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ASSOCIATION

Research Assessment in the Transition to Open Science

2019 EUA Open Science and Access Survey Results

Bregt Saenen, Rita Morais,
Vinciane Gaillard and Lidia Borrell-Damián

October 2019

European University Association asbl

Avenue de l'Yser 24	Rue du Rhône 114
1040 Brussels	Case postale 3174
Belgium	1211 Geneva 3, Switzerland
+32 (0) 2 230 55 44	+41 22 552 02 96

www.eua.eu · info@eua.eu

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Foreword by Professor Paul Boyle

The European University Association (EUA) is one of the leading actors in the transition to Open Science. It represents the independent voice of European universities, making sure the interests of the vibrant European research and innovation community are heard and considered.

The Association has made a unique contribution to the Open Science debate. By carrying out regular university surveys and commissioning studies it has built a shared knowledge base on: Open Access policies for research publications and data, the financial cost of access to scholarly publications (Big Deals), research assessment practices, innovative publishing practices (such as Read and Publish agreements) and other key Open Science issues.

This report presents the results of the 2019 EUA Open Science and Access Survey on Research Assessment. For the first time, it gathers and shares a comprehensive overview of research assessment approaches by European universities. Research assessment is a powerful tool for making the transition to Open Science a reality. Making evaluation practices more accurate, transparent and responsible will allow universities to establish best practice and work together for our academic community.

A concerted approach uniting the main actors will be necessary to move forward. EUA will continue to engage its membership in this process and maintain a close relationship with its partners. The latter notably include the newly proposed European Commission, with Commissioner-designate Mariya Gabriel taking on the integrated education, research and innovation portfolio, and the newly elected European Parliament.

As EUA Vice-President and Chair of the EUA Research Policy Working Group I look forward to working together with my colleagues on these issues. Building on the work that has already been done, including the results presented in this report, I am confident that EUA will remain at the forefront of the transition to Open Science.

Professor Paul Boyle
EUA Vice-President and Chair of the EUA Research Policy Working Group

Foreword by Professor Jean-Pierre Finance and Professor Bernard Rentier

Open Science is a paradigm shift. Open publication, open access, open citations, open data, open source software, citizen science - in the same cooperative spirit, all these innovations revolutionize research by rejecting competition, even though many researchers still consider this inevitable. This new science approach seems likely to develop further and, in the long run, to become the norm.

However, no matter how hard advocates strive, Open Science will never be achieved unless accompanied by a change in the way researchers are evaluated. Without this, no researcher, (and especially no early-stage researcher,) will take the proven risk of departing from the old principles that continue to paralyse scientific communications: publish as often as possible, in journals with the best possible reputation.

Given these considerations, it was interesting to verify current European university practices. In particular, and among many other questions, we wanted to know whether evaluators still favour quantified approaches (such as the journal impact factor and its derivatives) or if they are developing a more qualitative approach in which the amount of scholarly production and publisher are no longer the only criteria used to determine the quality, or even of excellence, of a researcher's work.

To improve understanding of the current situation of research assessment practices at European universities, both in terms of researcher careers and research project evaluations, the EUA Expert Group Science 2.0/Open Science decided to investigate further. In May 2019, it took the initial step of organising a workshop on research assessment for researcher recruitment and career progression. Then it focused the annual EUA Open Access Survey on research assessment at universities.

This survey reveals the beginning of a change, but it also indicates that there is still a long way to go before the principles that have become dogmas make room for at least partial consideration of the values of exchange, sharing and cooperation advocated by Open Science.

We hope that it will be useful in helping institutions review evaluation criteria and in supporting researchers when it comes to demonstrating the need to reconsider their publication practices.

We would like to warmly thank the EUA Secretariat staff involved in this investigation, Dr Rita Morais, Dr Bregt Saenen and Dr Vinciane Gaillard, and to extend a special mention to Dr Lidia Borell-Damián, former EUA Director of Research & Innovation, who has done a remarkable job of making EUA's positions and actions clear and visible in order to achieve more fair, transparent and open research activity at European universities.

Professor Jean-Pierre Finance
Chair of the EUA Expert Group Science 2.0/
Open Science

Professor Bernard Rentier
Chair of the EUA Expert Subgroup on Research
Assessment

Acknowledgements

Dr Bregt Saenen
Research & Innovation Policy and Project Officer

Dr Rita Morais
Research & Innovation Adviser

Dr Vinciane Gaillard
Deputy Director, Research & Innovation Unit

Dr Lidia Borrell-Damián
Director, Research & Innovation Unit

1. Introduction

1.1. 2019 SURVEY AND REPORT

This report provides a comprehensive, up-to-date overview of the current state of research assessment at European universities. It also explores why and how institutions are reviewing their evaluation practices. This report from the European University Association (EUA) aims to inform and strengthen the discussion about these issues by gathering and sharing information on present and future university approaches to research assessment.

The findings in this report are based on the results of the *2019 EUA Open Science and Open Access Survey on Research Assessment* (cf. Annex 1). The survey was developed and implemented by the EUA Secretariat in collaboration with the members of the EUA Expert Subgroup on Research Assessment and EUA Expert Group Science 2.0/Open Science.[1]

Previous EUA surveys focused on Open Access policies at European universities.[2] Between 2014 and 2018 these surveys showed limited progress on making research publications and (especially) data openly available, while persistent challenges remained unresolved.[3] One of the main challenges identified were university approaches to research assessment, which were found to offer insufficient incentives and rewards for making research outputs openly available. As a result, EUA decided to revise the 2019 edition of the survey and gather more information about university approaches to research assessment.

The findings in this report give a general impression of European university approaches to research assessment. It should be made clear that the results do not capture important national and disciplinary differences. Following presentation of the survey methodology and participation, section three provides an overview of the current state of research assessment at European universities. Section four discusses why and how institutions are starting to review their evaluation approaches. Concluding remarks highlight key findings from the survey results and their relevance for the discussion on research assessment in the transition to Open Science.

1.2. EUA ACTIVITIES ON RESEARCH ASSESSMENT IN THE TRANSITION TO OPEN SCIENCE

EUA is actively involved in the discussion on research assessment in the transition to 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."[4]

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1   A list of members of the EUA Expert Group on Science 2.0/Open Science, chaired by Professor Jean-Pierre Finance (University of Lorraine, France), is available online. Any member of this group can volunteer for the EUA Expert Subgroup on Research Assessment, chaired by Professor Bernard Rentier (University of Liège, Belgium). Retrieved 1 July 2019, from: https://eua.eu/about/working-groups.html.

2   European University Association (2015). *EUA's Open Access Checklist for Universities: A practical guide on implementation*. Brussels: EUA. Retrieved 3 July 2019, from: http://bit.ly/324oWLK; Morais, R., Bauer, J., & Borrell-Damián, L. (2017). *Open Access 2015-2016 EUA Survey Results*. Brussels: EUA. Retrieved 3 July 2019, from: http://bit.ly/33nuPnn; Morais, R., & Borrell-Damián, L. (2018). *Open Access 2016-2017 EUA Survey Results*. Brussels: EUA. Retrieved 3 July 2019, from: http://bit.ly/2MBQS2O and Morais, R., & Borrell-Damián, L. (2019) *2017-2018 EUA Open Access Survey Results*. Brussels: EUA. Retrieved 3 July 2019, from: http://bit.ly/2Uwf1Og.

3   Morais, R., & Borrell-Damián, L. (2019). *2017-2018 EUA Open Access Survey Results*. Brussels: EUA. Retrieved 1 July 2019, from: http://bit.ly/2Uwf1Og.

4   Definition retrieved 25 September 2019, from: http://bit.ly/2OElGCY.

The Association works on four priorities related to the transition to Open Science. Firstly, it promotes institutional and European Open Access policies for research publications and data. Surveys have shown that in 2018, 62% of European universities had an Open Access policy on research publications in place, compared to only 13% with an Open Access policy on research data.[5]

Secondly, EUA works to achieve more transparency and greater sustainability in the scholarly publishing system. A 2018 mapping exercise showed that at least €1.025 billion is spent every year on Big Deals with scholarly publishers.[6] The Association commissioned a closely related study on Read and Publish Agreements and their implications for the scholarly publishing system at large.[7]

Thirdly, the Association contributes to the development and implementation of Open Science infrastructure. It is a partner in a European project to make research data Findable, Accessible, Interoperable, and Reusable (FAIR) in the framework of the European Open Science Cloud (EOSC), in order to help universities create a FAIR research culture.[8]

Finally, EUA raises awareness and helps universities review their approach to research assessment in the transition to Open Science. In the *EUA Roadmap on Research Assessment in the Transition to Open Science* the Association commits "[...] to raise awareness and support institutions in the development of research assessment approaches that focus on research quality, potential and future impact, and that take into account Open Science practices."[9]

Reviewing research assessment practices to make them more accurate, transparent and responsible is an essential element of the transition to Open Science. EUA gathered and shared information in a briefing published in April 2019[10] and in this survey report. The Association also started dialogue between universities and other actors by organising a workshop on 14 May 2019 in Brussels, Belgium (cf. Annex 2)[11] and signing a joint statement with Science Europe, an association of public research performing and research funding organisations, in May 2019.[12] In future, EUA will also make policy and good practice recommendations based on the outcomes of its activities.

5   Morais, R., & Borrell-Damián, L. (2019) *2017-2018 EUA Open Access Survey Results*. Brussels: EUA, pp. 39-40. Retrieved 3 July 2019, from: http://bit.ly/2Uwf1Og.

6   Morais, R., Stoy, L., & Borrell-Damián, L. (2019). *2019 Big Deals Survey Report. An Updated Mapping of Major Scholarly Publishing Contracts in Europe*. Brussels: EUA, p. 52. Retrieved 25 September 2019, from: http://bit.ly/2PXVEJg.

7   Announcement retrieved 8 October 2019, from: https://eua.eu/101-projects/751-study-on-read-publish-agreements.html.

8   The Fostering FAIR Data Practices in Europe (FAIRsFAIR) project. Announcement retrieved 25 September 2019, from: http://bit.ly/317rMhJ.

9   European University Association (2018). *EUA Roadmap on Research Assessment in the Transition to Open Science*. Brussels: EUA, p. 1. Retrieved 1 July 2019, from: http://bit.ly/322ft7z.

10 Saenen, B., & Borrell-Damián, L. (2019). *Reflections on University Research Assessment. Key concepts, issues and actors*. Brussels: EUA. Retrieved 3 July 2019, from: http://bit.ly/2uJOIWk.

11 The workshop programme and presentations are available online. Retrieved 3 July 2019, from: http://bit.ly/2W0a5yF.

12 European University Association & Science Europe (2019). *The European University Association and Science Europe Join Efforts to Improve Scholarly Research Assessment Methodologies*. Brussels: EUA. Retrieved 3 July 2019, from:http://bit.ly/2Hj5eUE.

2. Survey methodology and participation

2.1. SURVEY METHODOLOGY

The survey consisted of 20 newly designed questions that built on the experience of the EUA Expert Group on Science 2.0/Open Science and developed previous university Open Access consultations (cf. Annex 1). A combination of open-ended, ranking, multiple and single-choice questions were included, covering a variety of topics related to the current state of research assessment in European universities, as well as why and how institutions are reviewing their evaluation practices.

Questions on current research assessment procedures were divided into three sections covering three main purposes of university research assessment: research careers, research unit performance evaluation and research funding allocation within the institution. The report explicitly indicates if a finding is based on a question related specifically to a purpose.

From 26 March 2019 to 21 June 2019, the survey was made available to European universities, both EUA and non-EUA members, using the Qualtrics software platform. Invitations to take part in the survey were sent via several communication channels: e-mails to EUA members and partners, National Rectors' Conferences, promotion at EUA events and on social media. Only one response was accepted per institution, although the survey allowed multiple people from the same university to answer the questions together.

2.2. SURVEY PARTICIPATION AND PROFILE OF RESPONDENTS

This report's findings are based on 260 valid responses from universities in 32 European countries. Previous Open Access surveys received between 106 valid responses from universities in 30 European countries in 2014 (the first edition) and 338 valid responses from universities in 39 European countries in 2016-17 (the third edition) (cf. Table 1). The previous, fourth edition in 2017-18 received 321 valid responses from 36 European countries.

Table 1 – Participation in EUA Open (Science and) Access surveys, 2014-19

EUA Open Access Survey (2014-18)		
	Number of institutions	**Number of countries**
2014	106	30
2015-16	169	33
2016-17	338	39
2017-18	321	36
EUA Open Science and Access Survey (2019)		
2019	260	32

Compared to previous surveys, the 2019 edition received an above average number of responses despite moving away from Open Access and focusing on university approaches to research assessment. The

slightly lower response rate can probably be attributed to the time needed for universities to become aware of and adapt to this change.

The university staff who completed the survey on behalf of their institution hold predominantly leading positions. Over half of the respondents (54%) are university leaders (e.g. Rectors, Vice-Rectors, Deans). Close to a quarter (22%) lead research support offices (e.g. Directors and Heads of relevant departments). The remaining quarter are mainly research support staff (18%) in addition to a small minority of academic researchers and library staff.

The geographical distribution of the responding institutions is presented in Figure 1 and Table 2. These illustrate that only five countries have over ten respondents, while fifteen have less than five.

Figure 1 – Number of respondents per country
Based on a general information survey question (cf. Annex 1). Number of respondents: 260/260

Legend:
- 0
- 1-5
- 6-10
- 11-20
- > 21
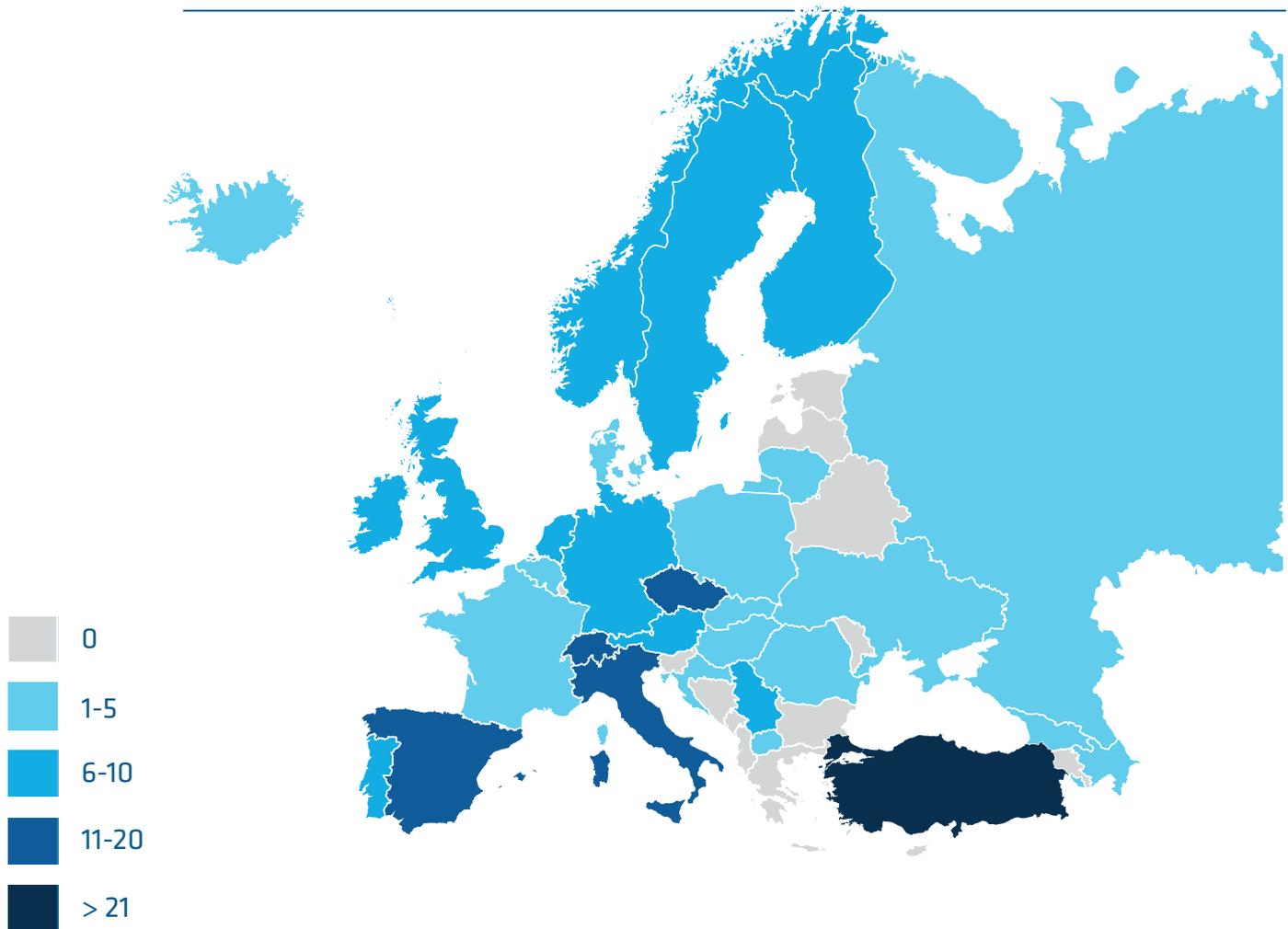
Table 2 – Number of respondents per country

Based on a general information survey question (cf. Annex 1). Number of respondents: 260/260

Country	Valid responses		
Turkey	93	Denmark	5
Italy	17	Croatia	4
Czech Republic	14	Lithuania	4
Spain	13	Romania	3
Switzerland	11	Ukraine	3
Portugal	10	France	2
Finland	9	Andorra	1
Serbia	9	Azerbaijan	1
Sweden	9	Georgia	1
Ireland	7	Hungary	1
Norway	7	Iceland	1
United Kingdom	7	Kazakhstan	1
Austria	6	North Macedonia	1
Germany	6	Poland	1
Netherlands	6	Russia	1
Belgium	5	Slovakia	1
		TOTAL	**260**

Figure 2 presents the number of responding EUA members as a percentage of individual full EUA members per country.[13] The valid responses cover between 1% and 25% of individual full EUA members in 12 countries (France, Georgia, Germany, Hungary, Italy, Poland, Romania, Russia, Slovakia, Spain, Ukraine and United Kingdom), between 26% and 50% in seven countries (Austria, Azerbaijan, Belgium, Iceland, Netherlands, Norway and Sweden), between 51% and 75% in six countries (Czech Republic, Finland, Lithuania, Portugal, Serbia and Switzerland) and finally between 76% and 100% in five countries (Andorra, Croatia, Denmark, Ireland and Turkey).[14]

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13 Individual full EUA members are typically universities, while other categories include national rectors' conferences or other bodies active in higher education or research. EUA member directory retrieved 2 September 2019, from: https://eua.eu/about/member-directory.html.

14 None of the responding institutions from Kazakhstan and North Macedonia are EUA members. These countries are therefore not included in Figure 2.

Figure 2 – EUA member respondents expressed as a percentage of EUA members in each country
Based on a general information survey question (cf. Annex 1). Number of respondents: 260/260

Legend:

- 0
- 1-25%
- 26-50%
- 51-75%
- 76-100%
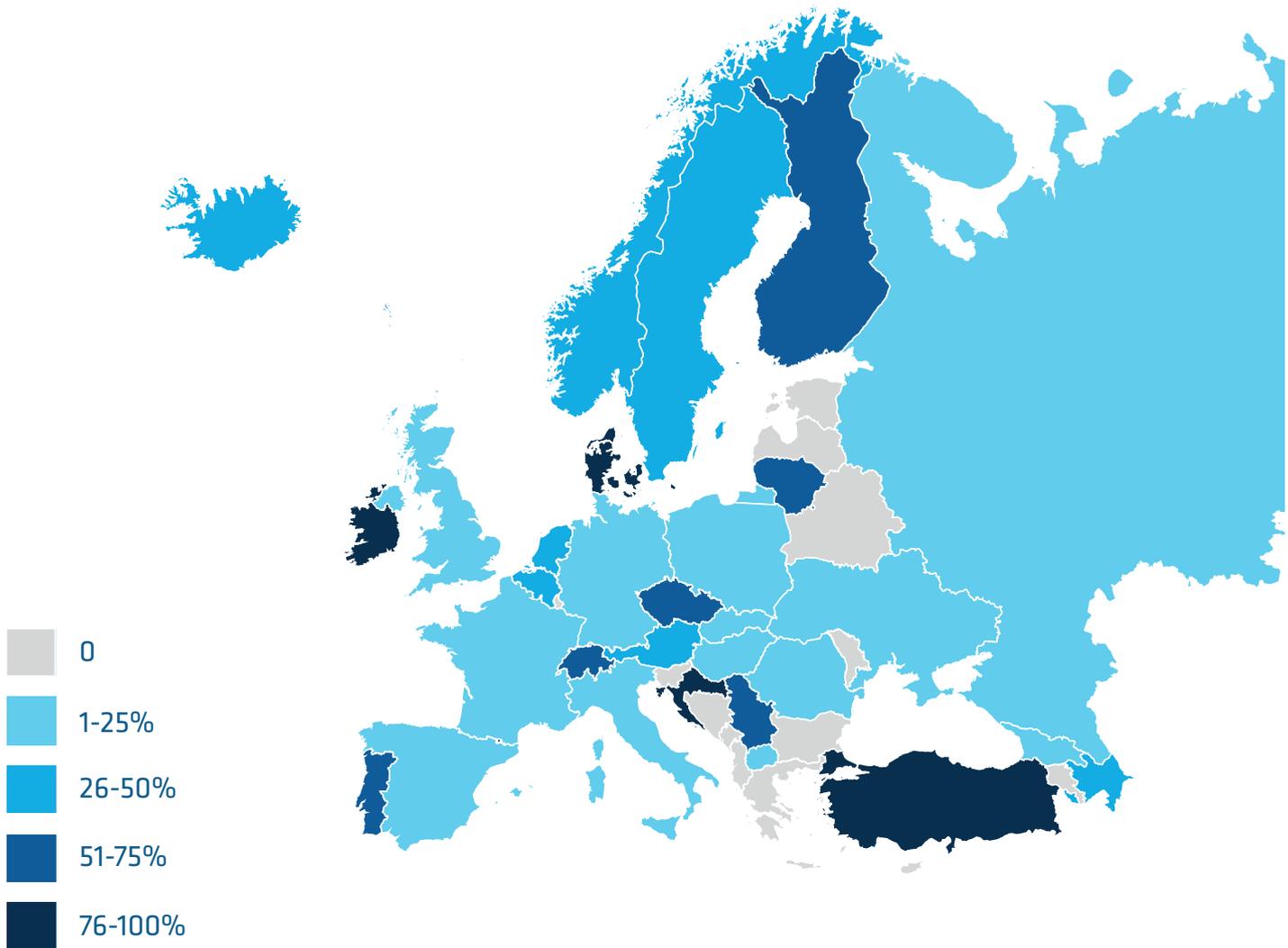
Turkey has by far the highest number of respondents and accounts for 36% of the valid responses. Except when explicitly stated otherwise, this report's findings are based on all valid responses, including those from Turkey. However, given the large percentage of Turkish responses and their potential to distort the overall impression of university research assessment in Europe, the authors analysed and compared the results for each question with and without the Turkish responses. The report explicitly mentions whenever these findings diverged in a meaningful way.

The responding institutions' profile is presented in Figure 3. Comprehensive institutions (covering all or most academic disciplines) represent 70% of the sample. The remaining 30% are: specialist institutions (for example, medical science, music and arts schools, who represent 15%), technical universities (8%), universities of applied sciences (for example, colleges or professional education institutions that do not award doctorates, or do so in only a few disciplines - 5%) and distance learning universities (2%).

Figure 3 – Respondents' profile
Based on a general information survey question, single-choice (cf. Annex 1). Number of respondents: 260/260

Legend:
- Comprehensive institution (e.g. covering all or most academic disciplines)
- Specialist institution (e.g. medical science, music and arts school)
- University of applied sciences (college-type or professional education institution which does not award PhDs, or does so in only a few disciplines)
- Technical university/University of technology
- Distance learning university
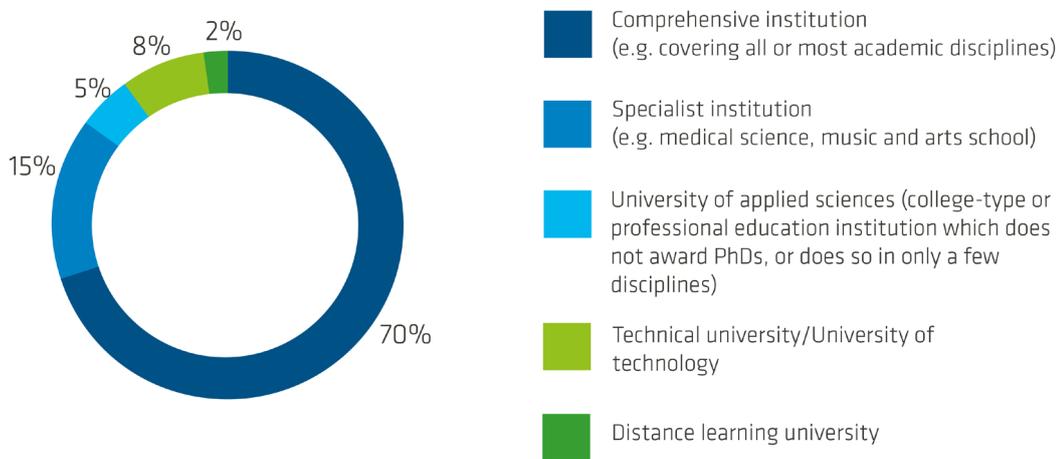
Figure 4 presents the number of Full Time Equivalent (FTE) researchers working at the responding institutions. Close to half of the respondents (44%) had over 1000 FTE researchers. Most of the remaining respondents are universities with between 500 and 1,000 FTE researchers (23%) and between 100 and 500 FTE researchers (25%). Institutions with less than 100 FTE researchers represent 8% of the valid responses.

Figure 4 – Respondents' Full Time Equivalent (FTE) researchers
Based on a general information survey question, single-choice (cf. Annex 1). Number of respondents: 258/260

Legend:
- > 1000
- 500 - 1000
- 100 - 500
- < 100
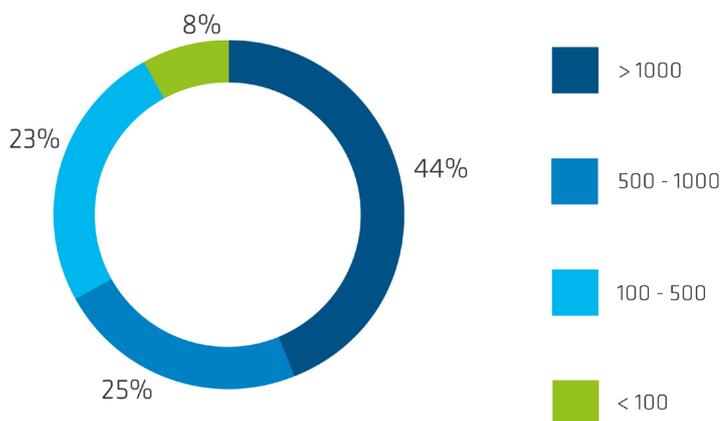
3. The current state of university approaches to research assessment

This section looks at the current state of research assessment at European universities. It discusses institutions' perceived autonomy to develop and implement evaluation practices,[15] followed by the internal organisation and transparency of university approaches to research assessment. Finally, this section examines the academic activities universities value most when evaluating researchers and their output, and the evaluation methods used for that specific purpose.

The survey asked respondents if they had established practices for evaluating any of the three main purposes of university research assessment, namely: research careers, research unit performance evaluation and internal research funding allocation. Figure 5 indicates that such research assessment is an established practice at 89% of the responding institutions. Another 9% of respondents are in the process of developing research assessment procedures for one or more of the above-mentioned purposes, while 2% replied that no such procedures currently exist or are being developed.[16]

Figure 5 – Respondents with research assessment procedures in place or in development
Based on survey question 1, single-choice (cf. Annex 1). Number of respondents: 259/260
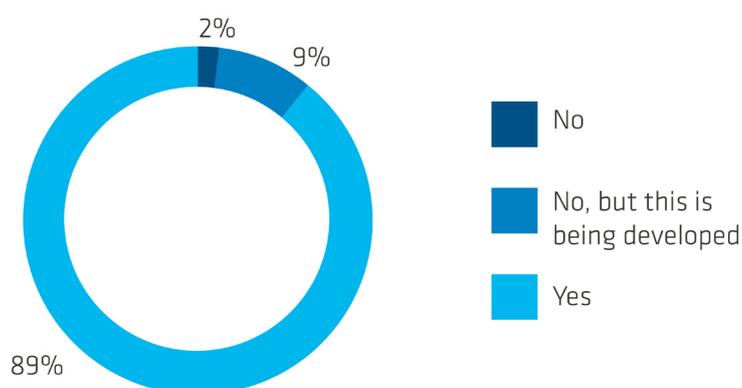
3.1. AUTONOMY TO DEVELOP AND IMPLEMENT RESEARCH ASSESSMENT

How do European universities perceive their autonomy to develop and implement research assessment procedures? This section discusses the survey findings on how universities perceive their relationship with their external context, before focusing on how internal research assessment is organised.

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15 The questions on autonomy asked respondents about their perception of institutional autonomy, and do not provide an objective measurement that would allow comparison. Institutional autonomy cannot be measured objectively. The EUA scorecard on university autonomy in Europe acknowledges this and has instead developed a holistic approach to the concept of institutional autonomy. A list of indicators and restrictions allows the scorecard to draw conclusions on and track trends in organisational, financial, staffing and academic autonomy in Europe. For more information, please see: Bennetot Pruvot, E., & Estermann, T. (2017). *University Autonomy in Europe III. The Scorecard 2017*. Brussels: EUA. Retrieved 11 July 2019, from: http://bit.ly/2VUDXx7.

16 Respondents who indicated that they have no research assessment procedures in place or in development were asked how they make decisions related to the three main purposes of university research assessment in an open follow-up question. However, these results have not been included in this report due to the low number of institutions that had access to this question (5 respondents).

The survey used three separate, single-choice questions to ask respondents if they consider themselves autonomous when it comes to developing and implementing research assessment approaches for the three main purposes. Most respondents indicated that they have significant autonomy regarding evaluation practices for the purpose of research careers[17] (cf. Table 3). Only 17% consider themselves as having 'some' autonomy and only 4% feel that they have 'low' autonomy in contrast with the 41% who saw themselves as 'mostly' autonomous and a further 38% who felt 'highly' autonomous.

Table 3 – Autonomy to develop and implement research assessment approaches
Based on single-choice survey questions 4 (number of respondents: 197/197), 10 (183/183) and 13 (177/177) (cf. Annex 1)

	Research careers (in %)	Performance of research units (in %)	Internal research funding allocation (in %)
Highly autonomous	38	44	55
Mostly autonomous	41	39	35
Some autonomy	17	14	9
Low autonomy	4	3	1

Respondents were even more pronounced in their perception of significant autonomy when it came to research unit performance evaluation assessments. Compared to the 44% who considered themselves 'highly' autonomous and a further 39% who felt 'mostly' autonomous, only 14% consider themselves as having 'some' autonomy and only 3% perceive their autonomy as being 'low'.

Finally, regarding evaluation practices for the purpose of internal research funding allocation, respondents were yet more confident in their significant autonomy. Only 9% considered themselves as having 'some' autonomy and only 1% perceived 'low' autonomy, while 55% considered themselves 'highly' autonomous and a further 35% felt 'mostly' autonomous.

Exploring the issue of institutional autonomy further, open survey questions asked respondents to elaborate if and how external actors and conditions such as government regulations, funding agency policies, university rankings, etc. influence their autonomy. Their responses indicate that universities are keenly aware of external actors and conditions' influence on their approaches to research assessment. Governments and research funding organisations continuously mentioned due to their importance in the regulatory and funding frameworks within which universities operate, notably including performance-based research funding systems such as the Research Excellence Framework in the United Kingdom and the Standard Evaluation Protocol in the Netherlands. Academies of sciences and humanities were cited as another, albeit less mentioned, influence. Many responses also discussed elements of the 'competitive research and innovation environment'. They generally referred to the national and international competition for funding and competitive university rankings, etc.

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17 Different levels of staffing autonomy (i.e. the capacity to decide on recruitment, salaries, promotions and dismissals) between European countries and regions is relevant background information when it comes to university approaches to research assessment for the purpose of research careers. For more information, please see: Bennetot Pruvot, E., & Estermann, T. (2017). *University Autonomy in Europe III. The Scorecard 2017*. Brussels: EUA, pp. 28-32. Retrieved 11 July 2019, from: http://bit.ly/2VUDXx7.

In summary, universities do not develop and implement research assessment procedures in isolation. While responding institutions consider themselves as having significant autonomy to develop and implement procedures, they are also keenly aware of the influence of external actors and conditions, notably governments and research funding organisations. Universities also feel the pressure of the competitive research and innovation environment, which they recognise as affecting their research assessment approaches.

3.2. ORGANISATION OF RESEARCH ASSESSMENT APPROACHES

How do universities organise research assessment? The survey asked institutions to indicate the level at which this is *primarily* organised in a single-choice question. A multiple-choice question then asked them to indicate which staff develop and implement evaluation practices.

Figure 6 shows that 58% of responding universities primarily organise research assessment at institutional level, while another 32% organises research assessment at faculty/department level. A further 10% primarily leave the development and implementation of evaluation practices up to research units.

Figure 6 – The institutional level at which research assessment is primarily organised
Based on survey question 2, single-choice (cf. Annex 1). Number of respondents: 231/231
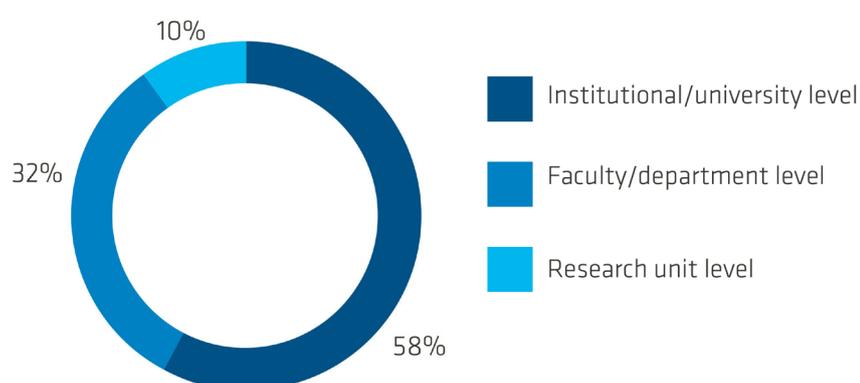
Figure 7 shows that academic leadership is involved in developing university approaches to research assessment at 82% of the responding institutions. They are followed by academic researchers (55%), then research department staff (44%), and library staff (23%). The figure is largely unchanged when Turkish responses are removed from the results, but the fact that the percentage of universities who involve research department staff in this process jumps to 51% following this adjustment should be acknowledged.

Figure 7 – Personnel involved in developing research assessment approaches
Based on survey question 3, multiple-choice (cf. Annex 1). Number of respondents: 231/231
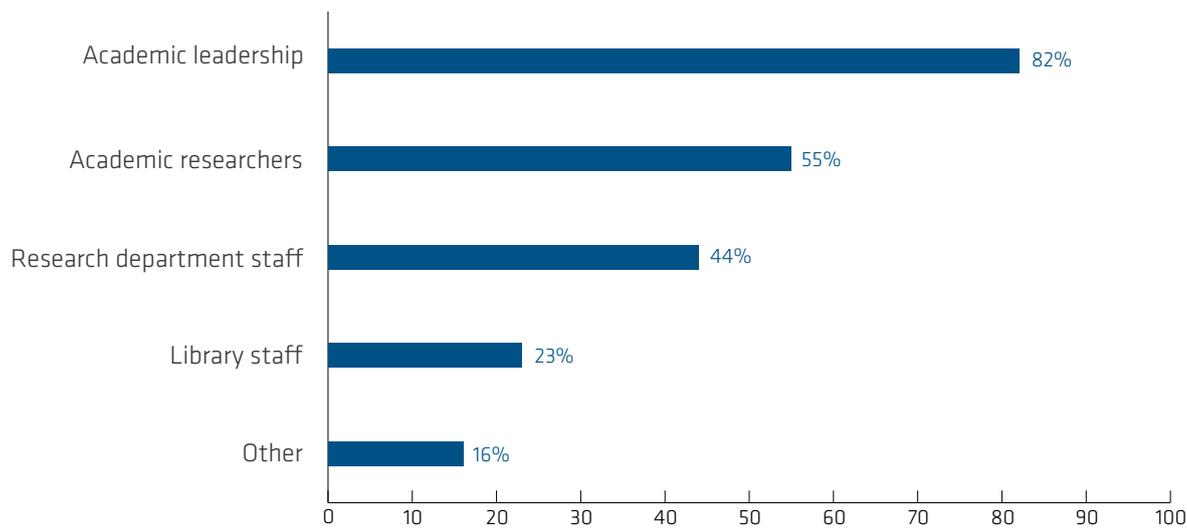
The comments give a closer insight into the institutional organisation of research assessment practices. Respondents' comments provide a broad overview of the many and varied ways in which people working at different levels work together. While primary responsibility lies with either the university or faculty/department, the comments make clear that these levels rarely work in isolation. Respondents also indicated that several positions and offices are typically involved, from Vice-Rectors for Research to Human Resources and Quality Assurance offices. Moreover, as in section 3.1. the comments also indicated that external actors like governments, research funding organisations and others exert influence on this process.

In summary, university approaches to research assessment are primarily, but not exclusively carried out at institutional and faculty/department level. Several institutional actors were mentioned as being involved in defining these processes, while the influence of external actors such as governments and research-funding organisations was also acknowledged.

3.3. RESEARCH ASSESSMENT TRANSPARENCY

How transparent are universities about their approaches to research assessment? The survey asked respondents if and to what extent they make this information available in a single-choice question. This question related specifically to evaluation practices for the purpose of research careers.

Information about university research assessment approaches is publicly available for 63% of the responding institutions, while 34% make it available internally (cf. Figure 8). Only 3% indicated that they do not make information about their evaluation practices available.

Figure 8 – Transparency about research assessment for research careers
Based on survey question 6, single-choice (cf. Annex 1). Number of respondents: 196/197
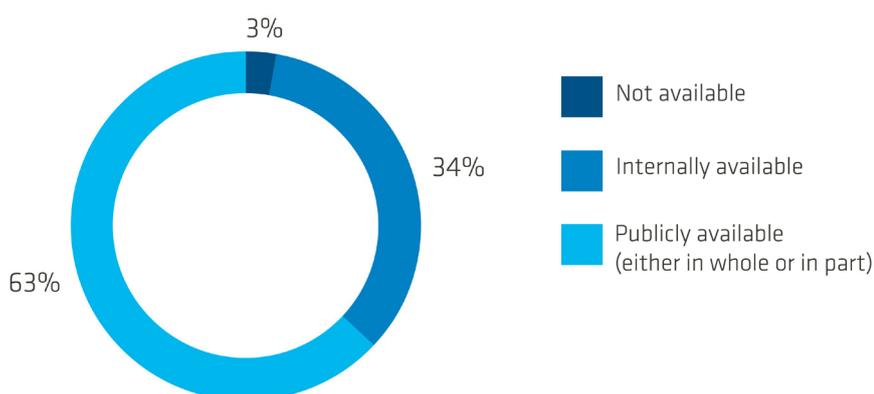
Removing Turkish responses makes information about university approaches to research assessment less publicly transparent: the percentage of institutions that make information about their evaluation practices publicly available decreases to 57%. Conversely, the percentage of universities that make information about their procedures available internally increases markedly to 40%.

An open question asked responding institutions to indicate if and how information on research assessment procedures for research careers is communicated to university personnel. About half of the comments explicitly refer to these procedures being publicly available online, while about a quarter explicitly refer to them being available via internal systems (e.g. the university intranet). In addition to being passively available, well over a third of the comments also explicitly refer to proactive awareness-raising among university personnel.

In summary, universities are mostly transparent about their research assessment approaches. Information about evaluation practices is publicly available at a large majority of institutions, while most others make it available internally. A minority indicated that they do not make this information available for public or internal consultation. In addition, a large proportion of the respondents indicated that they proactively communicate information about research assessment procedures to their staff.

3.4. ACADEMIC ACTIVITIES AND THEIR EVALUATION FOR THE PURPOSE OF RESEARCH CAREERS

3.4.1. Importance of academic activities for research careers

How important are different academic activities in university approaches to research assessment for the purpose of research careers? Specifically, which kinds of work and research outputs are most often taken into consideration when evaluating researchers for the purpose of research careers?

The survey results allow academic activities to be divided into three levels of importance (cf. Figure 9). At over 75% of universities, research publications and attracting external research funding are the two academic activities most valued when assessing researchers. 90% of respondents indicated that research publications are either 'very important' (80%) or 'important' (10%); while 81% of respondents indicated that attracting external research funding is either 'very important' (57%) or 'important' (24%).

Figure 9 – Importance of academic activities for research careers
Based on survey question 7, ranking question (cf. Annex 1). Number of respondents: 191-195/197

| Activity | Don't know | Of little importance | Important | Unimportant | Moderately important | Very important |

Chart values:

Research publications: 9, 10, 80

Attracting external research funding: 4, 14, 24, 57

Research impact and knowledge transfer: 8, 23, 34, 34

Research collaborations within academia: 11, 23, 34, 29

Research supervision activities: 6, 28, 42, 21

Teaching activities: 9, 25, 31, 31

Research collaborations outside academia: 11, 30, 28, 29

Research networking: 8, 32, 37, 20

Other types of research output: 7, 19, 24, 34, 14

Mentoring activities: 7, 16, 29, 28, 19

Social outreach and knowledge transfer: 5, 22, 27, 29, 16

Open Science and Open Access: 14, 22, 23, 26, 12

Legend: Don't know · Of little importance · Important · Unimportant · Moderately important · Very important

Some 50-75% of universities assess a range of other academic activities when evaluating researchers. Such activities include: research impact and knowledge transfer (e.g. intellectual properties such as patents and licenses) - 68% of respondents indicated that this is '(very) important', research collaboration within academia (e.g. co-authoring publications, inter- or multidisciplinary research, inter-institutional collaboration) - 63% '(very) important', research supervision activities - 63% '(very) important', teaching

activities - 62% '(very) important', research collaboration outside academia (e.g. with private sector, government and other non-academic sectors) - 57% '(very) important', and research networking (e.g. organising or participating in conferences) - 57% '(very) important'.

Academic activities evaluated by less than 50% of universities include: other types of research output (e.g. data) - 48% of respondents indicated these were '(very) important', mentoring activities – 47% '(very) important', social outreach and knowledge transfer (e.g. uptake by non-academic groups, citizen science, science communication) - 45% '(very) important', and Open Science and Access - 38% '(very) important'.

The low-ranking position of Open Science and Access indicates that this is not commonly included in university incentive and reward structures. Activities related to Open Science and Access are at best 'moderately important' for 59% of responding institutions, including 22% of respondents who answered that these activities are 'of little importance' and 14% of respondents who answered they are 'unimportant'. These results provide context for the limited progress on Open Access reported in previous EUA surveys.[18] Alongside other persistent challenges, tackling the lack of incentives and rewards available to researchers is a key element in achieving Open Access to research publications and, especially, research data.

In summary, the survey results show that publishing research outcomes and attracting external research funding are the most important academic activities when it comes to building a university research career. A range of other activities such as research impact and knowledge transfer are also commonly, albeit to a lesser extent, acknowledged by respondents. Open Science and Access activities are the lowest ranked category and are only '(very) important' at just over a third of universities, which is roughly on a par with the number of institutions who give little or even no importance to this category when evaluating researchers.

3.4.2. Evaluation of academic activities for research careers

How important are different categories of evaluation practices in university approaches to research assessment for the purpose of research careers? In other words, which types of methods are used most by institutions to evaluate researchers and their output?

The survey results show that universities use three main ways to assess research outcomes for the purpose of research careers (cf. Figure 10). Firstly, 82% of respondents indicated that metrics measuring research output based on number of publications and citations are either 'very important' (53%) or 'important' (29%). Secondly, 74% of respondents indicated that qualitative, peer-reviewed assessment is either 'very important' (48%) or 'important' (26%). Thirdly, and to a slightly lesser extent, 63% of respondents indicated that research impact and knowledge transfer indicators (e.g. intellectual properties such as

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18 Morais, R., & Borrell-Damián, L. (2019) *2017-2018 EUA Open Access Survey Results*. Brussels: EUA, pp. 40-41. Retrieved 3 July 2019, from: http://bit.ly/2Uwf1Og.

patents and licenses are either 'very important' (30%) or 'important' (33%). Conversely, few responding institutions find these three methods outright 'unimportant' or 'of little importance'.

Figure 10 – Evaluation of academic activities for research careers
Based on survey question 8, ranking question (cf. Annex 1). Number of respondents: 194-195/197
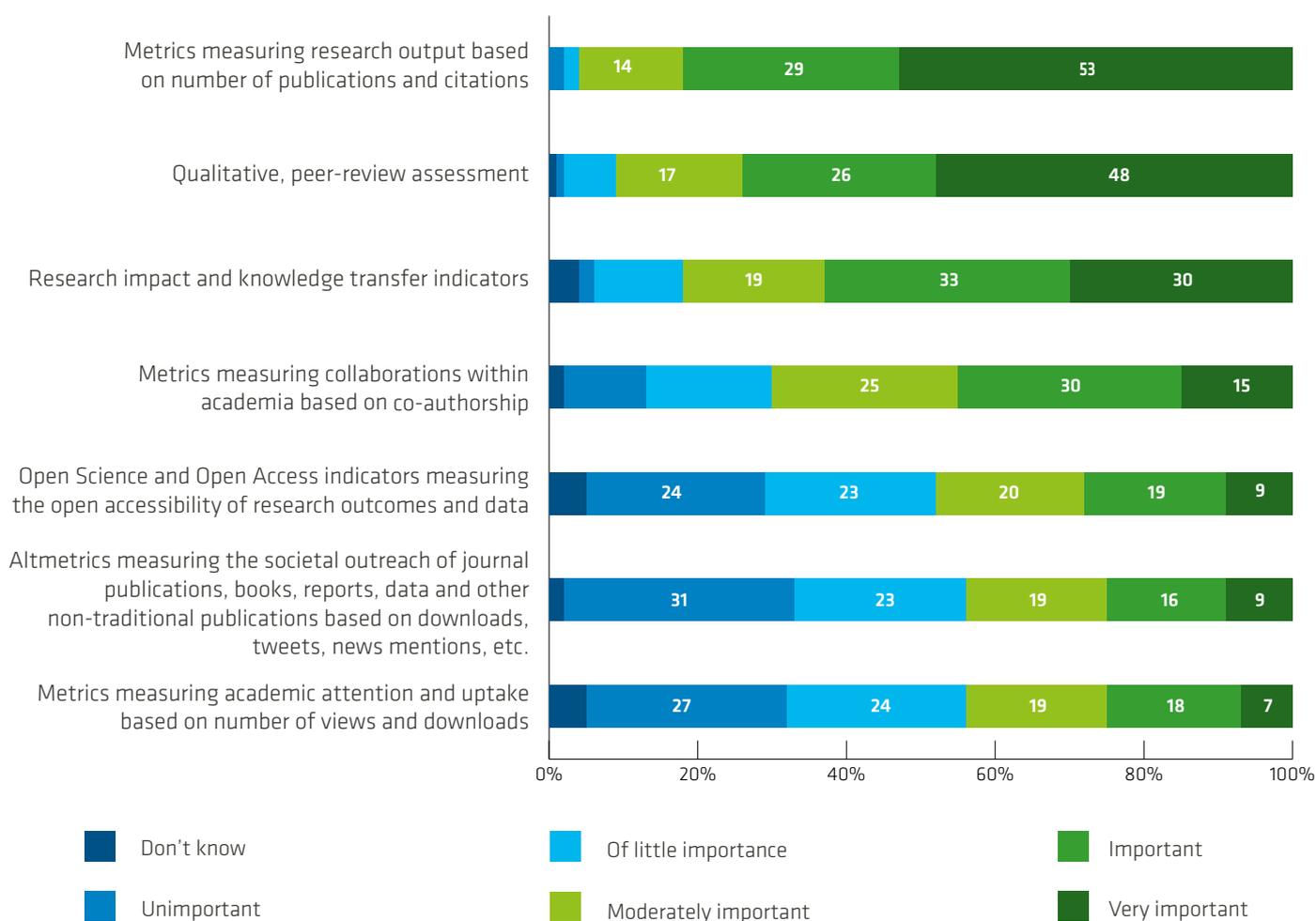
Other types of evaluation practices are only considered '(very) important' by less than half of responding institutions. These include: metrics measuring academic collaborations based on co-authorship (45%), Open Science and Access indicators measuring research outcomes and data (28%), Altmetrics for the social outreach of journal publications, books, reports, data and other non-traditional publications based on downloads, tweets, news mentions, etc. (25%) and metrics measuring academic attention and uptake based on number of views and downloads (25%).

The last three of these evaluation practices are considered 'unimportant' or 'of little importance' by about half of the responding institutions. This is the case for 54% of respondents concerning Altmetrics measuring the social outreach of journal publications, books, reports, data and other non-traditional

publications based on downloads, tweets, news mentions, etc., for 51% of respondents concerning metrics measuring academic attention and uptake based on number of views and downloads and for 47% of respondents when it comes to Open Science and Access indicators measuring the open accessibility of research outcomes and data.

To gain further insight into university approaches to research assessment, open questions asked responding institutions to expand on their evaluation practices for research careers, research unit performance evaluations and the internal allocation of research funding. Specifically, they were asked to describe how they use specific qualitative (e.g. peer-review) and quantitative (e.g. journal and usage-based metrics, Altmetrics) evaluation practices.

A large majority of responding institutions use a combination of qualitative peer-review and quantitative metrics to assess research for career purposes. The precise weighting given to this combination can vary significantly at a single institution. While survey responses confirmed that universities *primarily* organise research assessment at institutional level (cf. Figure 6), the precise approach often varies between departments, faculties and disciplines. In addition, the precise purpose of a procedure (cf. recruitment, career promotion) and the position of the researcher being evaluated also have an impact. Lastly, several respondents indicated that they are in the process of reviewing their research assessment approaches. This will be explored in greater detail in section 4.

Similarly, responding institutions reported a wide variety of approaches to research assessment for evaluating research unit performance. These typically (but not always) combine qualitative peer-review and quantitative criteria. The potential spectrum of criteria is broader than those used for research careers, including, for example, the number of doctoral candidates active at or graduating from a research unit. The practice of self-evaluation reports is mentioned in relation to research unit evaluations. These are discussed by internal committees who often use the university's strategic plan as a benchmark. These committees may include one or several external experts. External actors such as governments or performance-based research funding systems are also occasionally involved. These research assessment exercises take place regularly, either once a year or every couple of years.

Respondents indicated that university research assessment procedures for the internal allocation of research funding are typically carried out by ad-hoc expert committees or permanent institution structures. These work in a way that closely relates to the evaluation practices used to evaluate individual researchers and research units.

> In summary, the survey results indicate a stark divide between the research assessment practices that universities consider important and those that they consider unimportant. The vast majority of responding institutions find quantitative publication metrics and qualitative peer-review important, while other evaluation practices are only important to less than half of respondents. Open Science and Access indicators, Altmetrics and metrics measuring academic attention and uptake are considered of little importance or outright unimportant by about half of the survey respondents.

3.4.3. Practices used to evaluate academic activities for research careers

Which evaluation practices are used in each of the categories discussed in the previous section? The survey asked responding institutions to indicate which specific methods they use in each category, specifically respondents who indicated that a category was either 'very important', 'important' or 'moderately important' as part of their approach to evaluating researchers.

When it comes to publication metrics,[19] survey answers to a multiple-choice question show widespread use of the Journal Impact Factor (75%) and H-index (70%) (cf. Figure 11). The Field Normalised Citation Impact (39%), SCImago Journal Rank (31%) and CiteScore (25%) lag a long way behind. The Source Normalized Impact per Paper (9%) and the Eigenfactor (5%) scored even lower. Note that these answer options overlap as they are based on either journal reputation (i.e. Journal Impact Factor, SCImago Journal Rank and Eigenfactor) or article citations (i.e. H-index, Field Normalised Citation Impact, CiteScore and Source Normalized Impact per Paper). Respondents also indicated a limited number of metrics (e.g. Article Influence Score) and databases (e.g. Science Citation Index, Social Science Citation Index and Arts & Humanities Citation Index), which were not offered as an answer option, in the accompanying comments section.

Figure 11 – Publication metrics used for research careers
Based on survey question 8a, multiple-choice (cf. Annex 1). Number of respondents: 185/186

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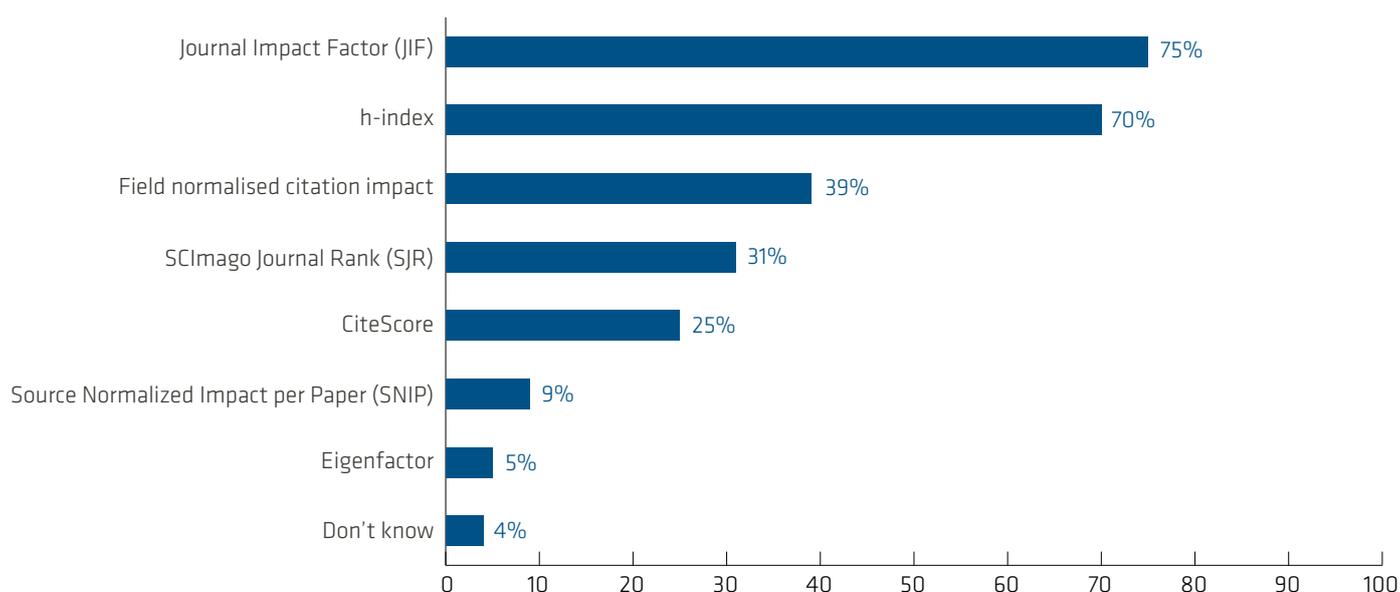
19 Databases such as Web of Science, Scopus, Google Scholar, etc. were not offered as answer options in favour of actual publication and citation metrics.

Removing Turkish responses does not change the overall picture regarding the use of publication metrics to evaluate researchers and their output. Without them, the Journal Impact Factor and H-index retain their lead and are respectively used by 71% (a slight decrease) and 70% of responding institutions. The gap with other metrics remains unchanged, as the Field Normalised Citation Impact remains in third place at 39% of institutions.

Survey answers to an open question on measurements for research collaborations within academia show a limited number of measurements being used to assess collaborations with researchers from other institutions, primarily co-authorship of publications and project contributions. While not always specified, the assessment methods previously discussed (for example an evaluation of the journal in which co-authored publications were published) often accompany measurement of the quantity of these partnerships. Several universities also point to collaborations being included in self-evaluation reports by researchers.

Several responding institutions mentioned that they have no individual-level assessment in place for research collaborations, but that collaborations are monitored at institutional level. This is notably reflected in comments indicating the use of university-level rankings that include metrics for research collaborations, such as the CWTS Leiden Ranking.[20]

When it comes to metrics measuring academic attention and uptake, the answers to a multiple-choice survey question show a clear preference for the Usage Impact Factor (61%), followed at a considerable distance by Libcitations (27%; Figure 12). While 41% of respondents indicated that they use other metrics, the low response rate to the accompanying comments section does not indicate which other metrics are being used to measure academic attention and uptake for the purpose of university research careers.

Figure 12 – Metrics measuring academic attention and uptake used for research careers
Based on survey question 8c, multiple-choice (cf. Annex 1). Number of respondents: 66/86

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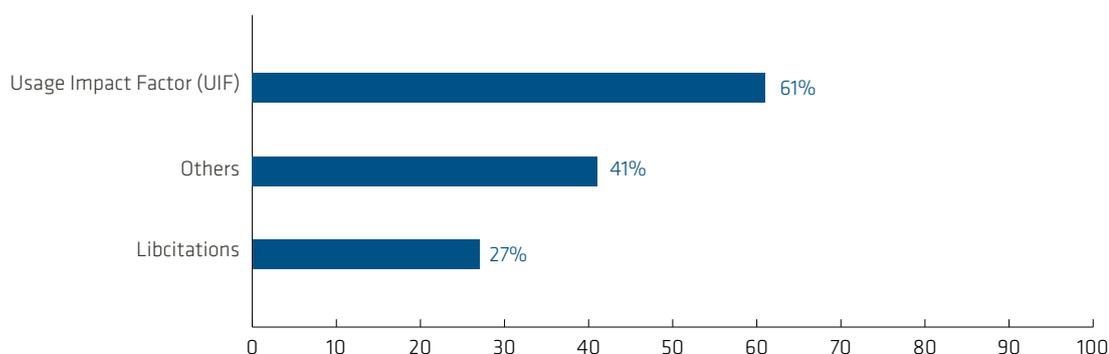
20 Retrieved 4 September 2019, from: https://www.leidenranking.com.

The answers to a multiple-choice survey question regarding Altmetrics for societal outreach show an even range of Altmetrics being used by responding institutions (cf. Figure 13). While ResearchGate views (46%) and F1000Prime (1%) are the two outliers, 10-40% of the responding institutions indicated that all other answer options are used to measure the social outreach of research. While 28% indicated that they use other metrics than those given as a multiple-choice answer option, the low response rate to the accompanying comments section does not indicate which other metrics are being used by universities to measure social outreach for the purpose of research careers.

Figure 13 – Altmetrics measuring social outreach used for research careers
Based on survey question 8d, multiple-choice (cf. Annex 1). Number of respondents: 79/84
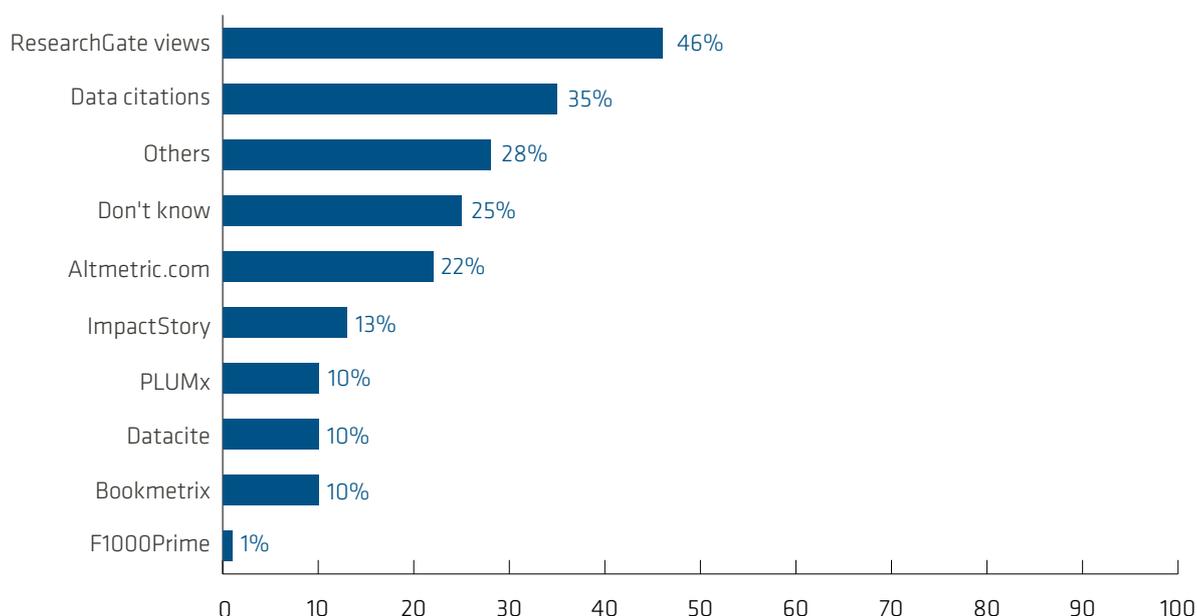
Regarding Open Science and Access indicators, the survey answers to an open question show a sizeable number of universities reporting on Open Access policies and infrastructures (cf. repositories) and institution-level monitoring of Open Access. This predominantly relates to publications, as data is only occasionally mentioned. However, individual assessment with an impact on research careers is less commonly commented on. While Open Access publications are sometimes assessed as part of self-evaluation reports or even under publication metrics, institutions do not generally go beyond institution-level monitoring. This tracks closely with the findings previously discussed in this report (cf. Figure 10) indicating that Open Science and Access policies have not yet been transposed into university incentive and reward structures.

Survey answers to an open question show that universities consider research impact and knowledge transfer indicators to be a strategically important academic activity. Technology Transfer Offices are especially present in the comments when it comes to monitoring institutional performance in this area. As for specific indicators, universities include research publications in their understanding of 'research impact' and the comments often include publication metrics such as the Journal Impact Factor and H-index. More targeted indicators include the number of patents, licenses, involvement in commercial spin-offs and start-ups, and a broad range of expert functions and popular publications in the social and cultural sphere. However, it should be noted that many comments are unclear on the extent to which universities go beyond institutional-level monitoring and include these indicators as part of individual assessments for the purpose of research careers.

In summary, responding institutions indicated that they rely on a limited set of evaluation practices, mostly geared towards assessing research publications. Quantitative publication metrics, notably the Journal Impact Factor and H-index, and qualitative peer-review are the most important practices for evaluating researchers and their output. Other methods are less widespread and often also less developed as part of individual-level incentive and reward structures. For example, Open Science and Access indicators are often only monitored at institutional level.

# 4. Reviewing university approaches to research assessment

This section looks at why and how universities are reviewing their approaches to research assessment. It first discusses the influence of existing principles and guidelines for more accurate, transparent and responsible evaluation practices, before turning to the future direction of research assessment procedures and concrete actions by universities. Lastly, the section turns to the main reasons and objectives for universities to review their approaches to research assessment, as well as the main barriers and difficulties they face in this process.

4.1. INFLUENCE OF EXISTING PRINCIPLES AND GUIDELINES

A multiple-choice survey question asked whether institutions use existing principles and guidelines as a model for developing their own approach to research assessment. The answer options included documents created by the research community, for example the *San Francisco Declaration on Research Assessment (DORA)*,[21] the *Leiden Manifesto for Research Metrics*[22] and *The Metric Tide. Report of the Independent Review of the Role of Metrics in Research Assessment and Management.*[23]

The largest group of responding institutions indicated that their approach to research assessment is modelled on 'other' principles and guidelines not included in the answer options (39%, cf. Figure 14). Asked to specify, about half of the respondents referred to government influence. This adds to the findings on institutional autonomy in developing and implementing research assessment procedures discussed in section 3.1.

Figure 14 – Influence of existing principles and guidelines on approaches to research assessment
Based on survey question 16, multiple-choice (cf. Annex 1). Number of respondents: 247/254

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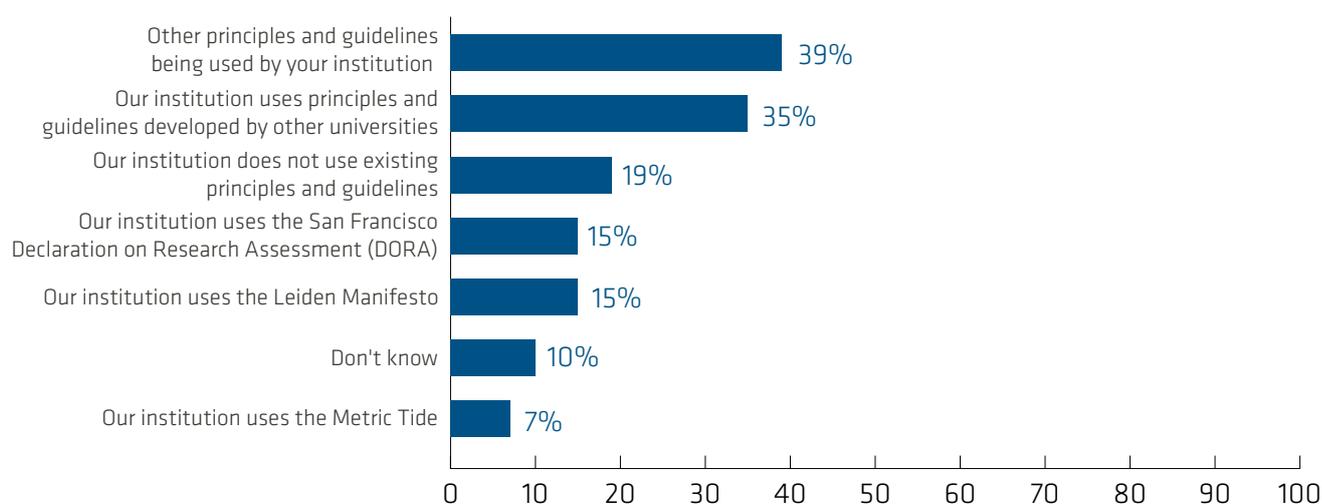
21 DORA (2012). *San Francisco Declaration on Research Assessment*. Retrieved 22 July 2019, from: https://sfdora.org/read/.

22 Hicks, D., Wouters, P., Waltman, L., de Rijcke, S., & Rafols, I. (2015). The Leiden Manifesto for research metrics. *Nature, 520*, pp. 429-431. Retrieved 22 July 2019, from: http://www.leidenmanifesto.org/.

23 Wilsdon, J., et al. (2015). *The Metric Tide: Report of the Independent Review of the Role of Metrics in Research Assessment and Management*. HEFCE. Retrieved 22 July 2019, from: https://responsiblemetrics.org/the-metric-tide/.

Another 35% of the responding institutions use other universities as a model for their own research assessment approach. They are followed by 19% of respondents who indicated that they do not rely on existing principles and guidelines, but have developed and implemented their own approach.

Principles and guidelines created by the research community were cited less often as the models for university approaches to research assessment. The influence of DORA (15%),[24] the Leiden Manifesto (15%) and the Metric Tide (7%) was acknowledged by a only small group of respondents, and lagged well behind other answer options. However, the influence of these documents may be undervalued due to their lack visibility and impact on the regulatory and funding framework in which universities operate, especially when compared to governments and research funding organisations.

Removing Turkish responses increases the influence of the guidelines and principles created by the research community. Without them, DORA and the Leiden Manifesto move up to 23% and 22% respectively, putting them ahead of the 18% of institutions that do not use existing principles and guidelines.

In summary, responding institutions most often acknowledge the influence of governments and other universities as models for their approach to research assessment. In comparison, the impact of principles and guidelines created by the research community (e.g. DORA, the Leiden Manifesto, the Metric Tide) is much less recognised.

4.2. THE FUTURE DIRECTION OF UNIVERSITY APPROACHES TO RESEARCH ASSESSMENT

An open survey question asked universities how they plan to review their approach to research assessment for the purposes of research careers, performance evaluation of research units and internal research funding allocation. They were also asked if they had taken any concrete steps to develop and implement more accurate, transparent and responsible approaches to research assessment. As these open questions are closely related, the findings will be discussed together.

Virtually all of the responding institutions are reviewing their approach to research assessment. Most responding institutions indicated that they will incentivise and reward a broader range of academic activities in future. Publishing research and attracting external funding are constantly mentioned and are likely to remain important activities, but almost all of the academic activities discussed in section 3.4.1. are cited and set to become more important in future. Research impact and knowledge transfer, and Open Science and Access are most often mentioned in this regard.

Most responding institutions indicated their intention to make more use of quantitative and qualitative evaluation methods that are commonly considered to be more accurate, transparent and responsible. These statements include explicit references to the use of DORA, the Leiden Manifesto, the Metric Tide and the Human Resources Strategy for Researchers (HRS4R)[25] as guidelines and principles for reviewing

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24 Institutions who answered that they did use DORA as a model were asked whether their university has formally signed the declaration in a follow-up question. However, these results have not been included in this report due to the low number of institutions that had access to this question (36 respondents).

25 HRS4R is a strategy to support research institutions and funding organizations in the implementation of the European Commission's European Charter for Researchers and a Code of Conduct for the Recruitment of Researchers. Retrieved 24 July 2019, from: https://euraxess.ec.europa.eu/jobs/hrs4r.

university approaches to research assessment. This may indicate that the influence of these documents was undervalued in the previous section (cf. section 4.1.).

However, responding institutions are not necessarily moving in the same direction. A small number of respondents indicated that they would in future give more importance to publication metrics to evaluate research careers, thereby moving in the opposite direction of what is commonly considered to be a more accurate, transparent and responsible approach to research assessment. For example, one university aiming to become a research-intensive institution stated that, in order to achieve this goal, they would start making more use of publication metrics such as the Journal Impact Factor.

In summary, responding institutions are reviewing their approaches to research assessment. They are moving towards broadening the range of academic activities they look at and working to improve their evaluation practices. However, universities are not necessarily moving in the same direction. While the vast majority of respondents are moving towards approaches that are commonly considered to be more accurate, transparent and responsible, a small number of universities indicated that they intend to make more use of publication metrics such as the Journal Impact Factor.

4.3. MAIN REASONS AND OBJECTIVES

An open survey question asked about the main reasons and objectives for responding institutions to review their approaches to research assessment. Responses mentioned a wide variety of external pressures and internal drivers as the main reasons for changing evaluation practices. The responses confirm that universities are keenly aware of the influence exerted by external actors such as governments, research funding organisations and others, as well as the conditions of the regulatory and funding frameworks in which they operate and the competitive nature of research and innovation. This has been discussed in more detail in section 3.1.

In terms of internal drivers, universities indicated that they review their approaches to research assessment in order to achieve a variety of institutional goals. Notable examples include: improving the research environment in order to attract and support researchers, improve the impact of research outputs in society, etc. In this regard, several respondents explicitly noted that the limitations of publications metrics mean that these are no longer suitable ways to incentivise and reward some of these institutional goals.

In summary, responding institutions noted that a wide variety of external pressures and internal drivers were catalysing reviews of their approaches to research assessment. While the influence of external actors and conditions has been previously discussed (cf. section 3.1.), these results show that universities are looking for evaluation practices that are better able to incentivise and reward changing institutional goals.

4.4. MAIN BARRIERS AND DIFFICULTIES

The survey asked institutions what the main barriers and difficulties are for reviewing their approaches to research assessment in a multiple-choice question. "Complexity of research assessment reform (e.g. different national and disciplinary practices)" was cited as the main such barrier by 46% of respondents (cf. Figure 15).

Figure 15 – Main barriers and difficulties for reviewing approaches to research assessment
Based on survey question 19, multiple-choice (cf. Annex 1). Number of respondents: 233/254
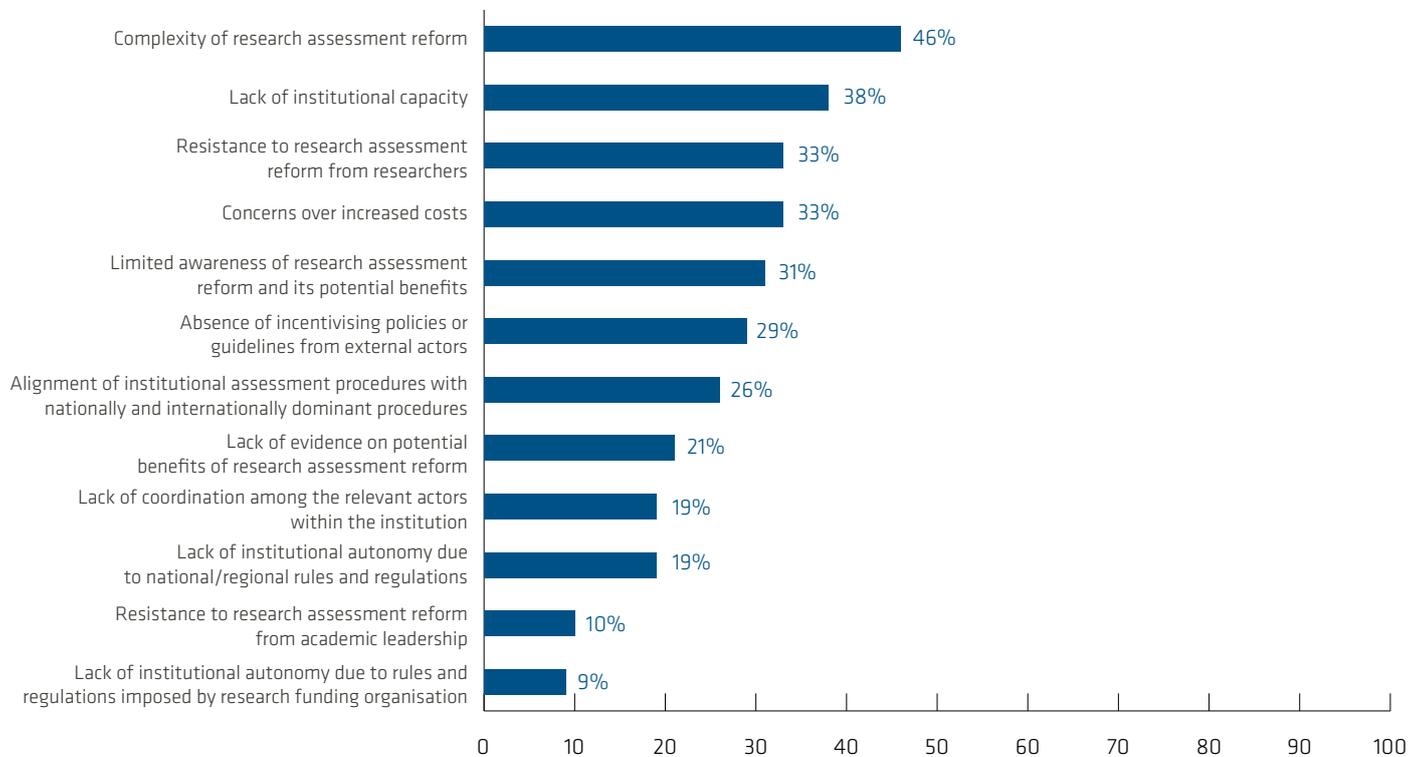
Furthermore, between half and about a third of responding institutions indicated that a "Lack of institutional capacity (e.g. skilled staff, support structures)" (38%), "Resistance to research assessment reform from researchers" (33%), "Concerns over increased costs (e.g. skilled staff, support structures)" (33%) and "Limited awareness of research assessment reform and its potential benefits" (31%) are the main barriers to reviewing university approaches to research assessment. Interestingly, the main barriers and difficulties are almost all internal.

Conversely, barriers and difficulties related to responding institutions' autonomy to develop and implement research assessment approaches are mostly found at the lower end of the spectrum. While "Absence of incentivising policies or guidelines from external actors (e.g. national/regional governments, research funding organisations)" (29%) and "Alignment of institutional assessment procedures with nationally and internationally dominant procedures" (26%) are still in the middle, "Lack of institutional autonomy due to national/regional rules and regulations" (19%) and "Lack of institutional autonomy due to rules and regulations imposed by research funding organisations" (9%) are towards to the bottom.

In summary, responding institutions indicated a wide spectrum of barriers and challenges when it comes to reviewing university approaches to research assessment. The main challenge is the overall complexity of this issue, which involves important disciplinary and national differences. Furthermore, the main barriers and difficulties are almost all internal, while issues related to the institutions' autonomy to develop and implement their own research assessment approaches are found at the lower end of the spectrum.

5. Concluding remarks

This report provides a comprehensive and up-to-date overview of the current state of research assessment at European universities, and shows why and how institutions are reviewing their evaluation practices. Based on the results of the *2019 EUA Open Science and Open Access Survey on Research Assessment* (cf. Annex 1), it aims to inform and strengthen the discussion by gathering and sharing information about current and future university approaches to research assessment.

These concluding remarks contain five key findings on university approaches to research assessment, as well as two broad recommendations on how to move the discussion on more accurate, transparent and responsible evaluation practices forward. Firstly, this report has made clear that institutions focus on publishing research outcomes and attracting external funding in their incentive and reward structures (cf. section 3.4.1.). These activities are regarded as important or very important for research careers by 90% and 81% of respondents, respectively. A range of other academic activities are also acknowledged, the most important of these are research impact and knowledge transfer, which are important or very important to 68% of responding institutions. Nevertheless, the survey results make clear that publishing research and attracting external funding are the two main activities incentivised and rewarded when it comes to research careers.

A second and closely related key finding is that universities rely on a limited set of evaluation practices, which are mostly geared towards assessing research publications (cf. sections 3.4.2. and 3.4.3.). Quantitative publication metrics and qualitative peer-review have a clear lead and are regarded as important or very important by 82% and 74% of respondents, respectively. Especially striking is the widespread use of the journal impact factor (by 75% of institutions) to evaluate the research output of individual researchers.

Conversely, a third key finding is that other indicators are less widespread and often also less developed (cf. sections 3.4.2. and 3.4.3.). This is especially true for Open Science and Access indicators, which are only important or very important to 28% of respondents in their approach to research assessment for the purpose of research careers. Moreover, the open accessibility of research publications and data is often only monitored at institutional level, and is not part of incentive and reward structures for individuals.

> The survey results show that more work needs to be done to expand the range of academic activities incentivised and rewarded by universities, and to move towards a less limited set of evaluation practices. Participants at the EUA workshop in May 2019 (cf. Annex 2) shared a broad consensus on the need to review the current situation, calling for a good practice-led approach to change. More work also needs to be done to review the meaning of concepts such as research 'excellence' and 'quality' in relation to a broader range of research outputs.

A fourth key finding is that universities consider themselves largely autonomous when it comes to developing and implementing research assessment approaches (cf. section 3.1.). For the purpose of research careers, 79% of institutions indicate they are mostly or highly autonomous in their research assessment practices. This number increases to 83% for the purposes of evaluating the performance

of research units and 90% for the internal allocation of research funding. While the results show that universities primarily organise their approach to research assessment at institutional level, they also clearly indicate that staff at different levels of the organisation are involved in this process.

That responding institutions consider themselves largely autonomous is also apparent from the barriers to reviewing university approaches to research assessment (cf. section 4.4.), where respondents indicated that the main difficulties are almost all internal. These included a lack of institutional capacity (e.g. skilled staff, support structures), researchers' resistance to research assessment reform, concerns over increased costs (e.g. skilled staff, support structures) and limited awareness of research assessment reform and its potential benefits.

However, a fifth key finding is that universities are also keenly aware of external influences shaping their approaches to research assessment. Responding institutions indicated that these influences are predominantly from governments and research funding organisations who set the regulatory and funding frameworks, and also from the competitive research and innovation environment (cf. section 3.1.). Conversely, the influence of research community principles and guidelines (e.g. DORA, the Leiden Manifesto, the Metric Tide) was much less recognised (cf. section 4.1.). In combination, the results on institutional autonomy found in this report make clear that universities do not develop and implement approaches to research assessment in isolation, although they do consider themselves as having significant autonomy when it comes to responding to external influences.

> The survey results show that reviewing approaches to research assessment is a shared responsibility and requires a concerted approach uniting the main actors. Internally, it requires intra-university dialogue between researchers, research support staff and university leadership. Externally, it requires universities and their main partners, notably governments and research funding organisations, to engage with each other. Participants at the EUA workshop in May 2019 (cf. Annex 2) agreed that more dialogue is essential to take the discussion on reviewing approaches to research assessment forward, and called for universities and their main partners to work together on developing and implementing more accurate, transparent and responsible evaluation practices.

The transition to Open Science needs to go hand in hand with a broad consensus on how approaches to research assessment can better reflect the changing landscape of research and innovation. In this regard, EUA has clearly stated that the quality of journal articles and other research outputs should be assessed in terms of the merit of the research itself, and not according to the reputation of the journal in which it is published. The Association is also a signatory to DORA and has expressed its support for similar principles and guidelines created by the research community.

EUA is committed to carrying on this discussion. Having gathered and shared information to inform and strengthen this debate, the Association hopes to have clarified the current status and ongoing review of university approaches to research assessment. In addition, having started a dialogue between universities and other actors like Science Europe, EUA intends to facilitate a broader reflection on the current state of play and concerted ways forward. EUA will continue its work on these priority actions and will start making policy and good practice recommendations in close collaboration with its members.

Annexes

ANNEX 1 – 2019 EUA OPEN SCIENCE AND ACCESS SURVEY ON RESEARCH ASSESSMENT

Introduction

Context and objectives

This is a follow-up survey of previous EUA membership consultations on Open Access that were carried out between 2014 and 2018. Their longitudinal analysis showed limited progress on Open Access to research publications and data in Europe, while simultaneously persistent challenges remain unresolved. One of the main challenges is the fact that current research assessment practices do not incentivise nor reward researchers for making the outcomes of their research openly available.

By re-launching the EUA Open Science and Access survey and changing its focus to research assessment, EUA will gather and share a comprehensive overview of research assessment approaches developed and implemented by European universities. This is part of the EUA Roadmap on Research Assessment in the Transition to Open Science, in which we commit "[…] to raise awareness and support [universities] in the development of research assessment approaches that focus on research quality, potential and future impact, and that take into account Open Science practices."

The questions used in this survey were developed by the EUA Secretariat in collaboration with the EUA Expert Group on Science 2.0/Open Science.

Structure of the survey

This survey is structured in two main parts:

- The first part consists of questions on the current state of research assessment in your institution.
- The second part consists of questions on your institution's future plans for research assessment.

The first part is divided into three sections covering the main purposes of research assessment: (1) careers in research, (2) performance evaluation of research units and (3) research funding allocation within the institution. Should this structure not fully reflect the research assessment approach at your institution, open questions at the end of each section are available to further expand on the assessment procedures your institution has in place.

Guidelines for filling out the survey

- Filling out the survey will take approximately one hour.
- The survey should be filled out by the people or departments closely involved in developing and implementing research assessment at your institution. However, please note that **only one response per institution should be submitted.**
- To facilitate collaboration between people and departments within your institution, please find

[here] a printable PDF version of the survey. In case you need to consult with others within your institution, we suggest that you review the PDF version before you fill in the survey online. Please note **only the online version** can be used to submit your final answers.

- The survey saves answers per page as you click the **"Next"** button and move to the following page. You can exit the survey if you wish and re-enter by copying the link you have received in the **same device and browser** from which you first accessed it. The pages you have filled in up to that point will be saved. Please note that you will also be able to go back and make changes to your answers before submitting them.
- Please make sure you press the **"Submit"** button at the end of the survey. Otherwise your answers will not be recorded. After submitting the survey, you will be automatically redirected to an overview of your answers, which you can save in PDF format.

Technical assistance

Should you have questions or encounter technical problems, please contact us at research@eua.eu.

Confidentiality policy and Open Access

EUA guarantees the confidentiality of the data provided and will only disseminate aggregated data. Please note that by default the data provided in this survey will be openly available for access and reuse. Individual answers will remain anonymous and cannot be traced back to your institution. **In case you do not consent that your answers, in anonymous form, are made available in Open Access, please select the button below.**

- I do not consent that my answers, in anonymous form, are made available in Open Access.

Definitions

For the purposes of this survey, please consider the following definitions:

- Research assessment: the entire catalogue of methods that are used to evaluate the quality and impact of research. Assessment outcomes are typically, but not necessarily used for the purposes of careers in research, performance evaluation of research units and allocating research funding within the institution.
- Peer-review: the process of experts making a qualitative judgement of research quality.
- Metrics: indicators used for the quantitative approximation of research production and visibility (or impact), but not necessarily quality.

General information

Please indicate the country of your institution: [open question]

- Country

Please provide the name of your institution (in English): [open question]

- Name of the institution

Name and contact of the person answering the survey on behalf of the institution: [open question]

- Name
- E-mail

Please indicate your position at your institution (i.e. department, function): [open question]

- Position

How would you describe the profile of your institution? [single-choice]

- Comprehensive institution (e.g. covering all or most academic disciplines)
- Specialised institution (e.g. medical science, music and arts school)
- University of applied sciences (college-type or professional education institution which does not award PhDs, or does so in only a few disciplines)
- Technical university/ University of technology
- Distance learning university

What is the total number of researchers (full time equivalent, FTE), including doctoral candidates, working at your institution? [single-choice]

- < 100
- 100-500
- 500-1000
- > 1 000

Questions

Q1 – Is your institution performing research assessment for any of the following purposes: careers in research, performance evaluation of research units and/or allocation of research funding within the institution? [single-choice]

- Yes [leads to part 1 and 2]
- No, but this is being developed [skips to part 2]
- No [leads to Q1a]

  [If the answer to Q1 is "No" then Q1a follows. Subsequently, the survey ends]
- **Q1a – If your institution does not perform research assessment, please indicate how decisions are made on the recruitment and career progression of researchers, the performance of research units and/or the allocation of research funding?** [open question]

[If the answer to Q1 is "Yes" then Part 1 follows]
Part 1 – Current status of research assessment at your institution

Q2 – At what level is research assessment primarily organised in your institution? [single-choice]
- Institutional/university level
- Faculty/department level
- Research unit level
- Don't know
  Comments: [open question]

Q3 – Who is involved in developing research assessment procedures in your institution? [multiple-choice]
- Academic leadership
- Academic researchers
- Library staff
- Research department staff
- Other (please specify in comments)
- Don't know
  Comments: [open question]

Section 1a – Careers in research
Managing careers in research can be one of the main objectives and purposes of research assessment. The questions in the section below relate specifically to this purpose.

Does your institution have a research assessment approach in place for the purpose of careers in research?
- Yes [questions appear]
- No [skips to section 1b]

Q4 – Do you consider that your institution is autonomous in developing and implementing its research assessment procedures for the purpose of careers in research? [single-choice]
- I consider that our institution is highly autonomous in developing and implementing its procedures
- I consider that our institution is mostly autonomous in developing and implementing its procedures
- I consider that our institution has some autonomy to develop and implement its procedures
- I consider that our institution has low autonomy to develop and implement its procedures
- Don't know

Q5 – Please elaborate if and how other stakeholders (i.e. academies, research funders and governments) influence your institution's autonomy to develop and implement research assessment for the purpose of careers in research. [open question]

Q6 – Regarding transparency, information on the methods used in your institution's assessment procedures for careers in research is: [single-choice]
- Publicly available (either in whole or in part)
- Internally available
- Not available

[If the answer to Q6 is "Publicly" or "Internally available" then Q6a follows]
- **Q6a – Please indicate if and how information on the methods used in your institution's assessment procedure for careers in research is communicated to relevant university staff:** [open question]

Q7 – How important are the following aspects of academic work within your institution's research assessment approach for the purpose of careers in research? In other words, which of these aspects are taken into account most when evaluating researchers? Please note that you might have to scroll right to see all available options. [ranking question with the following options: very important, important, moderately important, of little importance, unimportant and don't know]
- Research publications
- Other types of research output (e.g. data)
- Research collaborations within academia (e.g. co-authoring publications, inter- or multidisciplinary research, inter-institutional collaboration)
- Research collaborations outside academia (e.g. with private sector, government and other non-academic sectors)
- Research impact and knowledge transfer (e.g. intellectual properties such as patents and licenses)
- Social outreach and knowledge transfer (e.g. uptake by non-academic groups, citizen science, science communication)
- Research networking (e.g. organising or participating in conferences)
- Attracting external research funding
- Open Science and Open Access
- Research supervision activities
- Teaching activities
- Mentoring activities
- Others (please specify): [open questions]

Q8 – How important are the following research assessment methods your institution uses for careers in research? Please note that you might have to scroll right to see all available options. [ranking question with the following options: very important, important, moderately important, of little importance, unimportant and don't know]

- Qualitative, peer-review assessment
- Metrics measuring research output based on number of publications and citations
- Metrics measuring collaborations within academia based on co-authorship
- Metrics measuring academic attention and uptake based on number of views and downloads
- Altmetrics measuring the societal outreach of journal publications, books, reports, data and other non-traditional publications based on downloads, tweets, news mentions, etc.
- Open Science and Open Access indicators measuring the open accessibility of research outcomes and data
- Research impact and knowledge transfer indicators (e.g. intellectual properties such as patents and licenses)
  Others: [open question]

[If the respondent indicates in Q8 that "Metrics measuring research output based on number of publications and citations" are either "Very important", "Important" or "Moderately important", then Q8a follows]
- **Q8a – Which of the following does your institution use to measure the research output of researchers?** [multiple-choice]
  - Journal Impact Factor (JIF)
  - h-index
  - Field normalised citation index
  - Eigenfactor
  - SCImago Journal Rank (SJR)
  - Source Normalized Impact per Paper (SNIP)
  - CiteScore
  - Don't know
  Others: [open question]

[If the respondent indicates in Q8 that "Metrics measuring collaborations within academia based on co-authorship" are either "Very important", "Important" or "Moderately important", then Q8b follows]
- **Q8b – How does your institution measure research collaborations of researchers?** [open question]

[If the respondent indicates in Q8 that "Metrics measuring academic attention and uptake based on number of views and downloads" are either "Very important", "Important" or "Moderately important", then Q8c follows]
- **Q8c – Which of the following metrics does your institution use to measure academic attention and uptake of research output?** [multiple-choice]
  - Usage Impact Factor (UIF)
  - Libcitations

- Don't know [becomes single-choice]
  Others: [open question]

[If the respondent indicates in Q8 that "Altmetrics measuring the societal outreach" are either "Very important", "Important" or "Moderately important", then Q8d follows]

- **Q8d – Which of the following altmetrics does your institution use to measure the societal outreach of research outcomes?** [multiple-choice]
  - Altmetric.com
  - ImpactStory
  - PLUMx
  - Datacite
  - Bookmetrix
  - F1000Prime
  - Data citations
  - ResearchGate views
  - Don't know [becomes single-choice]
    Others: [open question]

[If the respondent indicates in Q8 that "Open Science and Open Access indicators" are either "Very important", "Important" or "Moderately important", then Q8e follows]

- **Q8e – How does your institution assess Open Science and Open Access of research publications and data?** [open question]

[If the respondent indicates in Q8 that "Research impact and knowledge transfer indicators" are either "Very important", "Important" or "Moderately important", then Q8f follows]

- **Q8f – How does your institution assess research impact and knowledge transfer of research outcomes ?** [open question]

Q9 – Please expand further on the assessment procedures your institution has in place for careers in research. As far as possible, please describe how your institution makes use of specific qualitative (e.g. peer-review) and quantitative (e.g. journal and usage-based metrics, alternative metrics) methods. [open question]

Section 1b – Performance of research units

Evaluating the performance of research units can be one of the main objectives and purposes of research assessment. The questions in the section below relate specifically to this purpose.

Does your institution have a research assessment approach in place for the purpose of performance evaluation of research units?
- Yes *[questions appear]*
- No *[skips to section 1c]*

Q10 – Do you consider that your institution is autonomous in developing and implementing its research assessment procedures for the purpose of evaluating the performance of research units? [single-choice]
- I consider that our institution is highly autonomous in developing and implementing its procedures
- I consider that our institution is mostly autonomous in developing and implementing its procedures
- I consider that our institution has some autonomy to develop and implement its procedures
- I consider that our institution has low autonomy to develop and implement its procedures
- Don't know

Q11 – Please elaborate if and how other stakeholders (i.e. academies, research funders and governments) influence your institution's autonomy to develop and implement research assessment for the purpose of evaluating the performance of research units? [open question]

Q12 – Please expand further on the assessment procedures your institution has in place regarding the performance of research units. As far as possible, please describe how your institution makes use of specific qualitative (e.g. peer-review) and quantitative (e.g. journal and usage-based metrics, alternative metrics) methods. [open question]

Section 1c – Research funding allocation within the institution

Allocation of research funding within the institution can be one of the main objectives and purposes of research assessment. The questions in the section below relate specifically to this purpose.

Does your institution have a research assessment approach in place for the purpose of research funding allocation within the institution?
- Yes *[questions appear]*
- No *[skips to part 2, if applicable]*

Q13 – Do you consider that your institution is autonomous in developing and implementing its research assessment procedures for the purpose of research funding allocation within the institution? [single-choice]
- I consider that our institution is highly autonomous in developing and implementing its procedures
- I consider that our institution is mostly autonomous in developing and implementing its procedures
- I consider that our institution has some autonomy to develop and implement its procedures
- I consider that our institution has low autonomy to develop and implement its procedures
- Don't know

Q14 – Please elaborate if and how other stakeholders (i.e. academies, research funders and governments) influence your institution's autonomy to develop and implement research assessment for the purpose of research funding allocation within the institution? [open question]

Q15 – Please expand further on the assessment procedures your institution has in place regarding research funding allocation within the institution. As far as possible, please indicate which percentage of your institution's total research funding (from both internal and external sources) is covered by this allocation procedure and describe how your institution makes use of specific qualitative (e.g. peer-review) and quantitative (e.g. journal and usage-based metrics, alternative metrics) methods. [open question]

[If the answer to Q1 is "Yes" or "No, but this is being developed" then Part 2 follows]
Part 2 – Future plans for research assessment at your institution

Q16 – Does your institution use existing principles and guidelines for developing its own approach to research assessment? If your institution uses multiple models, please indicate them all. [multiple-choice]
  - Our institution uses principles and guidelines developed by other universities
  - Our institution uses the San Francisco Declaration on Research Assessment (DORA)
  - Our institution uses the the Leiden Manifesto
  - Our institution uses the Metric Tide
  - Our institution does not use existing principles and guidelines [question becomes single-choice]
  - Don't know [becomes single-choice]
    Other principles and guidelines being used by your institution: [open question]

  [If the answer to Q16 is "DORA" then Q16a follows]
  - **Q16a – Has your institution signed the San Francisco Declaration on Research Assessment (DORA)?** [single-answer]
    • Yes, we have signed
    • We are considering signing, but have not yet made a decision
    • We have considered signing, but have decided not to
    • No, we have not signed, but are implementing the recommendations
    • No, we have not signed
    • Don't know
      Comments: [open question]

Q17 – Has your institution taken concrete steps to implement more accurate, transparent and responsible approaches to research assessment? If so, please elaborate. [open question]

Q18 – What are the main reasons and objectives for your institution to revisit and reform its research assessment procedures? [open question]

Q19 – What are the main barriers and difficulties for your institution to revisit and reform its research assessment procedures? [multiple-choice]
- Limited awareness of research assessment reform and its potential benefits
- Lack of evidence on potential benefits of research assessment reform
- Resistance to research assessment reform from academic leadership
- Resistance to research assessment reform from researchers
- Concerns over increased costs (e.g. skilled staff, support structures)
- Complexity of research assessment reform (e.g. different national and disciplinary practices)
- Lack of institutional capacity (e.g. skilled staff, support structures)
- Lack of coordination among the relevant actors within the institution
- Absence of incentivising policies or guidelines from external actors (e.g. national/regional governments, research funding organisations)
- Alignment of institutional assessment procedures with nationally and internationally dominant procedures
- Lack of institutional autonomy due to national/regional rules and regulations
- Lack of institutional autonomy due to rules and regulations imposed by research funding organisation
  Other barriers and difficulties: [open question]

Q20 – In the future, what are the main research assessment methods your institution plans to use for careers in research, the performance of research units and research funding allocation? [open question]

ANNEX 2 – EUA WORKSHOP REPORT: RESEARCH ASSESSMENT FOR RESEARCHER RECRUITMENT AND CAREER PROGRESSION

Workshop organised by EUA and hosted by the University Foundation on 14 May 2019 in Brussels, Belgium. Sponsored by the University of Lorraine (France), University of Liège (Belgium), Open University of Catalonia (Spain), Medical University of Graz (Austria) and University of Zurich (Switzerland).

The European University Association (EUA) organised its first workshop on research assessment in the transition to Open Science on 14 May 2019 in Brussels, Belgium. Focused on researcher recruitment and career progression, 131 academic leaders, researchers and professional staff attended the event from universities and partner organisations in 24 European countries.

The main objective of the workshop was to bring together universities that are interested in or actively taking steps to revisit their approach to research assessment. The programme encouraged participants to exchange views on current trends and innovative practices from across Europe, as well as start a dialogue on ways forward.

During the workshop, several key issues emerged from the presentations and the question and answer sessions with the audience.

Revisiting research assessment in the transition to Open Science

Workshop participants shared a consensus on the need to revisit research assessment approaches. Stephen Curry (Imperial College London, United Kingdom) set the stage for the day's discussions by unpacking how "success" is currently defined and measured in academia, as well as making a compelling case for the need to improve our approaches on both fronts.

Especially, but not exclusively in the transition to Open Science, much remains to be done to provide researchers with the right incentives and rewards for their careers. Both Paul Wouters (Leiden University, Netherlands) and Sabina Leonelli (University of Exeter, United Kingdom) made this clear in their presentations of the latest efforts to develop more accurate, transparent and responsible approaches to research assessment.

A practice-led approach for change

The workshop programme included discussions on a wide range of new and innovative approaches being developed and implemented by universities across Europe. Rik Van de Walle (Ghent University, Belgium) presented his institution's new evaluation and career promotion model for professorial staff. Importantly, Ghent is moving away from a quantitative assessment approach, replacing indicators with qualitative methods, to allow greater freedom and responsibility for its professors.

Other practices covered in the programme came from a Europe-wide call for contributions launched by EUA in the run-up to the workshop. Marta Aymerich (Open University of Catalonia, Spain), Tamara Antona Jimeno (International University of La Rioja, Spain) and Aurelio Ruiz (Pompeu Fabra University, Spain) presented practical examples of academic leadership providing a strategic direction and funding.

Sarah Coombs (Saxion University of Applied Sciences, Netherlands), Rolf Hvidtfeldt (Aalborg University, Denmark) and Lorna Wildgaard (University of Copenhagen, Denmark) presented contributions on the latest innovations related to scholarly metrics in the transition to Open Science.

A common theme throughout many presentations was the distinction between changing rules and procedures and bringing about a culture shift. Stephen Curry, Rik Van de Walle, Stephan Kuster (Science Europe) and Eva Méndez Rodriguez (Charles III University of Madrid, Spain) pointed out the greater challenge of changing the way we think about and value "success" in research.

Towards a concerted approach

Revisiting research assessment procedures is a shared responsibility and requires a concerted approach uniting the main actors. Presentations and discussions during the workshop called for researchers, universities and other research performing organisations, research funders and policymakers to work together on developing and implementing more accurate, transparent and responsible approaches to research assessment.

Clear communication and dialogue between actors were highlighted as key factors. Presentations by Eva Méndez Rodriguez and doctoral candidate Noémie Aubert Bonn (University of Hasselt, Belgium) made this clear by stating: "(Darling), we need to talk!" While the workshop reflected a general consensus on the need for change, Noémie Aubert Bonn pointed out that individual actors have different priorities and often feel unable to act on their own. Starting a conversation is crucial to overcome both issues and to start building a shared agenda for change.

Taking a first step towards a concerted approach, EUA and Science Europe presented a joint statement on combining their efforts to improve scholarly research assessment methodologies. Martine Rahier, Vice-President of EUA, and Stephan Kuster, Secretary General of Science Europe, described it as a sign of their commitment to working together on building a strong dialogue between their members.

The workshop concluded with a panel discussion on how different actors can work together on rethinking the rewards given to researchers for past achievement and the incentives that shape their future careers. Representing the main actors, the panel consisted of Rene von Schomberg (European Commission), Noémie Aubert Bonn, John-Arne Røttingen (Research Council of Norway), Véronique Halloin (Fonds de la Recherche Scientifique (FRS-FNRS), Belgium), Catriona MacCallum (Open Access Scholarly Publishers Association (OASPA)) and Eva Méndez Rodríguez.

Take-home message

The workshop concluded with Bernard Rentier (University of Liège, Belgium) summarising the key issues that emerged during the day. The main take-home message was that the transition to Open Science will not be possible without a broad consensus on how research assessment practices can better reflect the changing landscape of research and innovation, especially the emergence of Open Science. This is a responsibility for the main actors who already share a broad consensus on the need for change, but must engage in further dialogue on a clear strategy on how to move forward.

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The European University Association (EUA) is the representative organisation of universities and national rectors' conferences in 48 European countries. EUA plays a crucial role in the Bologna Process and in influencing EU policies on higher education, research and innovation. Thanks to its interaction with a range of other European and international organisations, EUA ensures that the voice of European universities is heard wherever decisions are being taken that will impact their activities.

The Association provides a unique expertise in higher education and research as well as a forum for exchange of ideas and good practice among universities. The results of EUA's work are made available to members and stakeholders through conferences, seminars, websites and publications.