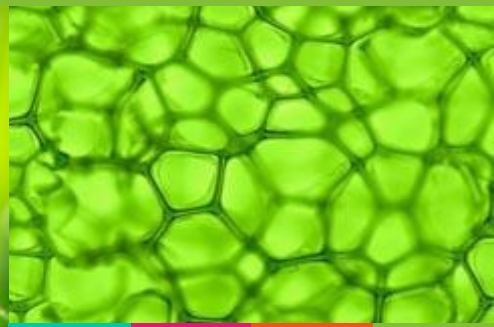
Barriers in Open and responsible research: results from the evaluation of openness of operational culture in Finland 2019

PhD Pirjo-Leena Forsström, Development Director, CSC



OUTLINE

- Background: evaluations of open science in Finland since 2015
- Evaluation method and statistics
- Barriers 2016
- Barriers 2019
- Conclusions

KEY QUESTIONS:

- Where and how high are the fences?
- How could we help the researchers?

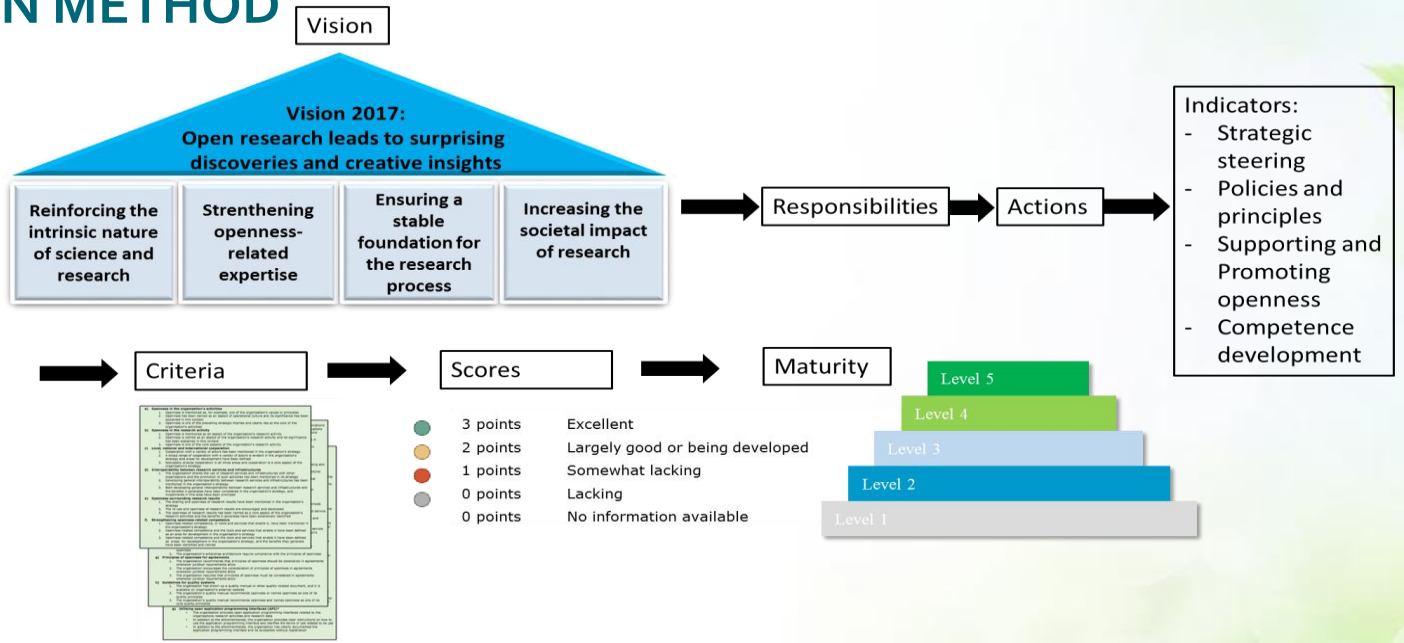
Photo: Gene Divine, Pixabay
Free for commercial use
No attribution required

BACKGROUND

- Finlands' Ministry of Education and Culture started 2014 an initiative to advance Open Science and Research (ATT). Targets were set in a roadmap, which defined certain objectives and actions as well as the responsibilities of different stakeholders in policy implementation.
- The maturity of open operational culture has been evaluated:
  - 2015 universities, universities of applied sciences and research institutes
  - 2016 universities, universities of applied sciences and research institutes , university hospitals, research-funding organisations. Included a comparison with selected European research-funding organisations, and a questionnaire on barriers for open science and research.
  - 2017: research institutes and research-funding organisations, evaluation of Opening Academic Publishing.
  - **2019: Atlas of Open Science and Research in Finland** Evaluation of Openness in the Activities of Higher Education Institutions, Research Institutes, Research-funding organisations, Finnish Academic and Cultural Institutes abroad and Learned Societies and Academies in Finland (in publication). Included a questionnaire on barriers and development needs for open science and research.

    Available at: https://openscience.fi/maturity-evaluation
  - ALL evaluations availabe at: https://avointiede.fi/sites/avointiede.fi/files/evaluation2019supplement006.xlsx

EVALUATION METHOD



Evaluation

- 1st phase: information from organisations websites
- 2nd phase: request for corrections and additional information to organisations + questionnaire of barriers to research heads

BARRIERS 2016

39 organisation answers

	Not significant	Some significance	Moderately significant	Significant	Most significant
Quality issues	0	6	9	9	15
Uncertainties in fulfilling legal demands	1	3	12	10	12
Availability (how to find and access data)	2	5	8	10	6
Best practices and guidelines not existing	2	8	8	7	5
Unclear responsibilities	2	3	11	9	4
Costs of being open	2	4	5	9	6
Lacking services or awareness of services	2	5	5	7	3
Insufficient funding and resources	2	3	6	5	13

Quality of processes, data, metadata, methods

Copyright law, ownership issues, non-existing guidelines

Budgetary cuts
Dismissal of personnel

BARRIERS 2019

71 research heads in organisations

Diverse disciplines: jurisprudence, social psychology, medical sciences, political science, veterinary science, future studies, natural sciences…

	Not significant	Some significance	Moderately significant	Significant	Most significant
Insufficient training and instructions	7	13	19	16	6
Uncertainties in fulfilling legal demands	2	6	18	31	14
Descipline-specific differences	7	11	19	14	11
Researchers have to fulfil disproportionate standards	5	6	9	28	17
Conflicting incentives	5	10	13	22	16
Obstacles in open research communication	12	21	11	8	6
Merit system	9	7	18	17	11
Insufficient funding and resources	4	6	16	23	17

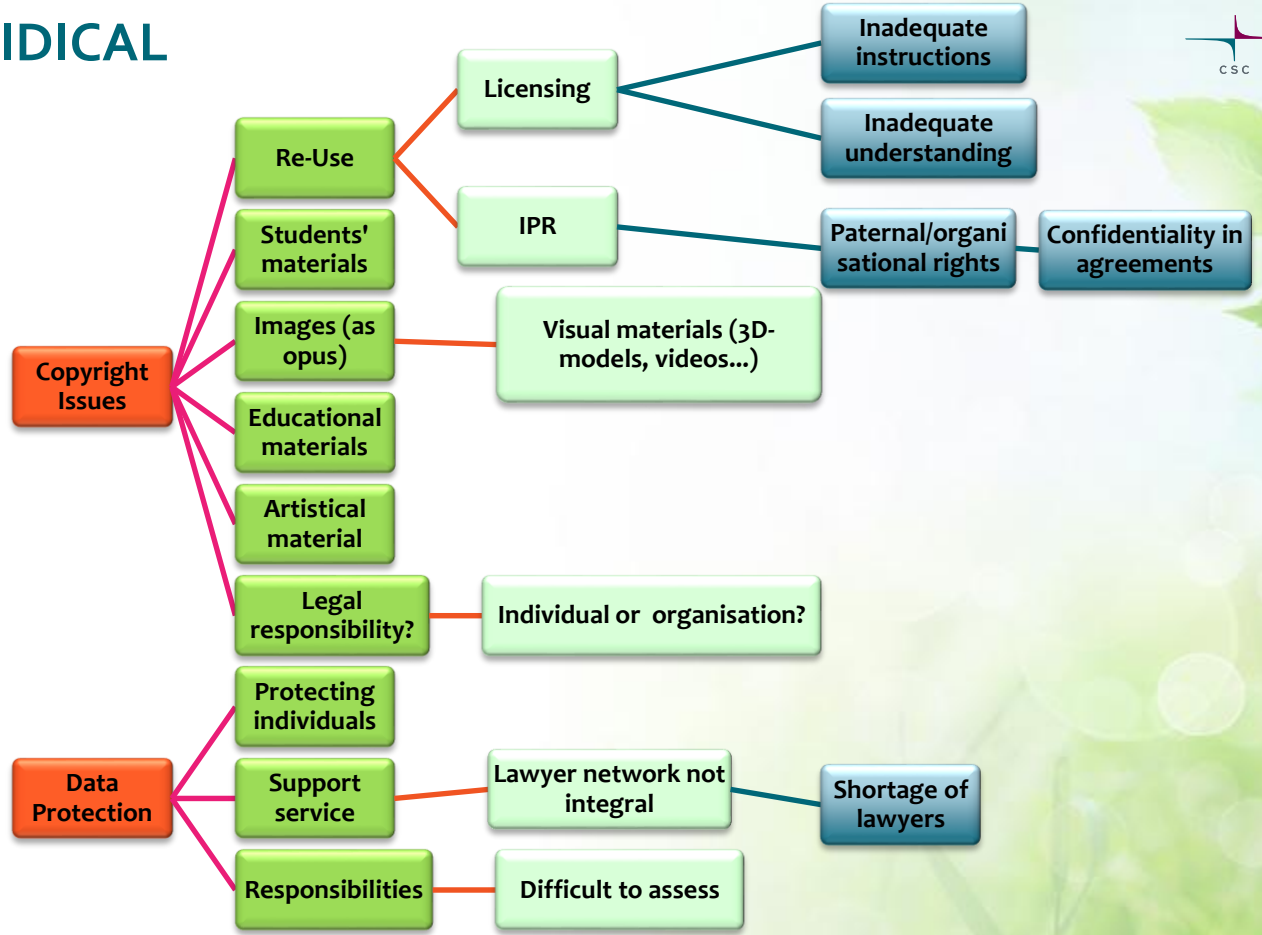
1.

2.

4.

3.

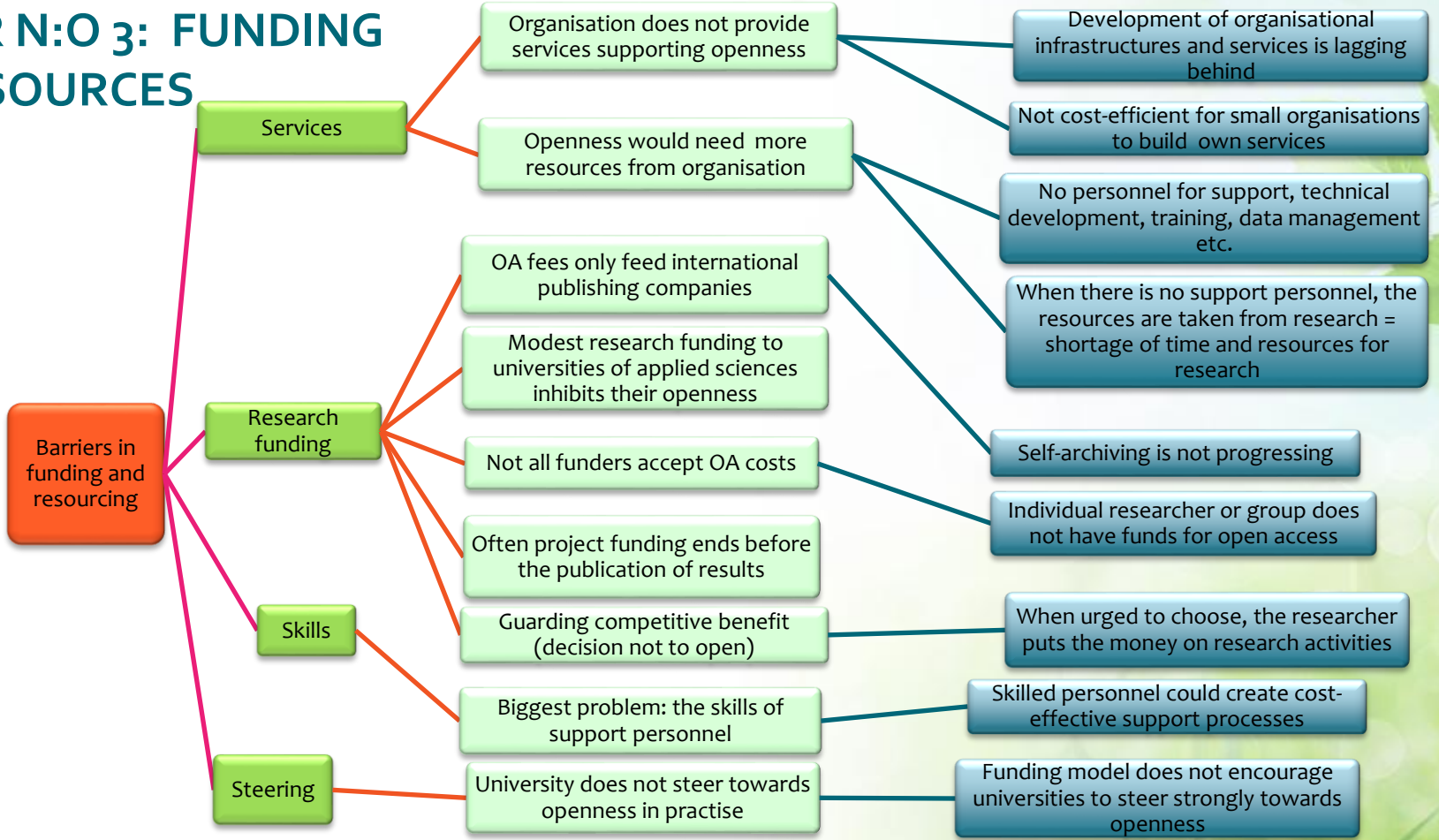
BARRIER N:O 1: JURIDICAL UNCERTAINTIES



BARRIER N:O 2: DISPROPORTIONATE STANDARDS FOR RESEARCHERS TO FULFIL

	Comments
Not enough support	Time is the most valued asset for researchers, it should not be wasted to tackle ever-changing demands => Sufficiently resourced and coherent support processes by skilled personnel for researchers
Merit	• The level of openness to get scientific merit should be clear (where to publish and how) • Researchers do not get extra merit for collecting and creating extensive and significant data sets
Managing demands	• Research funders' demands do not always match research practices • Demands change fast • Different demands of organisations, unclear guidelines • The bureaucracy for researchers should not increase, but decrease
Resources	Small universities have limited resources to support openness

BARRIER N:O 3: FUNDING AND RESOURCES



BARRIER N:O 4: CONFLICTING INCENTIVES

	Comments
Rationale for publishing	• Existing models for funding and merit stimulate publishing behind a paywall. • **Researchers should have proper education on choosing open high impact quality journals and avoiding predator journals.** • University does not have clear incentives for OA publishing for disciplines not having high quality OA journals. • **Artificial quantitative metrics for funding (like JUFO) is a tricky boundary condition, and makes collaboration and OA publishing somewhat unwelcome. Quantity replaces quality.** • **Changes are possible, but they demand strong international collaboration and pressure.** • **Collaboration with publishers needed.** • **We are lacking clear shared intent on how to proceed.**
No alternative metrics for data and publication sharing	• Demands for just opening data sets very quickly do not encourage the collection of big and deep high quality data sets. • Recognizing the amount of publications stimulates the avoidance of open practices, splitting research results and seeking statistically significant result with questionable research methods. • Pushing for recommendations for responsible evaluation of researchers nationally and internationally. • **Defining sensible metrics for research work.**
Discipline-specific differences	• Professional and popular journals are not appreciated. • Some disciplines still lack high quality OA journals

No obstacles

- Open research communication
- Discipline-specific differences

Moderate obstacles

- Training and instructions
- Merit system

Conclusions

- Organisations with mature open operational culture:
  - Started early on competence development (personnel, students, researchers)
  - Understand what openness means to research process
  - Have clear policies and guidelines
  - Have support personnel for open science (crucial)
- Improvement needed:
  - Hear the voice of researchers
    - Administrative burden
    - Conflicting incentives
  - Strenghten support network for researchers (especially home organisations)
  - Strenghten peer networks

Suggestions for research funders

1. **Set a nationally optimal target level.** Invest in discussing and communicating the perceptions of the content and aims of open science policies.

2. **Reform researcher evaluation, merit system and incentives to promote open culture.** One way to proceed in this immediately and in a responsible way is to focus on the openness in the research strategy instead of the outcomes when evaluating open science practices ex-ante (what is the proposed strategy for openness in the research plan and research funding application, etc.) or ex-post (what strategy for openness in research was followed). Value all achievements at different stages of the research process, not only openly accessible outputs. Applauding all achievements demonstrates that success in openness is manifold and achievable. Train evaluators in the evaluation of open science and research practices.

3. **Restructure funding to cover the costs of openness**

4. **Foster global collaboration** (connecting national with global activities (Plan S, EOSC, Nordic EOSC, etc.))

5. **Promote changes for the better** (lighter administrative burden for researchers, strive to keep data protection in research regulation at the same level as in other EU member states. Recast copyright legislation (especially self-archiving).

6. **Review the effect of the funding model, JUFO and artificial quantitative metrics.**

7. **Clarify demands (**no demand without clearly defined benefit).

THANK YOU!
QUESTIONS? COMMENTS?

Contact:
Pirjo-leena.forsstrom@csc.fi

Photo: Phil Hodkinson, Pixabay
Free for commercial use
No attribution required