Altmetrics - on the way to the "economy of attention"?

Feasibility study Altmetrics for the German Ministry of Science and Research (BMBF)

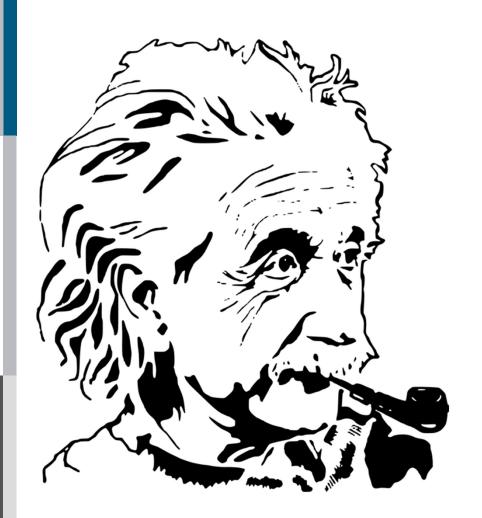Dr. Dirk Tunger | September 4th, 2019 | ISSI-Conference, Rome

Agenda

- **Introduction**

- **Design of the Altmetrics Feasibility Study**

- **Results of the Study**

- **Example for the use of Altmetrics in foresight**

- **Conclusion / Discussion**

Introduction

It can be assumed that a scientist publishes not only because of the progress of knowledge, but also to **enhance his / her reputation**: he does not necessarily have to publish much, but with his publications he has to achieve the highest possible **perception** in order to achieve the **best possible reputation**.

Attention migth be a proxy for a currency in science.

Introduction

For every scientist, it is an expression of honor if his or her work is read, assessed as relevant and quoted by a colleague. This applies to both to the classical publishing process and to web-publications:

"In the media society it is no longer enough to be rich, you also have to be prominent" (Franck, 1996).

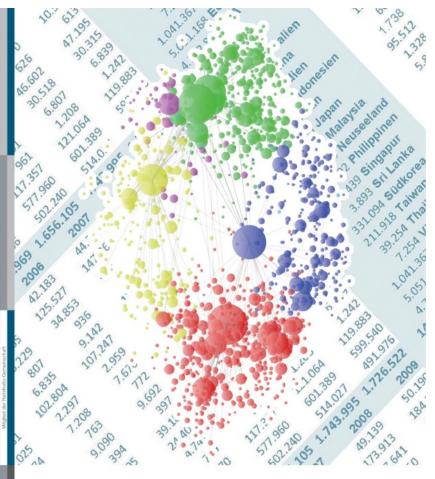# Feasibility Study Altmetrics: Aim of the study & Key questions

To what extent and in what way does it make sense to use altmetrics in science policy and science management?

- What to consider when using the data?

- What can the data be used for?

- Where are bottlenecks?

Tunger, Meier & Hartmann, 2017:
Altmetrics Feasibility Study
http://juser.fz-juelich.de/record/851696
http://hdl.handle.net/2128/19648

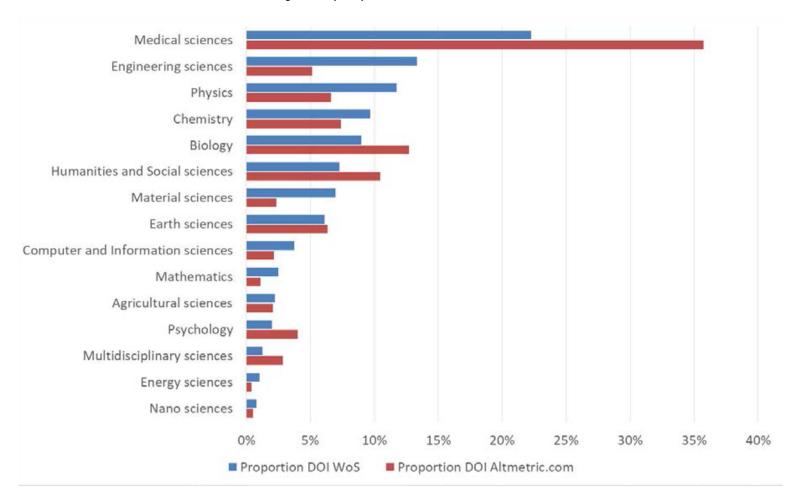**Altmetrics Feasibility Study**

study design

Quantitative analysis

	2013	2014	2015
WoS publications with DOI	1.586.101	1.625.593	1.635.465
Publications with Altmetric.com feedback	529.392	596.484	690.535
Share	33,4 %	36,7 %	42,2 %

- ✓ Coverage of the DOIs of German science organizations on Altmetric.com

- ✓ Comparison of the share of disciplines in WoS and on Altmetric.com

- ✓ Distribution of the old metric perception in the individual disciplines

Quantitative analysis

Comparison of the proportions of the disciplines in WoS and on Altmetric.com
(based on DOIs, 2013); sorted by the proportion of DOIs in WoS (red)

Expert interviews

- Question block 1: Personal perspective

- Question block 2: Fields of Application in Science Policy and Management

- Question block 3: future perspectives and development opportunities

Expert interviews

- Question block 1:
  Personal perspective

- How do you assess the development status of Altmetrics?
- Are there any players who are benefiting from it now or in the foreseeable future?
- What conclusions and insights can be drawn from Altmetrics?
- What role do data aggregators play in this and how can they contribute to knowledge gain?
- What impact do limitations / errors in data processing (doublets, double counts, cleanups, …) have on the meaningfulness?

Expert interviews

- Question block 2: Fields of Application in Science Policy and Management

- Do you know of any research policy applications in which Altmetrics is used for useful purposes?
- What are the bottlenecks that stand in the way of a broader application of Altmetrics?
- Which data sources are particularly suitable for science management or research policy?
- In what form could Altmetrics be used in research policy? How can these be combined with qualitative approaches or do they also have a qualitative component?

Expert interviews

- Question block 3: future perspectives and development opportunities

- How will platforms develop - will Altmetrics gain in importance and the "benefit" of these new sources is only a question of time?
- What are your expectations for the application of Altmetrics in 5 years? What could they do in the science and innovation system?

Study design

interview partners

Dr. Dr. habil. Lutz Bornmann
Headquarter of Max Planck Society (MPG)

Dr. Martina Franzen
Wissenschaftszentrum Berlin für Sozialforschung (WZB)

Prof. Dr. Stefanie Haustein
School of Information Studies at University of Ottawa

Prof. Dr. Isabella Peters
Leibniz-Informationszentrum Wirtschaft (ZBW), Kiel

Dr. Jürgen Wastl
Head of Research Information at University of Cambridge

JÜLICH
FORSCHUNGSZENTRUM

Statements from the expert interviews

"...high expectations have been consolidated [with regard to the developmental state]."

"...window into another world beyond the citation system and the science community."

"...no one should receive funding because his post was (re-) tweeted 5,000 times."

Politics need to create an overarching and binding framework for application...

...but should refrain from application regarding research evaluation as long as the scientific knowledge gained is yet to reach a sufficiently advanced stage.

Statements from the expert interviews

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Scientific reflection, theory development and in-depth analyses are an integral and indispensable part of the process.
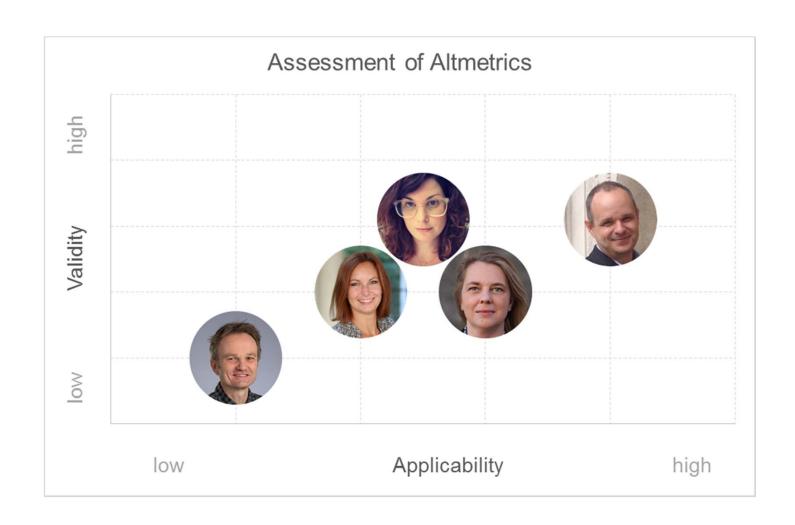
Learning through trial and error is a gradual opening of the "black box".

Altmetrics can show tendencies towards societal impact.

"An opening and change of the scientific "reward system" is necessary."

Summary of the interviews

Bottlenecks / Open questions

- Do data sources in Altmetrics adequately represent the science system although they correlate well e.g. with citation data like Mendeley does?

- How clean are the data? What happens in case of deletions?

- Altmetrics functions more according to the laws of mass media rather than the laws of science. What significance do journalistic selection criteria ("news factors") have in this context for topics?

- Altmetrics are much more complex than bibliometrics, because they have e.g. more than one different document types. What significance and meaning do the different types of sources have in the interpretation?

- What is the connection between Altmetrics and bibliometrics? Can reputation be transferred from science to Altmetrics?

- Are Altmetrics able to characterize the transfer of knowledge from science to society? Which types of sources would be able for this ?
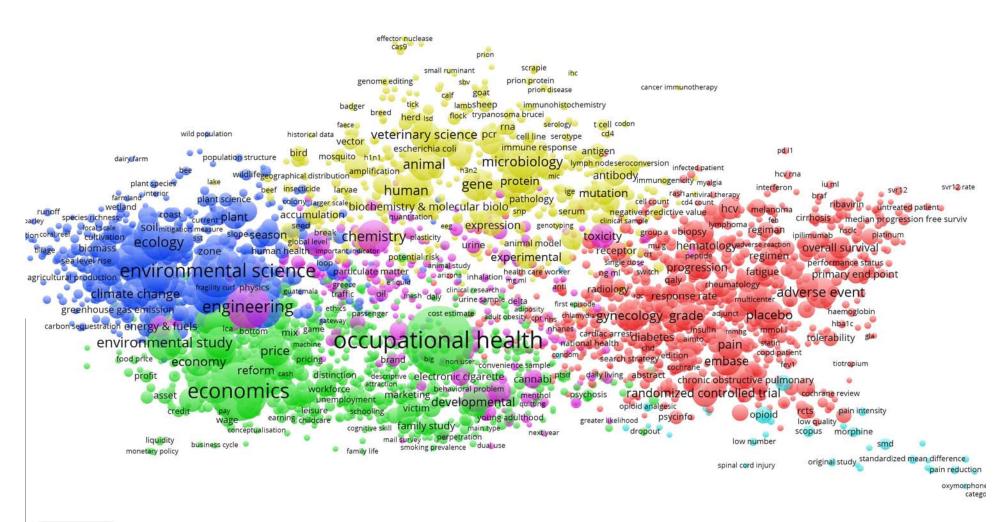
Altmetrics in innovation support

„ The digital transformation will also affect science, including the social sciences and futurology, in a sustainable manner. The evaluation of mass data (big data) opens up new methodological approaches. New methods and algorithms will be used to record significant changes, new effects and emerging trends from large amounts of data. " (p. 10)

Subjects from scientific papers 2015 covered in policy papers
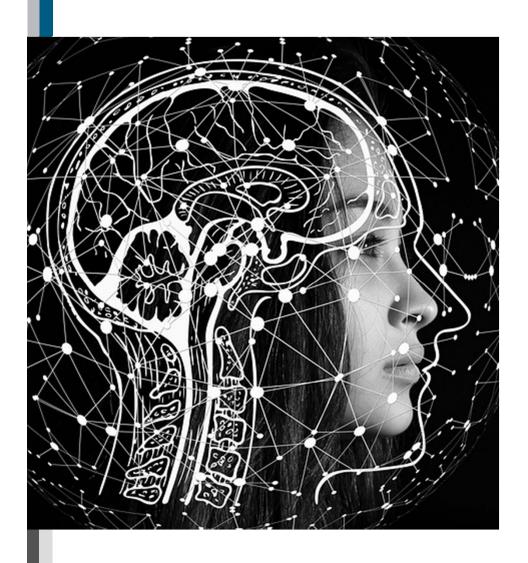
Conclusion

Altmetrics represents communication, which is very important in science and which increasingly goes ahead scientific journals.

This is where we should start and think about **incentives** in the **scientific reward system** for how new forms of communication can be honored in science.

Conclusion

Franck calls this development the "**economy of attention**" (Franck, 1996). Although this approach cannot be applied identically to science, this can also be described by the term "**visibility**".

Conclusion

The more media, society and science move together, for example through the **use of social media in science**, the more the maxim described by Franck is transferred to science.

We can call this "**digitalisation of science communication**".

Thank you!

Dr. Dirk Tunger

d.tunger@fz-juelich.de

Project Management Jülich
Forschungszentrum Jülich GmbH
Centre of Excellence Analyses, Studies, Strategy

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