In brief: Evaluating scientific quality
How can scientific quality be evaluated better in the future? The science system suffers several crises. The change towards Open Science happening now is a perfect time to take stock of what went wrong and how to reform the system.

The science system suffers several crises.

Experiment

Which features make an article appear “scientific”? Decide for yourself. Which features let a text appear “scientific” to you? Find out by participating in this experiment by ZBW's Web Science research group.

http://exb.zbw.eu/
Result

**ZBW researches in altmetrics**
Scientific quality is evaluated by peer review before, by peer resonance after publication. This method has reached its limits because often only citation frequency is used for evaluation.

The ZBW research in altmetrics proposes that peer review and peer resonance should be taken into account in evaluating scientific quality. It also sees the resonance in social media as a valuable addition to give a more holistic assessment of quality. In contrast to citations, which refer mainly to scholarly publications and measure the impact on other authors, altmetrics also reflect the usage of scientific content by other audiences, such as politics, media or interested laypeople. Altmetrics enables the performance assessment in science to be open and transparent, thus promoting Open Science.

**About *metrics**
The main focus of “*metrics” is on gaining a deeper understanding of alternative indicators for measuring scientific performance.

Here the questions are:
- What is the quality of the data on which these alternative indicators are based?
- How valid and reliable are these indicators?
- How do researchers and research funders perceive and assess which indicators?
- How far are these indicators able to map discipline-specific differences from astronomy to zoology?

The project partners are the Head Office of the GBV Common Library Network, the Goettingen State and University Library and the GESIS – Leibniz Institute for the Social Sciences. At the ZBW, the project is headed by Professor Isabella Peters, professor of Web Science.

**What is altmetrics?**
Altmetrics is composed from the words alternative and metrics. In academic publishing they describe indicators that try to index and to quantify a broad range of reactions to a scholarly publication on the web. They measure actions that use a document on the web (access and download), review and link it on websites of scientific institutions or news portals, discuss and like it in (micro)blogs or social networks, or reference it in web-based reference management systems like Mendeley.

**What is an impact factor?**
The impact factor reveals how often papers in a journal have been cited by other papers. For this, the literature lists of papers indexed in the database Web of Science are analysed. A count is made how often the papers in a journal are cited within a given year. The number of citations is then divided by the number of papers in the journal. The idea behind the impact factor is that good papers are cited more frequently than bad papers. The US American company ISI (institute for Scientific Information) compiles the impact factor and publishes it through the database Journal Citation Reports (JCR). It provides impact factors only for journals listed in the Web of Science database.
References:


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https://www.youtube.com/watch?v=v2ba-FyHkFaw

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