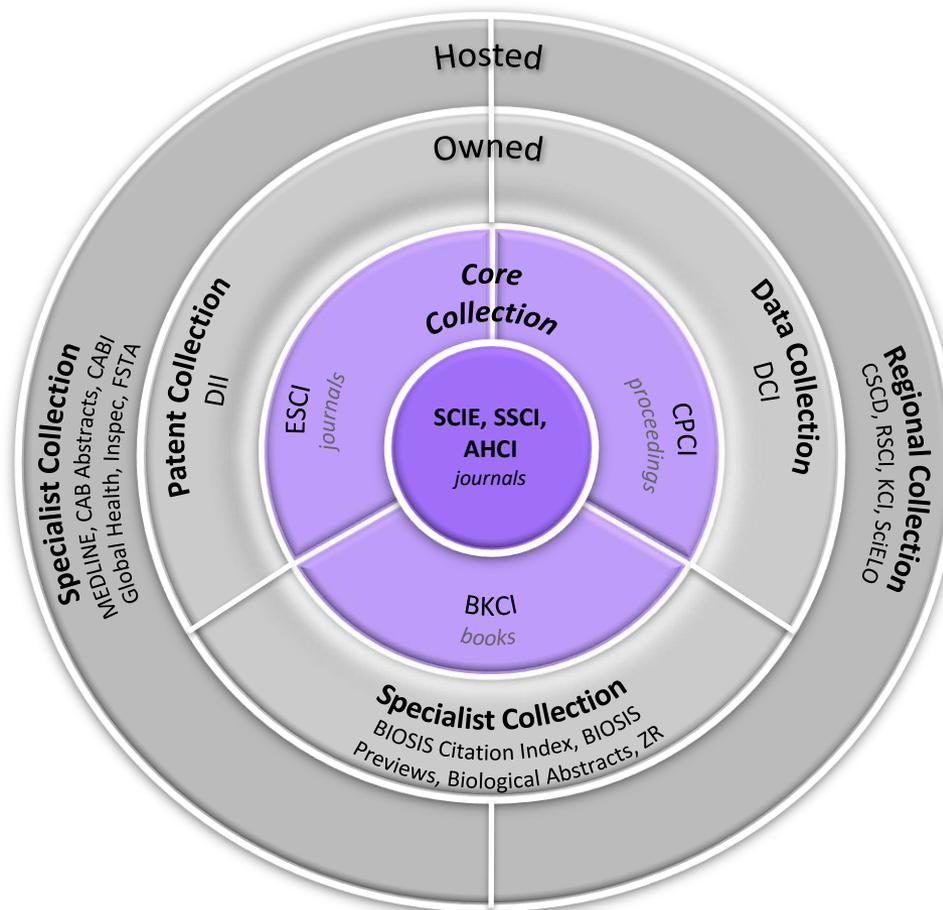
How has this changed over time?

Impact, without the foundation of quality, is meaningless

- ❖ **Scholarly publishing is built on trust**
 - As researchers, we need to be able to trust what we read
 - As authors, we need to be able to trust that we will be treated fairly by reviewers and editors
 - As editors, we need to be able to trust the data provided by authors and the assumed identity and motivation of peer reviewers
- ❖ Peer review is relatively new but is now an essential part of scholarly publishing
- ❖ Current global incentive system is overly reliant on the JIF and can encourage behaviour that abuses this system of trust

The Web of Science Core Collection

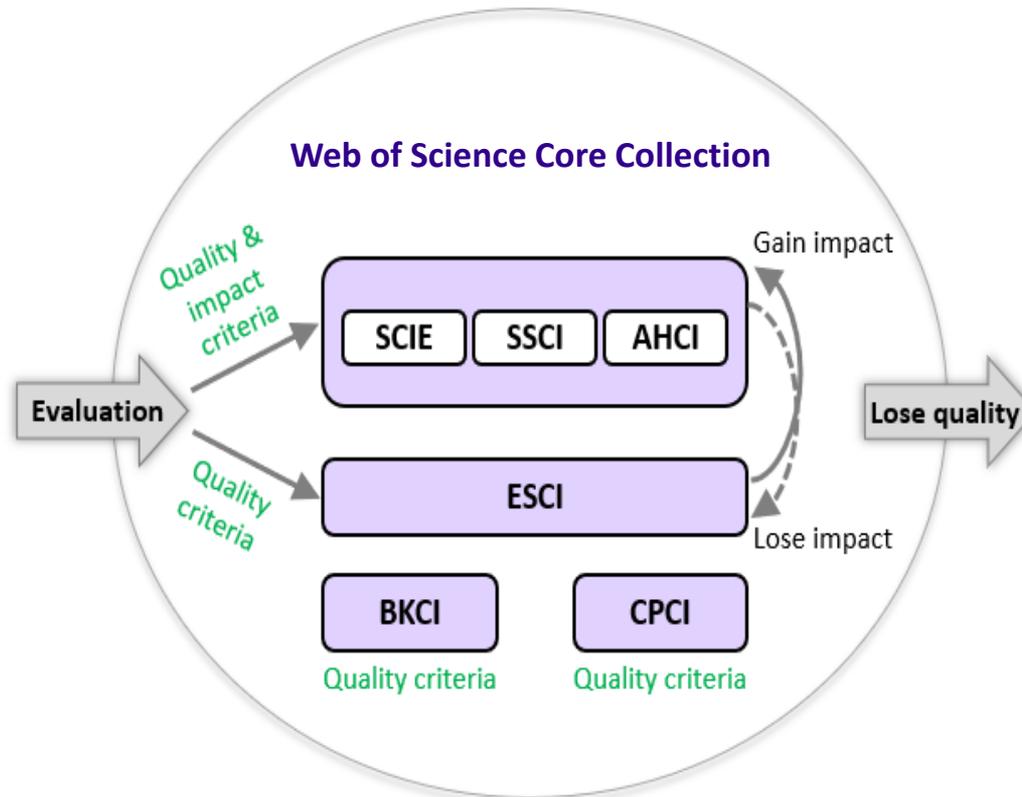
At the heart of the Web of Science Platform



The Web of Science Core Collection is a trusted, high quality white-list of journals, books and conference proceedings

The Web of Science Core Collection

Curated by an expert team of in-house Web of Science editors



Journals

SCIE*: clinical, natural and applied sciences
 SSCI*: social sciences
 AHCI: arts & humanities
 ESCI: all disciplines

Books

BKCI: all disciplines

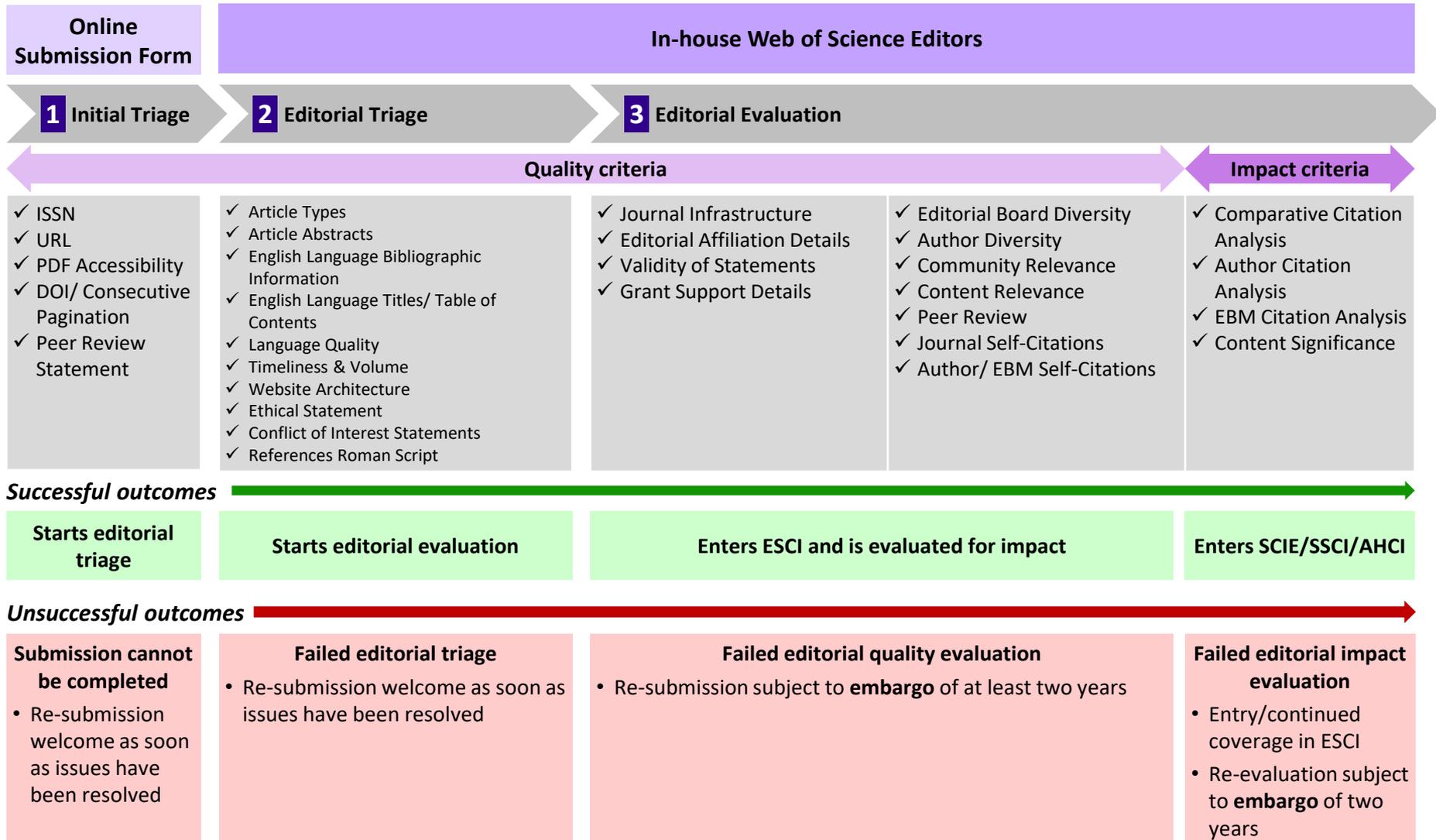
Conference Proceedings

CPCI: all disciplines

*: journals in these collections are awarded a JIF

The Web of Science Core Collection

Selecting for quality and impact through our journal evaluation process

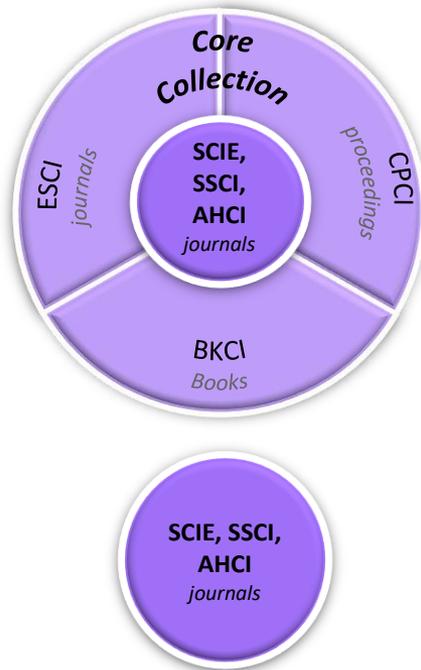


The Web of Science Core Collection

Summary

We use a single set of criteria to evaluate journals

These are divided into 'quality' and 'impact' criteria. Journals that meet the 'quality' criteria are indexed in the Web of Science Core Collection. Journals that meet the additional 'impact' criteria enter SCIE, SSCI or AHCI.



Web of Science Core Collection

Allows search and discovery of a trusted set of titles with comprehensive coverage in terms of subject, region, and medium (journals, books, proceedings).

SCIE, SSCI and AHCI

For those who want to restrict their search to the most impactful and high quality journals.

Our collections are dynamic and subject to continuous curation to ensure journals are in the appropriate collection

How can Web of Science help improve the quality and impact of your journals?

Strive to meet the Web of Science quality criteria and impact will follow

- ❖ Inclusion in Web of Science promotes:
 - visibility
 - trust from research community
 - reward from 'research office'
- ❖ We are investigating the introduction of additional metrics and/or indicators and/or rankings to help mis-use of JIF

Thank you for your attention

Nandita Quaderi
Editor-in-Chief Web of Science