Towards Open Science: Challenges and Way Forward for European universities

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#OpenScience
#OpenAccess
#ResearchAssessment
EUA : An Introduction

- **Represents** universities and national rectors’ conferences in 48 European countries.

- **Guarantees** the hearing of the European Universities’ independent voice and the decisions that will impact their activities positively.

- **Provides** a unique expertise in higher education and research; it is also a forum for exchange of ideas and good practices among universities.

More information: https://eua.eu
EUA R&I Committees (Sep 19)

Mobilises 137 high-level representatives from 95 universities in 30 European countries

EUA Board
EUA Council

Research Policy Working Group (RPWG)
Paul Boyle
General R&I policy development, ERA, HEu, strategic partnerships, relations with EC-EP

EUA Council for Doctoral Education (EUA-CDE) Steering Committee
Luke Georghiou

Expert Group on Science 2.0/Open Science & High-Level Group on Big Deals
Jean-Pierre Finance

Innovation Ecosystems Expert Group
Peter Haring Bolivar

EUA Energy & Environment Platform (EUA-EPUE) Steering Group
Douglas Halliday
Open Science: Aims, Expectations and Hurdles
Open Science:

Open access to research results

Revise research methods;
New tools

Doing better research:
Transparency, Integrity, Cooperation,…

Renew dialog with society

Scientific Publications

Research Data

Research methods

Fast-track development

Nb researchers

Nb Scientific Fields

Digital transformation

Globalisation

Expectations

Need to publish

Assessment

Pluridisciplinary

Freedom to access and reuse research data

Quality

Cost control

Mastery of science policy

- Career management
- Research funding

Financial constraints
Concentration of the publishing market, oligopolies and financial power:
Search for profit maximization ➔ Control of prestigious journals and large publication databases + Control of the management of the reviewing process + Sales of value-added services
Lack of transparency, particularly in the subscription agreements
Evaluation methods essentially based on bibliometrics (impact factor):
➔ researchers’ appetite for prestigious journals reinforces the major publishers
Regulatory limitations:
Assignment of copyright and long embargo period hinders open archiving, uncertainty among researchers
Limitation of the TDM
Very large heterogeneity of the research population by field:
   difficult to find a consensual publication model
Research data area is still in its infancy and very complex

Why are there so many difficulties?
Transitioning to Open Science
Open Science

Compared to the “closed” nature of the current research system, **Open Science** aims to extend “the principles of openness to the whole research cycle, fostering sharing and collaboration as early as possible thus entailing a systemic change to the way science and research is done.”

Transitioning to Open Science is a **shared responsibility** and requires a **concerted approach** uniting the main actors.

Definition:

FOSTER portal
EUA priorities
The need to address several dimensions simultaneously

- **Promote** institutional and European Open Access policies for research publications and data

- Achieve more **transparency** and greater sustainability in the **scholarly publishing system**: Monitor Institutional policies on OA, Big Deals agreements, Read & Publish Agreements

- Contribute to the development and implementation of **Open Science infrastructures**, e.g. EOSC, research data, FAIR data

- Raise awareness and support universities in reviewing their approaches to **research assessment**
EUA priorities

Promotion of OA

- Monitor OA’s state of development in European universities
  ➔ 3 EUA Surveys on Open Access (2015-2016, 2016-2017, 2017-2018) including:
    - Open Access for research publications (policies, career management, institutional repositories, …);
    - Open Access for research data (policies and practices, Research Data Management);

  ➢ 527 respondents having sent a response at least once.

- Monitor EU initiatives as Openaire and Foster
Institutional Open Access policies (2018)

Source: 2017-2018 EUA Open Access Survey Results

Priorities in OA to publications

- Activities to raise awareness about OA
- Development of additional incentives for researchers to publish their papers OA
- Facilitate open access through suitable national legislative frameworks
- Guidelines providing clarification of legal issues related to linking, sharing and re-using OA content
- Coordinated negotiations with publishers to achieve better contractual conditions
- Legal frameworks requiring transparency of contracts and prices with publishers
- Sharing examples of good practice in developing and implementing institutional OA policies
- Support for creation and/or development of e-infrastructures

Percentage

- Don't know
- Lower priority
- Moderate priority
- Higher priority
Institutional Open Access policies (2018)

Source: 2017-2018 EUA Open Access Survey Results

**OA policy to research publications**

- Yes: 62%
- No, but we are developing a policy: 26%
- No: 12%

**OA policy to research data**

- Yes: 43%
- No, but we are in the process of developing them: 3%
- No: 41%
- Don't know: 13%
EUA priorities

Transparency

- Achieve more transparency and greater sustainability in the scholarly publishing system:
  - 2 EUA's Surveys on Big Deals (2018, 2019)
Transparent and sustainable scholarly publishing system? (2019)

Source: 2019 EUA Big Deals Survey Report

- Data for 31 consortia in 30 countries
- Numbers not including: Article Processing Charges (APCs), consortia other than those participating in the survey and individual institutional contracts with publishers
EUA priorities

Transparency

- Achieve more transparency and greater sustainability in the scholarly publishing system:
  - Need to understand new negotiation models
    Read & Publish Agreements: A survey has been launched on the future of the negotiation models with the support of 24 organisations representing national rector's conferences, national negotiating consortia and libraries.
  - Need to be able to compare the cost of subscriptions (mainly Big Deals) and the cost of APC
Open Science infrastructures

EUA Signatory to the EOSC Declaration

EUA Involved in OSPP
- Open Science skills
- Data culture
- Promotion of the FAIR principles (Findable, Accessible, Interoperable, Reusable)
- Open Access and open standards
- Governance

EUA partners with the FAIRsFAIR EU project (2019-22)
- Foster FAIR data practices in Europe
- Focus on FAIR competences and policies

Source:
- EOSC Declaration
- FAIRsFAIR project
Reviewing research assessment
The European research and innovation landscape is increasingly making research publications and data openly available, creating the need to review academic approaches to research assessment.

At the same time, traditional evaluation methods and digitization reinforce the use of quantitative criteria, and unfortunately all too often biased criteria, such as the impact factor of reviews.

Thus, on the one hand, it is necessary to modify these biased quantitative criteria in order to reduce researchers' appetite for what are called "prestigious journals".

On the other hand, appropriate incentives and rewards will ensure that researchers participate in the process of open access to research.
Can research be evaluated?

Lariviere et al., bioRxiv preprint first posted online Jul. 5, 2016; doi: http://dx.doi.org/10.1101/062109
EUA events and activities

More information:
- EUA Roadmap (June 2018)
- EUA Briefing (April 2019)
- EUA Workshop (May 2019)
- Joint statement with Science Europe (May 2019)
- EUA survey report (October 2019)
- Conference with VSNU (November 2019)
2019 Open Science and Access Survey

Provides a comprehensive and up-to-date overview of the current state of research assessment in European universities, Looks at why and how institutions are reviewing their evaluation practices. Informs and strengthens the discussion on these issues.

Participation
- 260 valid institutional responses (93 from Turkey)
- 32 European countries

Source:
2019 EUA Open Science and Access Survey Report
### Autonomy to develop and implement institutional approaches to research assessment (2019)

<table>
<thead>
<tr>
<th></th>
<th>Careers in research (in %)</th>
<th>Performance of research units (in %)</th>
<th>Internal research funding allocation (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly autonomous</td>
<td>38</td>
<td>44</td>
<td>55</td>
</tr>
<tr>
<td>Mostly autonomous</td>
<td>41</td>
<td>39</td>
<td>35</td>
</tr>
<tr>
<td>Some autonomy</td>
<td>17</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>Low autonomy</td>
<td>4</td>
<td>3</td>
<td>1</td>
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</tbody>
</table>

Number of respondents:

197/197 (careers), 183/183 (research units) and 177/177 (funding allocation)
### Importance of academic activities for careers in research (2019)

Number of responses: between 191-195/197

<table>
<thead>
<tr>
<th>Academic Activity</th>
<th>Don’t know</th>
<th>Unimportant</th>
<th>Of little importance</th>
<th>Moderately important</th>
<th>Important</th>
<th>Very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research publications</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>80</td>
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<tr>
<td>Attracting external research funding</td>
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<td>14</td>
<td>24</td>
<td>24</td>
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<tr>
<td>Research impact and knowledge transfer</td>
<td>8</td>
<td>23</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>Teaching activities</td>
<td>9</td>
<td>25</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>31</td>
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<tr>
<td>Research collaborations within academia</td>
<td>11</td>
<td>23</td>
<td>34</td>
<td>34</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>Research collaborations outside academia</td>
<td>11</td>
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<td>28</td>
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<td>29</td>
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<td>Research supervision activities</td>
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<tr>
<td>Research networking</td>
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<td>32</td>
<td>37</td>
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<tr>
<td>Mentoring activities</td>
<td>7</td>
<td>16</td>
<td>29</td>
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<td>19</td>
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<tr>
<td>Social outreach and knowledge transfer</td>
<td>5</td>
<td>22</td>
<td>27</td>
<td>27</td>
<td>16</td>
<td>16</td>
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<tr>
<td>Other types of research output</td>
<td>7</td>
<td>19</td>
<td>24</td>
<td>24</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Open Science and Open Access</td>
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<td>22</td>
<td>23</td>
<td>23</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>
### Evaluation of academic activities for careers in research (2019)

<table>
<thead>
<tr>
<th>Category</th>
<th>Don’t know</th>
<th>Unimportant</th>
<th>Of little importance</th>
<th>Moderately important</th>
<th>Important</th>
<th>Very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metrics measuring research output based on number of publications and citations</td>
<td>14</td>
<td>29</td>
<td>53</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Qualitative, peer-review assessment</td>
<td>17</td>
<td>26</td>
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<tr>
<td>Research impact and knowledge transfer indicators</td>
<td>19</td>
<td>33</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metrics measuring collaborations within academia based on co-authorship</td>
<td>25</td>
<td>30</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open Science and Open Access indicators measuring the open accessibility of research outcomes and data</td>
<td>24</td>
<td>23</td>
<td>20</td>
<td>19</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Altmetrics measuring the societal outreach of journal publications, books, reports, data and other non-traditional publications based on downloads, tweets, news mentions, etc.</td>
<td>31</td>
<td>23</td>
<td>19</td>
<td>16</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Metrics measuring academic attention and uptake based on number of views and downloads</td>
<td>27</td>
<td>24</td>
<td>19</td>
<td>18</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Number of responses: between 194-195/197
Publication metrics used for careers in research (2019)

- Journal Impact Factor (JIF): 75%
- h-index: 70%
- Field normalised citation index: 39%
- SCImago Journal Rank (SJR): 31%
- CiteScore: 25%
- Source Normalized Impact per Paper (SNIP): 9%
- Eigenfactor: 5%
- Don’t know: 4%

Multiple-choice question
Number of responses:
185/186
Main barriers and difficulties to review approaches to research assessment (2019)

- Complexity of research assessment reform: 46%
- Lack of institutional capacity: 38%
- Resistance to research assessment reform from researchers: 33%
- Concerns over increased costs: 33%
- Limited awareness of research assessment reform and its potential benefits: 31%
- Absence of incentivising policies or guidelines from external actors: 29%
- Alignment of institutional assessment procedures with nationally and internationally dominant procedures: 26%
- Lack of evidence on potential benefits of research assessment reform: 21%
- Lack of coordination among the relevant actors within the institution: 19%
- Lack of institutional autonomy due to national/regional rules and regulations: 19%
- Resistance to research assessment reform from academic leadership: 10%
- Lack of institutional autonomy due to rules and regulations imposed by research funding organisation: 9%

Multiple-choice question
Number of responses: 233/254
Key survey findings and recommendations

Need to broaden the range of academic activities that are incentivised and rewarded;

Widen the set of evaluation practices
- University approaches to research assessment focus on publishing research and attracting external funding
- Universities rely on a limited set of evaluation practices which are mostly geared towards assessing research publications, e.g. Journal Impact Factor
- Other evaluation practices are less widespread and less developed, e.g. Open Science and Access indicators

Reviewing research assessment is a shared responsibility and requires a concerted approach uniting the main actors
- Universities consider themselves largely autonomous to develop and implement approaches to research assessment
- Universities are keenly aware of external influences shaping their approaches to research assessment, e.g. governments, research funding organisations, competitive environment
CONCLUSION

Human Factor: the key element

- Engaging Researchers: changing habits (publication models, assessment, reviewing, data management ..)
- Engaging Rectors and heads of institutions: negotiations, assessments, infrastructures ...
- Engaging government: laws, national policies, funding..
- Learning society: re-engagement in the publication process
Thank you for your attention!

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