

Online survey on scientific information in the digital age

EUROPEAN COMMISSION

Directorate-General for Research and Innovation
Directorate B – European Research Area
Unit B.6 – Ethics and gender

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Online survey on scientific information in the digital age

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Luxembourg: Publications Office of the European Union, 2012

ISBN 978-92-79-23170-4

doi:10.2777/7549

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Executive summary

The public consultation 'Online survey on scientific information in the digital age' spurred great interest among different categories of stakeholders, with 1 140 responses received. The Commission received responses from 42 countries, including from all Member States except Ireland, Malta, Slovenia and Slovakia, with 37 % of all responses submitted by German respondents.

The responses embrace the different stakeholders: national governments, regional and local governments, research funding organisations, university/research institutes, libraries, publishers, international organisations, individual researchers, citizens and respondents identified as 'other', among which there were NGOs, industries, charities, learned societies and scientific and professional associations.

What role for Europe?

The question asked in this section was about the areas in which the European Union can best contribute to improving the circulation of knowledge and, specifically, access to and preservation of scientific information. Responses called for European action: almost 83 % of the respondents called for policy formulation at EU level (9 % were against), and 86 % agreed on the development of the EU network of repositories.

Access to digital scientific information: scientific publications

Respondents were asked if there is **no** access problem to scientific publications in Europe: 84 % disagreed or disagreed strongly with the statement. The high prices of journals/subscriptions (89 %) and limited library budgets (85 %) were signalled as the most important barriers to accessing scientific publications. More than 1 000 respondents (90 %) supported the idea that publications resulting from publicly funded research should, as a matter of principle, be in open access (OA) mode. An even higher number of respondents (91 %) agreed or agreed strongly that OA increased access to and dissemination of scientific publications. Self-archiving ('green OA') or a combination of self-archiving and OA publishing ('gold OA') were identified as the preferred ways that public research policy should facilitate in order to increase the number and share of scientific publications available in OA. Respondents were asked, in the case of self-archiving ('green OA'), what the desirable embargo period is (period of time during which publication is not yet open access): a six-month period was favoured by 56 % of respondents (although 25 % disagree with this option).

Access to digital scientific information: research data

As for the question of access to research data, the vast majority of respondents (87 %) disagreed or disagreed strongly with the statement that there is **no** access problem for research data in Europe. The barriers to access research data considered very important or important by respondents were: lack of funding to develop and maintain the necessary infrastructures (80 %); the insufficient credit given to researchers for making research data available (80 %); and insufficient national/regional strategies/policies (79 %). There was strong support (90 % of responses) for research data that is publicly available and results from public funding to be, as a matter of principle, available for reuse and free of charge on the Internet. Lower support (72 % of responses) was given for data resulting from partly publicly and partly privately funded research.

Preservation of digital scientific information

Responding to the question asking whether preservation of scientific information is at present sufficiently addressed, 64 % of the respondents disagreed or disagreed strongly. The main barriers signalled in this area were: uncertainty as to who is responsible for preserving scientific information (80 %); the quality and interoperability of repositories (78 %); and the lack of a harmonised approach to legal deposit (69 %).

I. INTRODUCTION

1.1. Background

In 2012, the European Commission intends to adopt a communication and recommendation on access to and preservation of scientific information in the digital age. This initiative builds on earlier policy developments in this area, and is being developed within the policy contexts of the EU flagship initiatives 'Innovation Union' ⁽¹⁾ and 'Digital agenda for Europe' ⁽²⁾, and of the push for improved knowledge circulation in the European research area (ERA).

The communication will take stock of developments in the area of scientific information, and set out the actions that the Commission intends to take on open access to publications and data in the context of research projects funded by the Union budget. The recommendation will detail specific actions to be taken at Member State level.

Consultation of interested parties forms part of the policy process. The purpose of this open consultation was to gather information from as many sources as possible, including governments, research institutions and universities/research institutes, libraries, scientific publishers, research funding organisations, businesses, individual researchers and other interested parties on their views on scientific information in the digital age. The consultation feeds into the development of possible policy options to be considered, and contributed to the ex ante impact assessment for the communication and recommendation to the Council on scientific information.

The online consultation was launched on 15 July 2011 and closed on 9 September 2011. The consultation was published on the Commission's website (at http://ec.europa.eu/research/consultations/scientific_information/consultation_en.htm). The launch was publicised through a press release ⁽³⁾, at European Commission conferences and workshops, and on the Research and Innovation DG webpage dedicated to open access ⁽⁴⁾. In addition, all types of stakeholders were informed about the consultation and invited to submit their views through a mailing of the DG's 'Scientific publication emailing list'.

The following overview based on the replies to different sections of the public consultation 'Online survey on scientific information in the digital age' provides a detailed look at comments and ideas brought forward in the submissions. For reasons of clarity some of the comments have been regrouped, even if they were submitted in response to separate questions.

⁽¹⁾ COM(2010) 546 final (http://ec.europa.eu/research/innovation-union/pdf/innovation-union-communication_en.pdf).

⁽²⁾ COM(2010) 245 final (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0245:FIN:EN:PDF>).

⁽³⁾ <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/890&format=HTML&aged=0&language=EN&guiLanguage=en>

⁽⁴⁾ COM(2010) 245 final (<http://ec.europa.eu/research/science-society/index.cfm?fuseaction=public.topic&id=1301&lang=1>).

I.2. Replies to the consultation: statistics

The Commission received 1 140 responses online and a further 19 individual contributions by e-mail and ordinary mail. The responses embrace the different stakeholders: national governments, regional and local governments, research funding organisations, university/research institutes, libraries, publishers, international organisations, individual researchers, citizens and respondents identified as ‘other’. This last category includes mainly responses from NGOs, industries, charities, learned societies and scientific and professional associations.

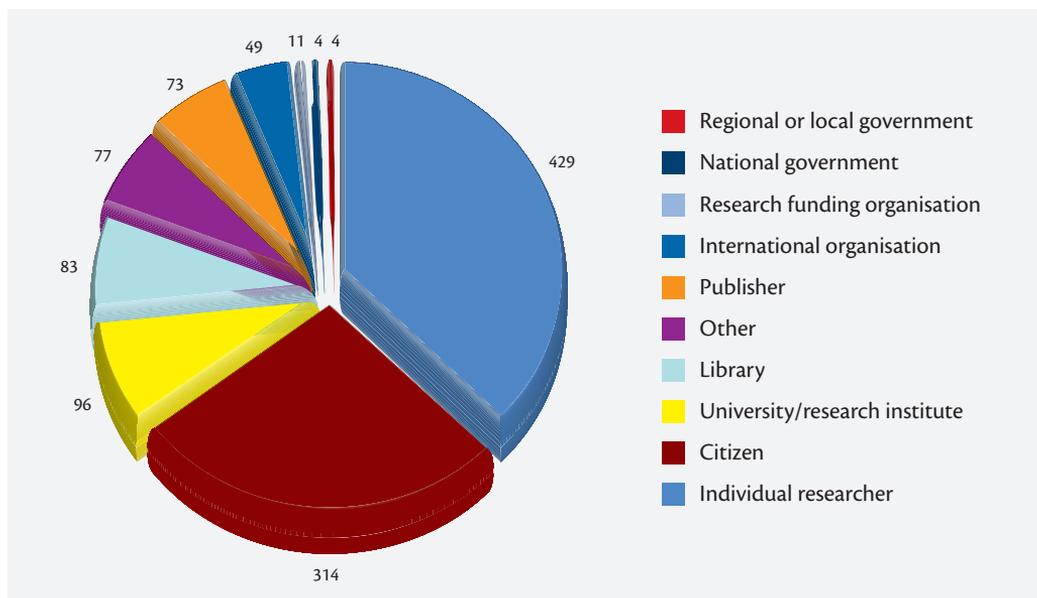


Figure 1: 'Respondents' categories'

Four national government (Belgium, France, Netherlands and Sweden) and four regional or local government organisations (three from Germany and one from Portugal) submitted online contributions.

The majority of respondents were individual researchers (37.6 %). The remainder were citizens (27.5 %), university/research institutes (8.4 %), libraries (7.3 %), publishers (6.4 %), international organisations (4.3 %), research funding organisations (1 %) and national, regional or local governments (0.8 %).

A total of 23 countries of residence were referred to, and 82 respondents indicated their countries as 'other'. The overall distribution of respondents by nationality was:

Country	Number of respondents
Germany	422
France	129
United Kingdom	127
Italy	95
Other	82
Netherlands	39
Austria	38
Belgium	36
Greece	27
Spain	26
Sweden	26
Portugal	25
Czech Republic	16
Lithuania	9
Poland	9
Denmark	8
Romania	7
Cyprus	5
Bulgaria	3
Estonia	3
Finland	3
Hungary	2
Luxemburg	2
Latvia	1

The 'other' countries stated by respondents were the following (in order of number of contributions): Switzerland (21), United States of America (20), Norway (6), Canada (5), Croatia (4), India (3), Bosnia and Herzegovina (2), Australia (2), Pakistan (1), the former Yugoslav Republic of Macedonia (1), Cambodia (1), Nigeria (1), Qatar (1), Israel (1), Tunisia (1), Mexico (1), Russia (1) and South Africa (1).

II. ANALYSIS OF RESPONSES

II.1. What role for Europe?

This section is based on the replies to the section of the questionnaire on ‘What role for Europe?’ Respondents were asked about the role they would see for the European Union to improve knowledge circulation.

Question

In your opinion, in what specific areas can and should the European Union best contribute to improving the circulation of knowledge, and specifically access to and preservation of scientific information (including both publications and data)?

In particular, respondents were asked to rate their consent on the following areas in which EU-level intervention could best contribute to improving the circulation of knowledge:

1. policy formulation at European level on access and preservation issues;
2. coordinating existing initiatives in EU Member States;
3. supporting the development of a European network of repositories;
4. encouraging universities/research institutes, libraries and funding bodies etc. to implement specific actions.

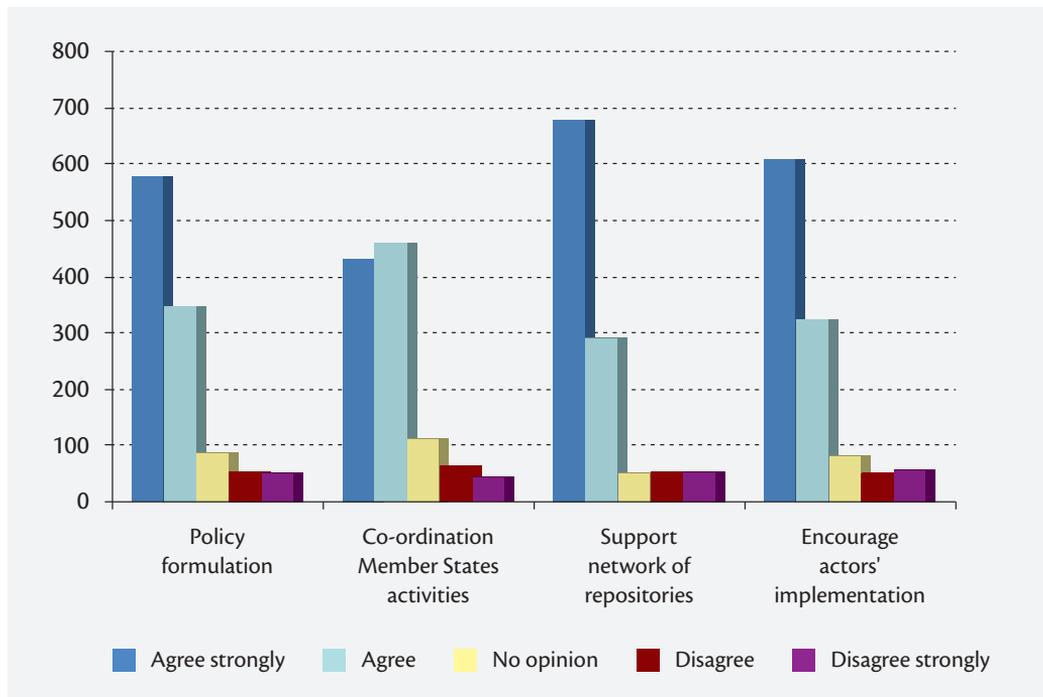


Figure 3: ‘EU intervention areas’

Policy formulation at European level on access and preservation issues

The majority, 925 (81 %), of respondents agree or agree strongly that the European Union can contribute to improving the circulation of knowledge, through the formulation of European-level policies on access and preservation issues.

Among these are all the respondents replying as representatives of national and regional or local governments. The second group strongly supporting this option was the libraries, with slightly more than 96 % (72.3 % agree strongly and 24.1 % agree). Negative feedback on this option is given by the publishers: almost 59 % of them (3.8 % of the total number of respondents) disagree or disagree strongly with EU intervention in this area.

Coordinating existing initiatives in EU Member States

In total, 891 respondents, slightly more than 80 %, also agree or agree strongly that the European Union should coordinate existing Member State initiatives in the area of access to and preservation of scientific information. Along with national and regional or local governments, the most supportive stakeholders are libraries and research funding organisations, with respectively 92 % and 91 % of responses. Some 85.5 % of universities/research institutes also agree or agree strongly with this option. The least supportive group was publishers: 41 out of 73 (56.1 %) responding to the questionnaire disagree or disagree strongly with this option.

Supporting the development of a European network of repositories

A large majority of respondents, 967 (85 %), gave strong support (60 % agreeing strongly and 26 % agreeing) to EU-level support for developing a European network of repositories. In this case, the very high level of consent is noteworthy: all national government and regional or local government respondents, 92 % of universities/research institutes, 91 % of citizens and research organisations and 89 % of researchers agree or strongly agree with EU-level intervention in this area. A high level of support was also given by libraries and international organisations with, respectively, 84 % and 81 % of respondents. However, there was a lower level of consent from publishers: only 34 % of them agree or agree strongly with this option.

Encouraging universities/research institutes, libraries and funding bodies etc. to implement specific actions

In total, 83 % of respondents agree or agree strongly that the European Union should encourage universities/research institutes, libraries and funding bodies etc. to implement specific actions to improve the circulation of knowledge and, specifically, access to and preservation of scientific information. It is interesting to note that the stakeholders directly involved in this option support EU-level intervention of this kind: all research organisations, 92 % of universities/research institutes and 82 % of libraries agree or agree strongly. In addition, all representatives of national government and regional or local governments, 90 % of citizens and 81 % of researchers also agree or agree strongly. The least supportive group were publishers, the majority of whom (57 %) disagree or disagree strongly with EU intervention in this area.

Comments

The area for comments at the end of the first set of questions was used by many stakeholders, with comments ranging from a desire for non-interference of EU policymaking to the need for harmonised EU copyright law for scientific works.

Many contributions recalled some of the basic open access elements such as: the free availability of research results funded with taxpayers money; the impact of fast and reliable access to scientific knowledge for high-added-value innovation; and the need to lower knowledge barriers for developing countries.

Most of the publishers and publishers' associations invited the EU to contribute to the circulation of knowledge by improving access to data, providing financial support for collaborative data access/preservation projects and considering gold OA ⁽²⁾ to increase access to scientific results. One publisher specified: '[...] the best way for the EU to contribute to the circulation of knowledge is by supporting publishers, who deliver quality-controlled information necessary for knowledge. Publishers need to be paid for their work, which researchers value, and the flow of this money from funders to publishers needs to be better organised.'

On the other hand, several respondents encouraged the Commission to extend the seventh framework programme (FP7) open access pilot to the whole next framework programme. According to an international organisation: 'We recommend that the [European Commission] focus on raising awareness among researchers about open licensing; strongly encouraging universities to mandate for open/libre access of all the research output; extending the FP7 pilot to all research areas funded by the Horizon 2020 and making special clause 39 mandatory.'

Many respondents acknowledged the key role of the European Commission in coordinating Member State initiatives, monitoring and reporting on progress at national and EU levels and promoting open access and data sharing to maximise research funding. In particular, according to a research funding organisation: 'The main role of the EU should be to set and champion broad policy objectives, to set an appropriate legislative environment to support the sharing of information and to monitor and report on progress at a national and EU level.'

It should support the development of local and national solutions to meet policy objectives, and encourage interoperability between key players.'

In conclusion, some respondents also highlighted the need to consolidate the results of previous and current EU-funded projects and to improve their sustainability.

⁽²⁾ There are two main ways to achieve open access: (1) 'Gold' open access refers to 'paid' open access or the 'author-pays' model in which authors pay publishers of so-called open access or hybrid journals up front; their articles are then published in 'open access' mode by the publisher. (2) 'Green' open access is based on self-archiving by authors in subject-based or institutional (university-based) repositories. In this type of open access, publishers recoup their investment by selling subscriptions during a so-called embargo period during which articles in repositories can not yet be read in open access mode.

II.2. Access to digital scientific information: scientific publication

The section on 'Access to digital scientific information: scientific publication' included several questions regarding access and dissemination of scientific publications.

Question

Do you agree with the following statement: 'There is NO problem with access to scientific publications in Europe'?

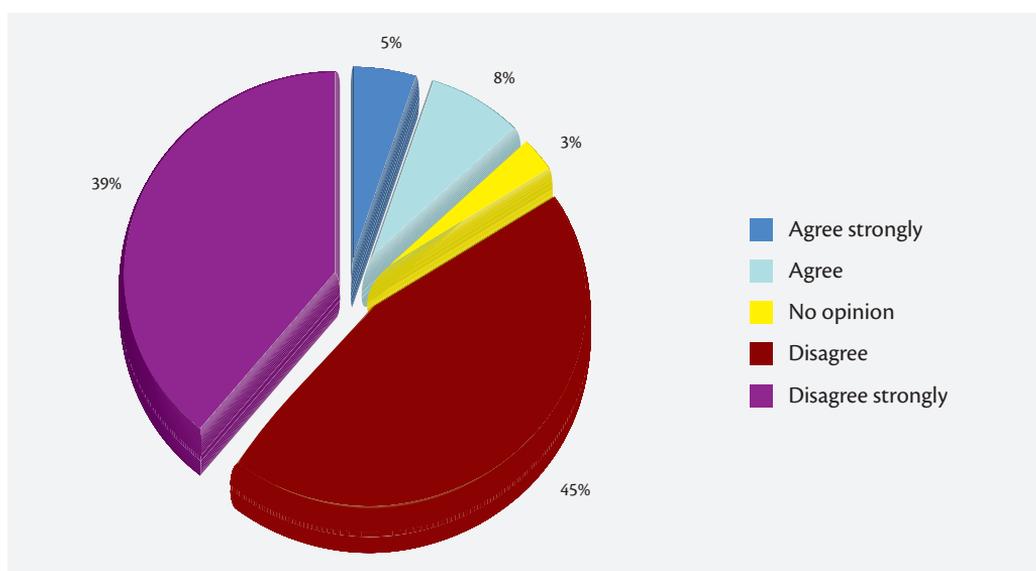


Figure 4: 'There is no problem to access scientific publications'

A total of 84 % of respondents either disagree or disagree strongly with the statement: 'There is NO problem with access to scientific publications in Europe'. All the research funding organisations oppose the statement: 63.6 % of them disagree strongly and the remainder disagree. They are followed by universities/research institutes (92.7 %), libraries (89.2 %), citizens (89.1 %) and researchers (88.2 %). Some 75 % of respondents replying as national and regional or local governments also disagree or disagree strongly with the statement. Publishers are the only group where a majority (64.4 %) agree or agree strongly with the statement.

Question

How would you rate the importance of the following potential barriers to access to scientific publications?

In addition, respondents were asked to rate the importance of the most frequent barriers to accessing scientific publications. The options available were:

1. insufficient national/regional strategies/policies on access to scientific publications;
2. high prices of articles/journal subscriptions;
3. limited or reduced library budgets;
4. different value added tax (VAT) rates for online media and printed material;
5. lack of awareness and interest within the research community on access and open access;
6. no incentive system in place encouraging and rewarding practices that enhance access.

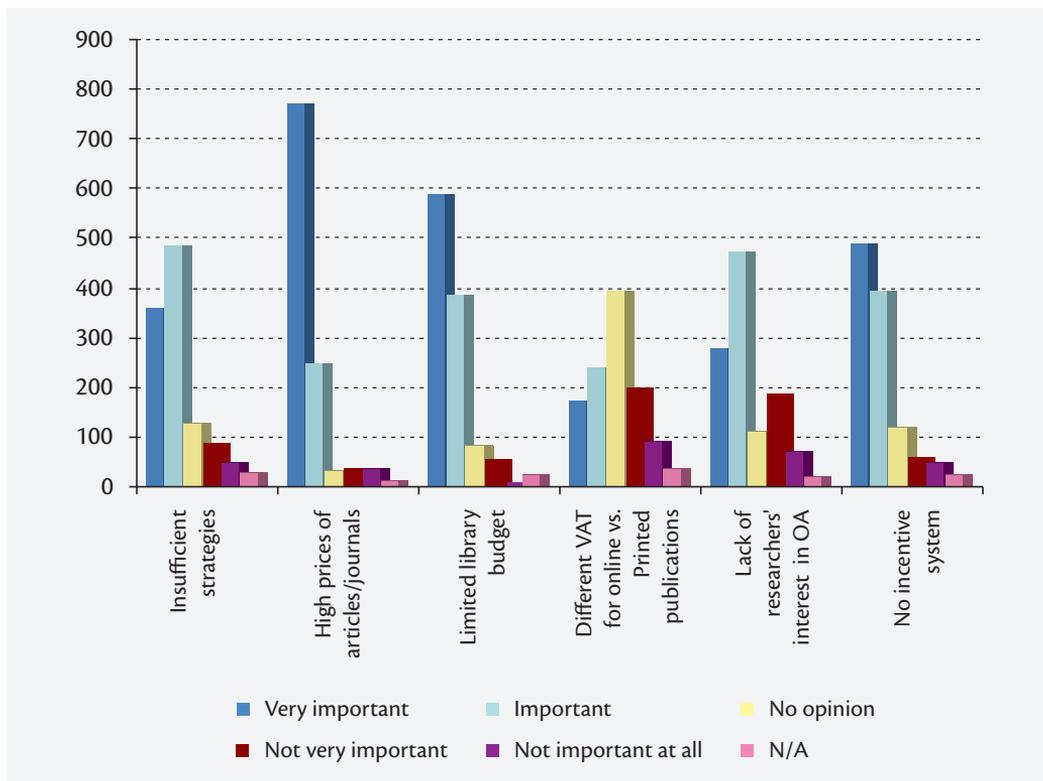


Figure 5: 'Barriers to accessing scientific publications'

The high prices of articles/journals are rated by 89.1 % of respondents as a very important or important barrier to accessing scientific publications. More than 85 % of respondents think that a limited library budget is an important

or very important barrier to accessing scientific publications. These potential barriers are followed in terms of rating by: lack of incentives (76.4 %); insufficient national/regional strategies/policies (74.2 %); and lack of awareness within the research community (65.7 %). Concerning the different VAT rates for online media and printed material, the largest group of respondents (36.6 %) rate it as an important or very important barrier; but a very high percentage (34.65 %) do not have an opinion on this option.

National governments rate insufficient national/regional strategies/policies as an important or very important barrier to accessing scientific publications. Three out of four respondents consider the high prices of articles/journal subscriptions an important or very important barrier, while all of them consider limited or reduced library budgets an important element hindering access to peer-reviewed papers. The replies concerning the other potential barriers are very mixed. The different value added tax (VAT) for online media and printed material and the lack of incentives for enhancing access were considered important or very important by half of the respondents in this category while the other half has no opinion. Lack of awareness and interest within the research community on open access is rated by half the national government respondents as very important.

Regional or local governments rate the following as important or very important barriers to accessing scientific publications: insufficient national/regional strategies/policies; the high prices of articles/journal subscriptions; limited library budgets; lack of awareness within the research community; and lack of incentives for enhancing access practices. There were mixed replies concerning the different VAT rates for online media and printed material: half of respondents have no opinion and the remainder rate this barrier as either important or as not very important.

For **publishers**, the most important barriers to accessing scientific publications are limited library budgets (91.8 %) and the different VAT rates for online media and printed material (84.9 %). None of the other factors are considered by most of the publishers as amounting to a barrier: 63 % of them consider lack of awareness and interest within the research community as not very important or not important at all. There are similar responses concerning the absence of an incentive system (57.6 % of respondents) and the high prices of articles/journal subscriptions (56.2 %).

Most **universities/research institutes** (95.8 %) consider the high prices of articles/journal subscriptions an important or very important barrier to access to scientific publications. This is followed by: insufficient national/regional strategies/policies (91.7 %); lack of incentives rewarding access practise (86.4 %); limited library budgets (83.3 %); and lack of awareness within the research community (77 %). Concerning the different VAT rates for digital and paper publications, only 38.5 % of respondents rate it as an important or very important barrier and a very high percentage (32.3 %) has no opinion on this.

The most important barrier for **international organisations** is reduced library budgets (87.8 %) This is followed by: high prices of articles/journal subscriptions and insufficient policies on access to scientific publications (77.5 %); the lack of an incentive system (71.4 %); lack of awareness and interest within the research community (63.2 %); and the different VAT rates for online media and printed material (51 %).

In total, 80 out of 83 (96.4 %) **libraries** rate the high prices of articles and journal subscriptions as the most important barrier to accessing scientific publications. This is followed by: limited or reduced library budgets (93.9 %); insuf-

cient national/regional strategies/policies on access to scientific publications (92.8 %); and lack of awareness within the research community and the lack of an incentive system rewarding access (87.9 %). Much more mixed feedback is given on the VAT differences for digital and paper publications: 53.5 % considered it as important or very important, 20.5 % of respondents had no opinion and the rest rated it as not very important or not important at all.

All respondents from **research funding organisations** rate limited or reduced library budgets as a very important or important barrier to accessing scientific publications. Some 91.9 % of them consider insufficient national/regional strategies/policies on access to scientific publications as an important or very important barrier. In addition, 90.9 % rate the high prices of articles/journal subscriptions, the research community's lack of awareness/interest and the lack of an incentive system as important or very important barrier.

The majority (54.5 %) of respondents in this category have no opinion concerning the different VAT rates between digital and paper publications; 27.3 % rate it as important or very important and the remaining 18.2 % as not very important or not very important at all.

Most of the **researchers** (94.7 %) responding to the questionnaire consider the high prices of articles/journal subscriptions as an important or very important barrier to accessing scientific publications. This was followed by: limited library budgets (84 %); the absence of rewarding incentives (83.4 %); insufficient national/regional strategies/policies on access to scientific publications (74.3); lack of awareness and interest within the research community (62 %); and the different VAT rates (22.1 %). On this last option it is noteworthy that 40.1 % of the respondents have no opinion, while 33.6 % rate this potential barrier as not very important or not important at all.

Some 95.9 % of **citizens** consider the high prices of articles/journal subscriptions as an important or very important barrier to accessing research publications. Limited library budgets (84.7 %), a lack of incentives to enhance access (82.2 %), insufficient national/regional strategies (77.1 %) and a lack of awareness in the scientific community (74.2 %) are considered important and very important barriers to accessing scientific publications. Concerning the barriers posed by the difference between the digital and paper VAT rates, 39.8 % of the respondents expressed no opinion and 32.8 % of them rated it as an important or very important barrier.

Comments

The text area for comments was used mainly to give more details on what respondents believed to be the important barriers to access to scientific publications.

Many respondents stated that the continued increase in the number of publications and in their prices and the decrease in library budgets make the current traditional system of knowledge dissemination based on journal subscriptions unsustainable. Some respondents also suggested that the current model prevents citizens from accessing research works and creates a competitive disadvantage for SMEs.

Although the lack of awareness within the research community remains a significant issue, many respondents considered the lack of incentives the crucial element hampering research community interests. In particular, respondents

remarked that the reward system does not take into account open access journals or articles in institutional repositories, and that there is 'a dire need to increase the weight of open access performance in the evaluation of proposals'. In addition, some respondents underlined the need for national strategies on access to scientific publications; others highlighted the need to fully implement the existing policies and to sanction those that do not comply with them.

Most of the publishers specified that 'the biggest barriers for access to scientific publications are the long-term decline of library budgets and the current high VAT rates on online books/journals' and that 'current VAT rates are a barrier to e-commerce'.

Finally, some respondents also noted the existence of other kind of barriers to accessing scientific publications, such as the long-term risks caused by obsolescence, the lack of documentation and preservation infrastructure and the absence of a Europe-wide regulation on copyright for scientific results/publications resulting from public funding.

Question

Do you think that publications resulting from publicly funded research should, as a matter of principle, be available free of charge to readers on the Internet (i.e. open access mode)?

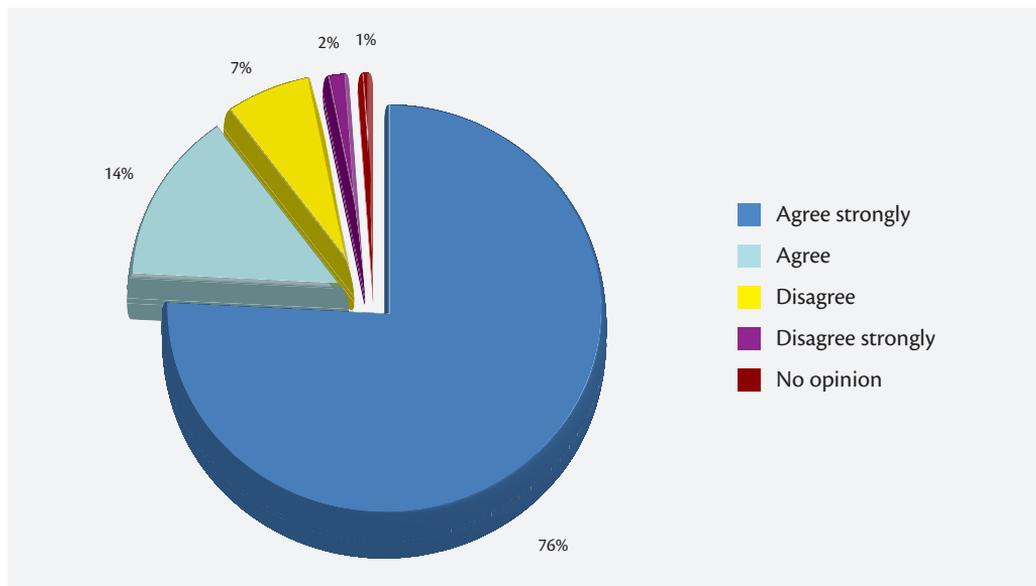


Figure 6: 'Should publications resulting from publicly funded research be available OA?'

More than 1 000 respondents (90 %) agree or agree strongly that publications resulting from publicly funded research should, as a matter of principle, be in open access mode.

All national and regional government and research funding organisation respondents agree or agree strongly. A very large majority of the other respondents also agree or agree strongly with the statement: 96.4 % of libraries, 95.5 % of citizens, 94.8 % of universities/research institutes, 93.5 % of individual researchers and 75.5 % of international organisations.

Publishers are the only group where a majority (67.2 %) disagree or disagree strongly with the idea that that publications resulting from publicly funded research should, as a matter of principle, be in open access mode.

Question

Do you think that open access can increase access to and dissemination of scientific publications?

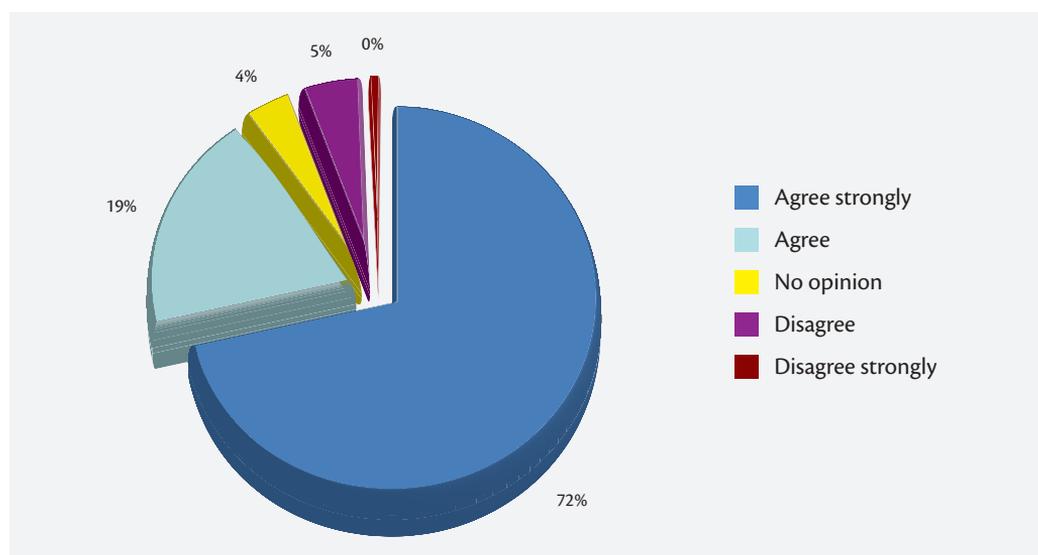


Figure 7: *'Does OA increase access to and dissemination of scientific publications?'*

Most respondents (91 %) agree or agree strongly that open access can increase access to and dissemination of scientific publications. Just 4 % of respondents have no opinion and only 5 % disagree with the statement. It is worth noting that no respondent in any of the categories disagrees strongly with the notion that open access can increase access to and dissemination of scientific publications. As with the previous question, all national and regional government and research funding organisation respondents agree or agree strongly with the statement. The other groups also have a high level of consent: 89.8 % of international organisations, 97.6 % of libraries, 95.1 % of individual researchers, 94.8 % of universities/research institutes and 94.6 % of citizens agree or agree strongly. There are also fractionally more publishers (31) that agree or agree strongly with this statement compared to those in disagreement (30). It is worth noting that no respondent disagrees strongly.

Question

Do you think that open access to scientific publications can coexist with the traditional scientific publication system?

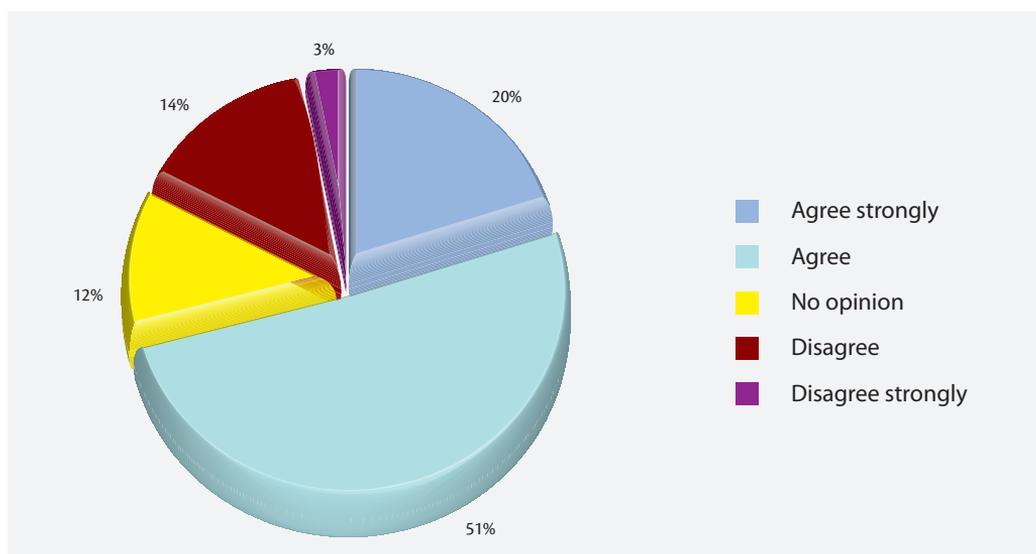


Figure 8: 'Can OA coexist with the traditional publication system?'

Even though 71 % of respondents agree or agree strongly that open access can coexist with the traditional scientific publication system, there seems to be more mixed feedback at group level. The only group fully agreeing with the question are the regional government respondents. Half the national government respondents agree with the possibility of coexistence, while the other half has no opinion. After regional government, the group in most agreement is libraries (88 %), followed by international organisations (83.7 %), universities/research institutes (74 %), individual researchers (67.4 %), publishers (67.2 %), citizens (66.9 %) and research funding organisations (63.7 %).

Question

Which of the following different modes should public research policy facilitate in order to increase the number and share of scientific publications available in open access?

Open access to scientific publications can be achieved in different ways, in particular through researchers self-archiving in repositories ('green open access') and through publication in open access journals for a fee ('gold open access'). Respondents were asked to rate from 1 to 4 (1 = first choice; 4 = last choice) the following options:

1. open access publishing (author pays model/'gold open access');
2. self-archiving ('green open access');
3. a combination of self-archiving and open access publishing;
4. funded conversion of traditional subscription-based journals to open access journals.

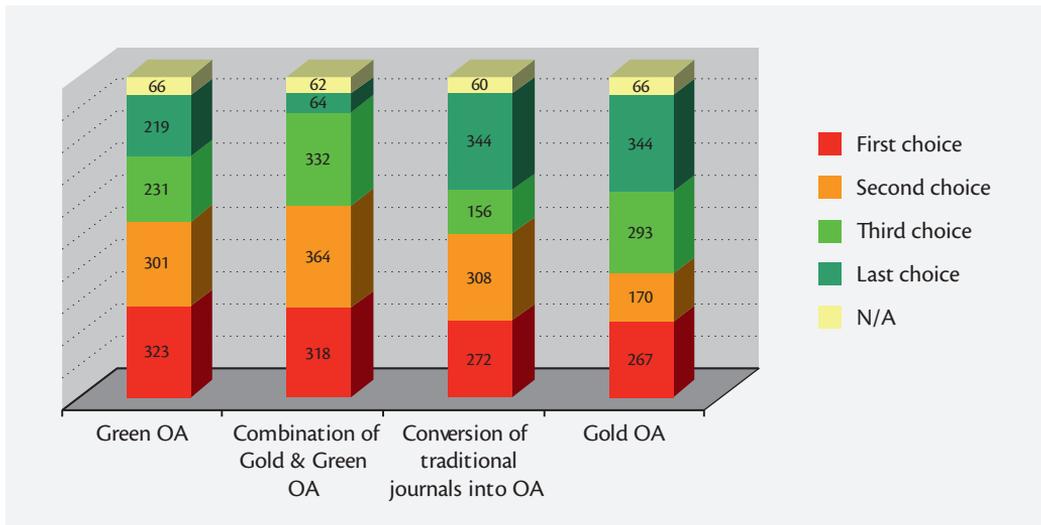


Figure 9: 'Preferred way in which public policy can increase OA to scientific publications'

Self-archiving or green open access is considered the first choice by 323 respondents. This is followed by a combination of gold and green OA (318), the conversion of traditional journals into OA (272) and gold OA (267).

The category with most support for green open access as their first choice is researchers (137 of respondents). They are followed, in real terms, by citizens (103), libraries (30), universities/research institutes (19), international organisations (10), publishers and research organisation (three each) and national governments (one).

Although the combination of self-archiving and open access publishing attracts fewer preferences than green open access, it is the first choice for the majority of citizens (104), libraries (38), universities/research institutes (36) and regional government respondents (two). In addition, 108 researchers, 10 international organisations, two publishers, one research funding organisation and one national government rated the combination of green and gold OA as their first choice.

Gold open access is chosen as first choice by most of the publishers (59), international organisations (20), researcher funding organisation (four) and national government respondents (two). They are followed by 78 researchers, 52 citizens, 17 libraries, 14 universities/research institutes/research institutes and one regional government respondent.

Comments

Many respondents underlined that open access to scientific publications already coexists with the traditional scientific publication system. The text area was mainly used to express a preference for each of the solutions, especially green and gold open access.

Those in favour of green OA highlighted the shortcomings of gold OA, including the additional diversion of research funding and the disadvantage for authors from less well-funded institutions and disciplines. The respondents in favour of gold OA highlighted the low level of compliance of green OA, the additional administrative burden on researchers and the risk related to the long-term preservation of publications.

One respondent from among the publishers, the category with the strongest preference for gold OA, stressed that 'gold open access is the only viable option, as green open access does not generate funding to make investments in scientific publishing sustainable and risks undermining the current system of scholarly communication'.

On the other hand an international organisation remarked: 'Green/self-archiving is a cheap and effective route to OA. The infrastructure to support it is rapidly being put in place. It will coexist with gold but since the growth rate of gold is, and is predicted to be, slow, green is needed to provide OA in the shorter term.'

Many respondents supported the combination of self-archiving and open access publishing to increase the number of freely available open access publications. According to some, this option would also recognise large differences in practices and rates of change among disciplines.

Concerning the funded conversion of traditional subscription-based journals to open access journals, some respondents pointed to the SCOAP3 initiative of CERN aiming at the conversion of established, high-quality journals, through redirection of subscriptions.

Question

In the case of self-archiving ('green open access'), what embargo period (period of time during which publication is not yet open access) is desirable?

Respondents had the opportunity to indicate their preferred embargo period in the case of self-archiving. The options provided were the following:

1. 6 months
2. 9 months
3. 12 months
4. 18 months.

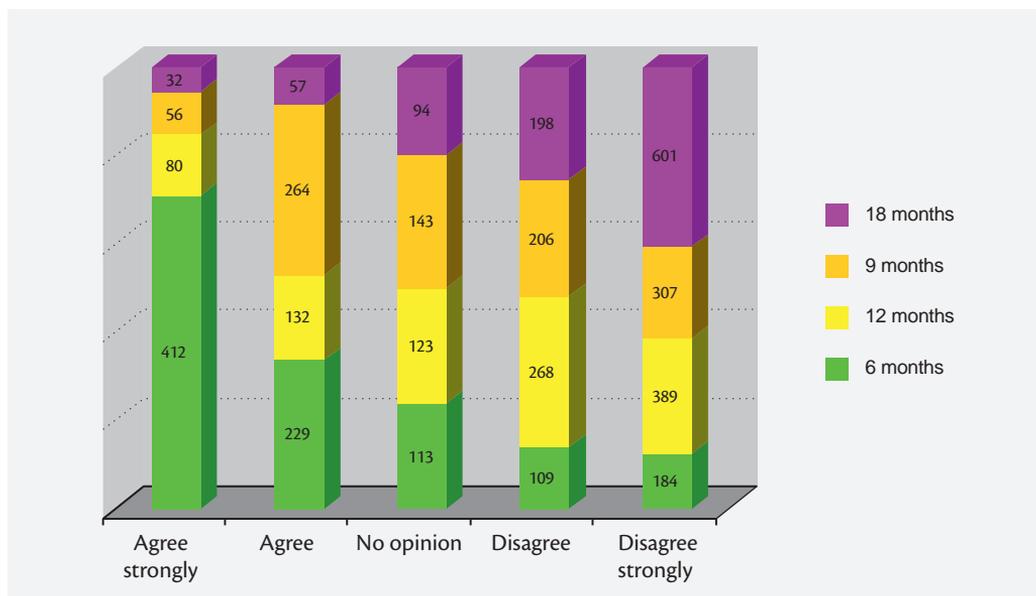


Figure 10: *'Embargo period in case of self-archiving'*

The extent of consent on the embargo period in the case of self-archiving gets less as the period becomes longer: a majority of the respondents (56 %) agree or agree strongly on six months' embargo, 28 % of them agree or agree strongly on nine months and only 18.5 % and 7.8 % were in favour of an embargo of 12 or 18 months. At the same time, the longer the embargo rate the greater is the disagreement among respondents: while 25.7 % and 45 % disagree or disagree strongly with, respectively, six and nine-month embargo periods, a majority disagree or disagree strongly with an embargo period of, respectively, 12 (57.6 %) and 18 (70 %) months.

Comments

Many respondents from different groups said that the ideal situation would be no embargo period in order to maximise the impact of research outputs and accelerate the circulation of knowledge.

On the other hand, publishers, with the exception of the open access publishers, underlined that embargo periods must be carefully set and journal-specific because 'free availability of a journal's content can easily result in its cancellation and undermine scholarly communication'. In particular, a respondent pointed out that 'short embargo periods could shift the costs of peer review to authors and government agencies, forcing EU citizens to pay additional taxes for verification of research or cannibalise the funding of actual research'.

Nevertheless the role of the publishing industry was acknowledged by the fact that many considered acceptable embargo periods that would balance the publishers' needs to recoup their investment and the goal of fast, reliable and wide access to scientific publications.

It was generally acknowledged that, if embargo periods are to be set, different subject disciplines and different publication frequencies need different practices.

Some respondents recalled the success of the website <http://arXiv.org> in high-energy physics (where there is no embargo), and its coexistence with journals demonstrates that embargo periods do not affect sustainability.

II.3. Access to digital scientific information: research data

The following section is based on the replies to the section 'Access to digital scientific information: research data'.

Question

Do you agree with the following statement: 'Generally speaking, there is NO access problem to research data in Europe'?

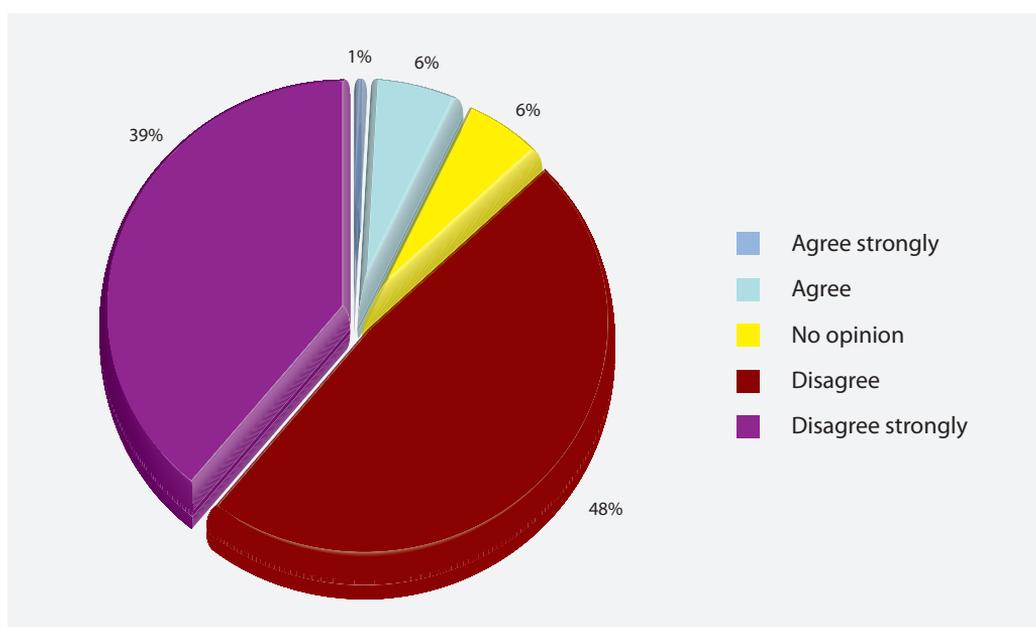


Figure 11: 'There is NO access problem to research data'

The overwhelming majority of respondents (87 %) either disagree or disagree strongly with the statement that 'there is NO access problem to research data'. Just 6 % of respondents have no opinion, another 6 % agree with the statement and only 1 % agree strongly.

There is no major discrepancy among stakeholders on this question. Although the percentages are different, a very high majority in each group disagree or disagree strongly with the statement. In particular, all respondents from national governments and research funding organisations believe that there are problems in accessing research data. They are followed by international organisations (91.2 %), libraries (90.3 %), universities/research institutes (87.6 %), researchers (84.2 %), publishers (82.2 %), citizens (77.3 %) and regional or local governments (75 %).

Question

How would you rate the importance of the following potential barriers to enhancing access to research data?

In addition, respondents were asked to rate the importance of the barriers to an enhanced access scientific to research data. The barriers indicated were the following:

1. insufficient national/regional strategies/policies on access to research data;
2. lack of funding to develop and maintain the necessary data infrastructures;
3. insufficient credit given to researchers making research data available/lack of incentives;
4. lack of mandates to deposit research data;
5. lack of data management requirements in research projects;
6. confidentiality/privacy issues.

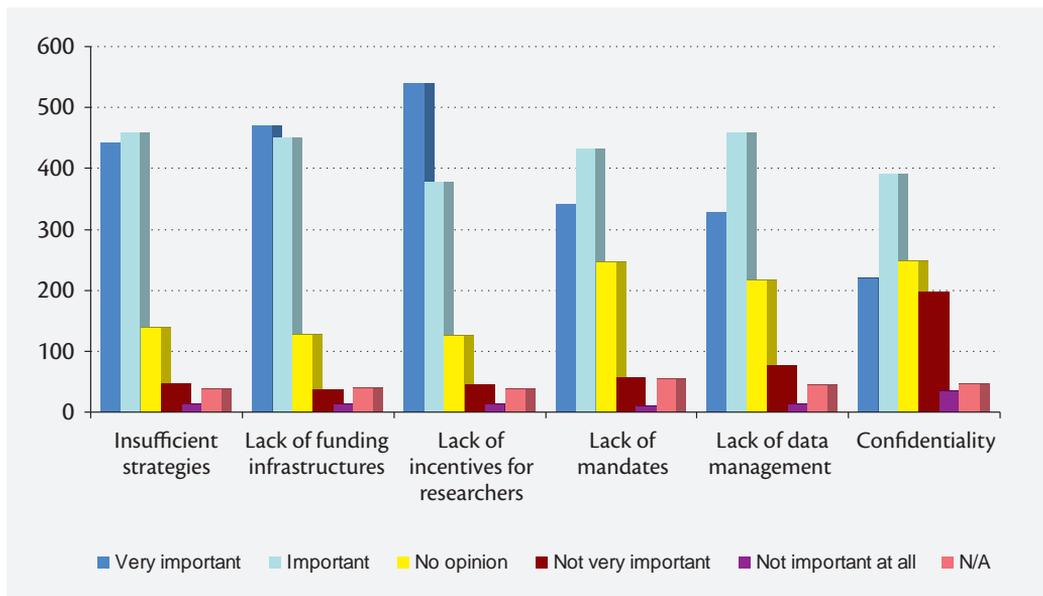


Figure 12: *'Barriers to open access to data'*

Lack of funding to develop and maintain the necessary data infrastructures is rated by 80.8 % of respondents as a very important or important barrier to accessing research data. It is followed in percentage terms by lack of incentives for researchers (80.5 %) and insufficient national or regional strategies/policies (79.2 %). Lack of data management requirements in research projects, lack of mandates to deposit research data and confidentiality/privacy issues are rated as very important or important barriers by, respectively, 69.2 %, 67.9 and 56.5 % of respondents.

It is worth noting that, compared to the other results, for some of the barriers listed there is a relatively high number of 'no opinions': around 20 % of respondents chose this option in rating the importance of the lack of mandates or confidentiality/privacy issues.

National governments rate insufficient national/regional policies on access to research data and lack of funding to develop and maintain the necessary data infrastructures as the most important barriers to accessing research data. Three out of four respondents consider lack of incentives and confidentiality/privacy issues as an important or very important barrier, while only half of them rate the lack of mandates to deposit research data and data management requirements as an important or very important barrier.

Regional and local governments rate all the barriers listed as important or very important except for the confidentiality barrier, which 25 % of them consider to be not important at all.

For **publishers**, the most important barrier to accessing research data is lack of funding to develop and maintain the necessary data infrastructures (86.3 %), followed by the insufficient national or regional strategies (76 %) on access to research data, lack of incentives and data management requirements (75.3 %), lack of mandates to deposit research data (71.2 %) and, finally, confidentiality and privacy issues (64.4 %).

A total of 86.4 % of **university and research institutes** consider the insufficient credit given to researchers making research data available as a very important or important barrier. It is followed by insufficient national/regional strategies/policies on access to research data (83.3 %), lack of data infrastructures funding (82.3 %), lack of mandates (72.9 %) and data management requirements (71.9 %) and, finally, confidentiality and privacy issues (64.6 %).

Libraries consider the most important barriers to accessing research data to be lack of data infrastructures funding (92.8 %) and insufficient national or regional strategies (92.7 %). The insufficient credit given to researchers, lack of data management requirements in research projects, lack of mandates to deposit research data and confidentiality and privacy issues are considered very important or important barriers by respectively 86.7 %, 80.8 %, 80.7 % and 66.3 % of respondents in this group.

The most important barrier for **international organisations** is the insufficient credit given to researchers making research data available (87.7 %), followed by lack of funding to develop and maintain the necessary data infrastructures (83.7 %), insufficient national or regional strategies (81.7 %), lack of data management requirements in research projects (79.6 %) and lack of mandates to deposit research data (71.5 %). Concerning confidentiality and privacy issues, only 57.2 % of respondents consider this as a very important or important barrier and a relatively high percentage (20.4 %) rate it as not very important or not important at all.

All respondents from **research funding organisations** consider very important or important the barriers posed by the insufficient credit given to researchers making research data available, the lack of data infrastructures funding and data management requirements. Some 81.9 % of respondents rate insufficient national or regional strategies/policies as a very important or important barrier, and 81.8 % take a similar view on the lack of mandates to deposit research data and confidentiality/privacy issues.

Most of the **researchers** (81.1 %) rate the insufficient credit given for making research data available as a very important or important barrier to accessing research data. Lack of funding to develop and maintain the necessary data infrastructures and insufficient national or regional strategies are also considered very important or important barriers by, respectively, 78.8 % and 74.6 % of respondents in this group. These are followed by lack of mandates to deposit research data (66.1 %), lack of data management requirements in research projects (64.3 %) and confidentiality and privacy issues (46.8 %). It is worth noting that the last three barriers are also the ones with a relatively high percentage (over 20 %) of 'no opinion' answers.

For **citizens**, the most important barrier to accessing research data is insufficient national or regional strategies and policies (81.6 %). This is followed by lack of data infrastructures funding (80.3 %), lack of incentives for researchers (77.1 %), lack of data management requirements in research projects (67.5 %) and lack of mandates to deposit research data (65.6 %). Concerning confidentiality and privacy issues, only 50.9 % of citizens consider it as a very important or important barrier, while 21.7 % have no opinion and 23.6 % consider it as a barrier which is not very important or not important at all.

Comments

In the first available area for comments in the scientific data section, respondents underlined the importance of access to research data for speeding up scientific and innovation progress. According to one researcher, 'open access to data is a very desirable feature of an open science concept and it would probably contribute to decrease plagiarism, frauds, etc. while providing better scrutiny of the steps leading from data to published interpretation of same'.

Respondents commented on the importance of the potential barriers listed in the questionnaire and suggested new ones to be considered. Among the barriers not addressed in the questionnaire, respondents flagged a lack of skills and capacity for data management, a lack of standards for making research data exchangeable and reusable and issues related to digital preservation and the long-term accessibility of digital content.

In commenting on confidentiality and privacy issues, respondents suggested that adequate policies and guidelines could overcome the potential problems. The lack of awareness among researchers of the benefits from open data was underlined by some respondents; one of them noted that 'there is a sense that data matters scores very small in the minds of researchers with regard to the economy of scholarly communication'. Concerning mandates to make research data accessible, respondents suggested that these should be accompanied by initiatives to monitor and reward researchers for sharing their data. Incentives for researchers were considered a crucial element in creating a culture of research sharing; one respondent suggested the possibility of making data publications citeable and rewarding in grant assignments the sharing of research data.

One respondent suggested that ‘to encourage publication of complete datasets, datasets themselves should be publishable in a recognised, citeable form; reuse of datasets in other work should be tracked, and creators of those datasets given strong career credit for every reuse by others’.

Some respondents also underlined the issue of competition between researchers and ‘their legitimate interests to exploit fully the data they collected’. In particular, a researcher stressed that ‘data is collected (which is very time-costly), analysed, results are published. Data is reanalysed with a different focus, results published [...] So when is the right time to publish the data itself?’

Respondents also suggested that the EU might possibly, besides supporting projects on data access and preservation, establish European policies, coordinate research communities and Member State initiatives and set standards for data sharing and repositories.

Question

Do you think that research data that is publicly available and that results from PUBLIC funding should, as a matter of principle, be available for reuse and free of charge on the Internet?

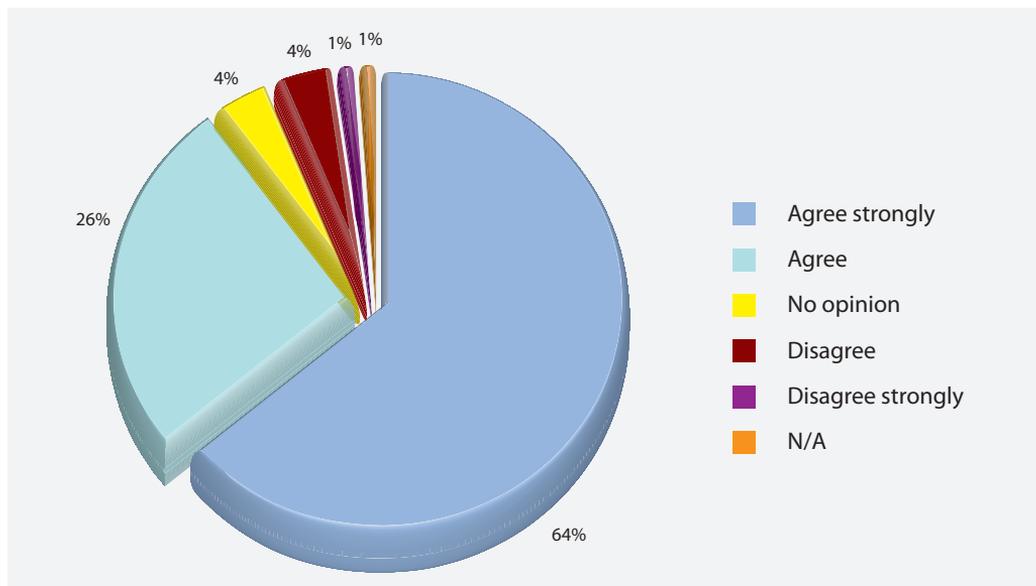


Figure 13: ‘Publicly funded research data that is publicly available should be available, as a matter of principle, for reuse and free of charge on the Internet’

Almost 90 % of respondents agree or agree strongly that research data that are publicly available and that result from public funding should, as a matter of principle, be available for reuse and free of charge on the Internet. The strong-

est support for this scenario comes from research funding organisations: 100 % of them agree strongly with the free availability and reuse of publicly funded research data in the public domain. All national and regional or local government respondents either agree strongly or agree with this option. Significant support was also given by the other respondents: around 94 % of libraries and citizens and 88 % of researchers and international organisations either agree strongly or agree with the principle of making publicly funded research data available for reuse and free of charge on the Internet. A very high percentage of publishers (75.3 %) also support this scenario.

It is interesting to note the very low number of respondents (1 %) disagreeing strongly with the option of publicly funded research data being made available for reuse and free of charge on the Internet.

Comments

In the area for comments, respondents stressed their support for free availability on the Internet and the reuse of research data that are publicly available and that result from public funding. Respondents underlined the potential impact of making publicly funded research data openly available: for a university/research institute 'open access to scientific publications and raw research data maximises research investments by increasing the use of this information'. According to a respondent from regional and local government, 'making publicly funded data openly available fosters scientific discourse and progress, so large cost savings can be expected', while according to a researcher data sharing 'facilitates the validation of research findings and it is also important to preserve scientific integrity'.

Very few respondents had negative comments either questioning the benefit of data sharing or admonishing the possible misuse and/or intentional misinterpretation of research data.

A respondent from a university/research institute stated that 'publicly funded research data are a public good and should be made openly available with as few restrictions as possible in a timely and responsible manner that does not harm intellectual property, disclose personal information or break confidentiality'. Meanwhile, many researchers highlighted the constraints posed by their different practices; for one of them 'data acquisition and development methods differ and scientific material is not understandable without interpretative support to the broad non-specialist audience'.

Some respondents remarked that, in designing new systems, the costs of storing, cataloguing and making accessible very large amounts of data as well as researchers' rewards for sharing data have to be taken into account.

Publishers agreed with free availability for sharing and reuse of data but one of them stressed that 'if the data have had third-party investment (e.g. normalising to standard formats, adding quality-controlled metadata, including identifiers, managing persistent linking, hosting and curation) then such value-added services need to be paid for'.

One researcher pointed out that researchers who invest lots of effort in collecting data 'must be given the time to exploit it in a number of significant dimensions before making its effort freely available to the research community'. For this reason, suggestions were made to set guidelines and embargo periods to allow authors to exploit the data collected and, in the meantime, ensure the timely sharing of data.

Finally, respondents from several categories suggested possible actions the Commission should take in this area such as: sponsoring 'the free and immediate availability of the investigator's projects reports that grant awardees are required to submit'; requiring 'research reports' interpretive material to make discipline-specific and technical aspects of research accessible to broad non-specialist audiences' and 'formulating more binding regulations and policies concerning the whole life cycle of publicly funded scientific data'.

Question

Do you think that research data that is publicly available and that results from PARTLY PUBLIC AND PARTLY PRIVATE funding should, as a matter of principle, be available for reuse and free of charge on the Internet?

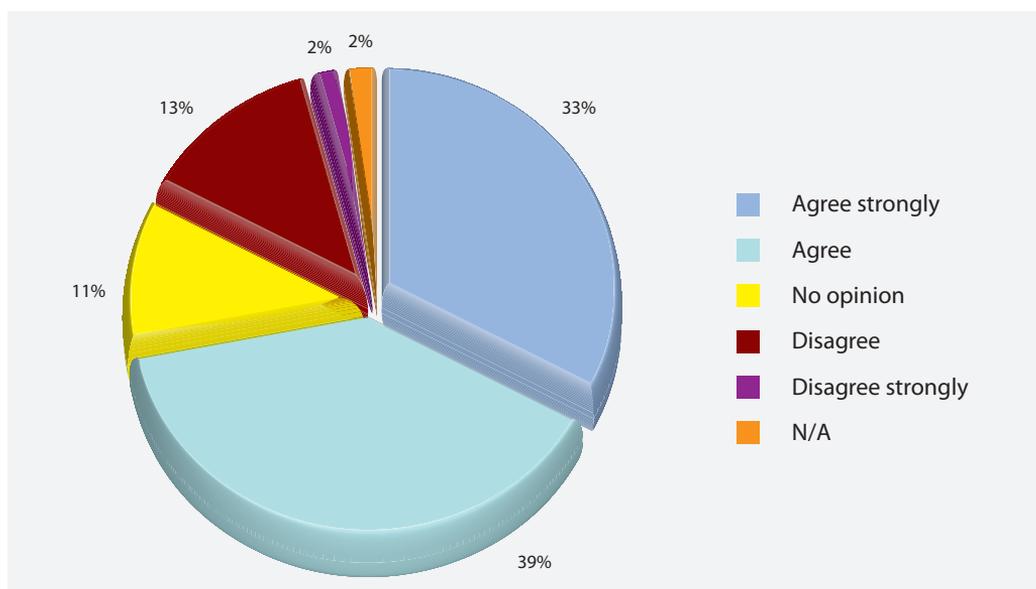


Figure 14: 'Publicly available data, from partly public and private funding, should be freely available for reuse'

A lower number of respondents (72 %) support the freely availability for reuse of data resulting from partly publicly and partly privately funded research. Compared to the previous questions related to the research data, there was mixed feedback from stakeholders. While all research funding organisations and all regional or local government respondents support fully this scenario, only 4.7 % of publishers agree strongly or agree. Some 83.7 % of citizens, 79.1 % of universities/research institutes, 75 % of national governments, 73.5 % of libraries, 72 % of researchers and 65.4 % of international organisations agree strongly or agree that publicly available research data, resulting from partly public and partly private funding, should be available for reuse and free of charge on the Internet. It is worth noting the high number of respondents with no opinion, particularly among libraries (21.7 %) and researchers (13.5 %).

Comments

Very few respondents based the decision on whether or not to share data on the percentage of public/private investment. However, one researcher did suggest that 'if public funding exceeds a certain fraction (e.g. 50 %) then open data publication shall be mandatory'.

On the contrary, most respondents believe that it would be better not to distinguish between different degrees of public funding. One respondent from an international organisation said that 'it is better to follow the existing public-funded policies which already require sharing of data generated by research funded in whole or in part by public funding'.

One of the reasons underlying this position was highlighted by researchers for whom research data are an integral part of research and access to data is necessary for validation of research findings.

A significant number of respondents underlined that private companies should not be discouraged from investing in research and should be able to recover their investments.

Many of them therefore envisaged the introduction of embargo periods for exploiting research findings or suggested a case-by-case approach allowing funders and researchers to decide how research data should be reused and accessed.

Many agreed that the balance between the need to improve access to research data and the legitimate interests of private funders in protecting their investments should not hamper wide and free access to research data resulting from even partially publicly funded research.

Some respondents also suggested possible actions at EU level such as: improving awareness and understanding in this area; creating incentives for data sharing; and encouraging private business to acknowledge the benefits of open data. It was also suggested that data management plans should be included in applications for public funding and rewards given to projects that publish the data resulting from their research.

II.4. Preservation of digital scientific information

This section is based on the replies to the area of the questionnaire on 'Preservation of digital scientific information'.

Question

Do you agree with the following statement: 'Generally speaking, the issue of preservation of scientific information is at present sufficiently addressed'?

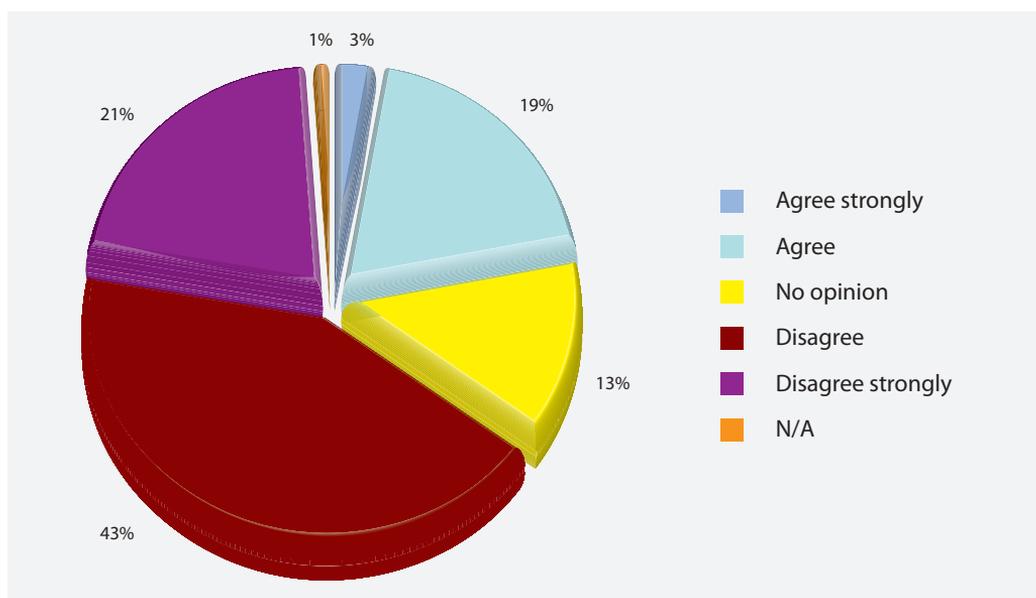


Figure 15: 'Preservation issues are sufficiently addressed'

On the issue of preservation of scientific information, there is much more heterogeneity compared to the previous sections. In particular, 64 % of respondents disagree or disagree strongly with the statement that preservation is at present sufficiently addressed, while 22 % agree or agree strongly and 13 % have no opinion. The group in greatest disagreement with the statement is libraries (86.7 %), followed by research funding organisations (81.9 %), regional or local governments (75 %), international organisations (73.4 %), universities/research institutes (69.8 %), researchers (64.6 %), citizens (62.4 %), national governments (50 %) and publishers (31.8 %). On the contrary, this last group is the one in greatest agreement with the suggestion that preservation issues are sufficiently addressed (59.8 %).

It is followed — with significantly lower percentages — by national and regional or local governments (25 %), international organisations (22.4 %), researchers (21.2 %), citizens (19.4 %), universities/research institutes (16.7 %), libraries (9.6 %) and research funding organisations (9.1 %). Even here, it is worth noting the relatively high percentage (13 %) with 'no opinion'.

Question

Do you agree with the following statements regarding potential barriers to enhancing preservation of scientific information in the digital age?

In addition, respondents were asked to agree/disagree with the following statements:

1. It is not always clear which scientific information should be preserved.
2. It is not always clear who is responsible for preserving scientific information (research organisations, libraries, governments?).
3. There is no harmonised approach to legal deposit (legal requirement that copies of publications be submitted to a repository, usually a library).
4. Funding for preservation is inadequate.
5. The quality and interoperability of repositories need to be further developed.

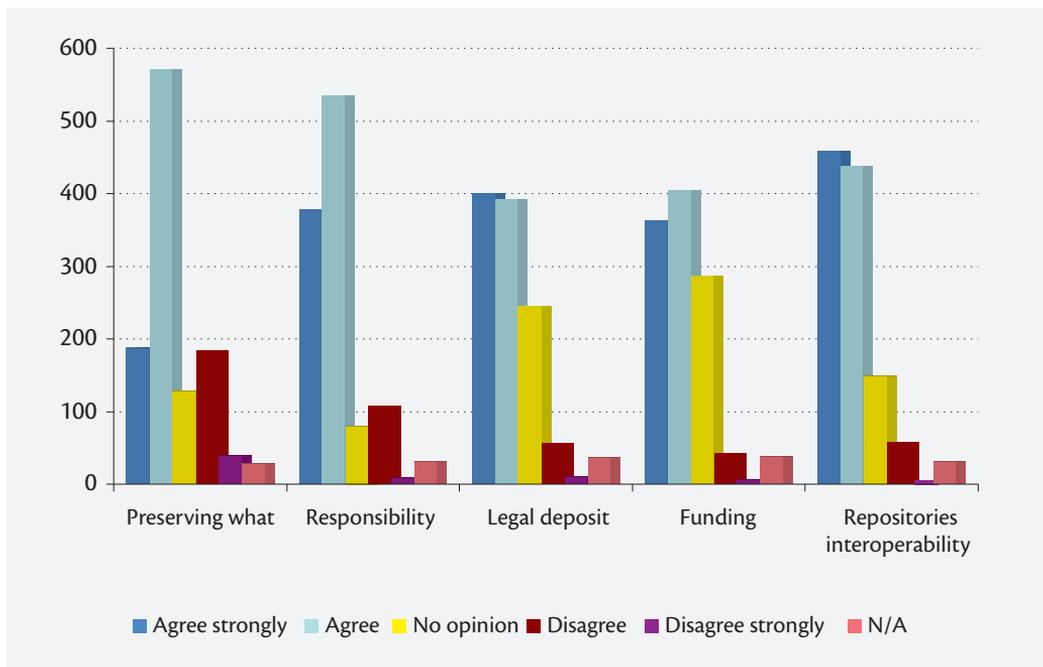


Figure 16: 'Barriers to enhanced preservation'

The main barrier signalled is the uncertainty as to who is responsible for preservation: 80 % of respondents agree or agree strongly with the statement 'It is not always clear who is responsible for preserving scientific information'.

The next-largest potential barrier is the quality and interoperability of repositories (78.6 %), followed by the lack of a harmonised approach to legal deposit (69.5 %), inadequate funding for preservation (67.3 %) and uncertainty as to

what scientific information should be preserved (66.6 %). It is interesting to note the large number of 'no opinion' answers on the unharmonised approach to legal deposit and inadequate funding for preservation.

National government respondents agree strongly on the barriers posed by uncertainty as to what scientific information should be preserved and who is responsible for it. Some 75 % of national government respondents also agree strongly with the other statements, while the other 25 % only agree with them.

Regional or local governments either agree or agree strongly that barriers are posed by inadequate funding for preservation and quality and the interoperability of repositories. The next-largest barriers are seen as being the lack of a harmonised approach to legal deposit and uncertainty as to who is responsible for preservation. There is mixed feedback for the statement that 'it is not always clear which scientific information should be preserved': one respondent agrees strongly, one agrees and the remaining two are in disagreement.

Most of the **publishers** (78.1 %) consider inadequate funding as the largest barrier. Very mixed feedback is given on the quality and interoperability of repositories: the same percentages of respondents (39.7 %) agree strongly/agree or disagree strongly/disagree with the statement. The uncertainties about what scientific information to preserve and whose responsibility it is to preserve it are not considered to constitute a barrier: 53.4 % of publisher respondents disagree strongly or disagree with the statement that 'it is not always clear which scientific information should be preserved' and 42.5 % disagree strongly or disagree with the statement 'it is not always clear who is responsible for preserving scientific information'. The majority of publishers do not have an opinion on the barrier posed by the unharmonised approach to legal deposit.

Some 88.7 % of respondents from the **universities/research institutes** group agree or agree strongly with the statement that 'funding for preservation is inadequate'. The other barriers, ranked in terms of agreement, are seen as being: uncertainty on the responsibilities for preserving (86.5 %); uncertainty on what should be preserved (84.4 %); the quality and interoperability of repositories (81.3 %); and the unharmonised approach to legal deposit (78.4 %). On this last issue, it is worth noting the relatively high percentage (15.6 %) of respondents from this group offering 'no opinion'.

Most of the **international organisation** respondents (87.8 %) agree strongly or agree that 'it is not always clear who is responsible for preserving scientific information'. This barrier is followed by the quality and interoperability of repositories (83.7 %), uncertainty on what to preserve (77.6 %), inadequate funding for preservation (69.4 %) and the unharmonised approach to legal deposit (63.2 %). It is worth noting the very high number of respondents in this group with 'no opinion' concerning the unharmonised approach to legal deposit (30.6 %) and inadequate funding for preservation (26.5 %).

In the **library** group, there is a very high percentage of agreement (92.8 %) on the barrier posed by 'the quality and interoperability of repositories'.

An equal large number of respondents (90.4 %) agree strongly or agree with the statement related to the unharmonised approach to legal deposit and uncertainty about who is responsible for preservation. Some 87.9 % of respondents also consider that funding is inadequate and 80.7 % agree strongly or agree on the uncertainty on what to preserve.

All the respondents from **research funding organisations** agree strongly or agree on the barriers posed by the quality and interoperability of repositories, and the uncertainty on what to preserve and who is responsible for it. Some 72.8 % agree strongly or agree on the inadequate funding, as do 63.6 % of respondents concerning the unharmonised approach to legal deposit. For these last two barriers, there is a large number (27.3 %) of respondents with no opinion.

Most of the **researcher** respondents (80.4 %) agree strongly or agree on the uncertainty about who is responsible for preservation. A slightly smaller percentage (78.8 %) agree strongly or agree about the barrier posed by the quality and interoperability of repositories. Slightly fewer respondents are in agreement on the remaining barriers: an unharmonised legal approach to deposit (70.1 %); uncertainty on what to preserve (65 %); and inadequate funding (61.8 %). A large percentage of respondents have no opinion for two barriers: inadequate funding (29.8 %) and an unharmonised legal approach to deposit.

The greatest degree of agreement (84.1 %) expressed by **citizen** respondents concerns the quality and interoperability of repositories. The uncertainty about who is responsible for preservation and the unharmonised legal deposit approach follow with, respectively, 83.7 % and 72.7 %. The majority of citizens also agree strongly or agree with the statements that ‘it is not always clear which scientific information should be preserved’ (66.9 %) and ‘funding for preservation is inadequate’ (65.6 %). On this last barrier, 25.8 % of citizens responding have no opinion.

Comments

The comments in this section addressed many of barriers signalled by the questionnaire. Respondents highlighted the issues related to the lack of funding, the legal obstacles to preserving scientific information and the problems of interoperability between repositories and datasets.

The contributions also underlined other major problems such as the long-term preservation of digital objects, the lack of awareness and incentives for preservation, the need for standardised formats and the lack of comprehensive national policies. On this, one respondent stressed that ‘long-term preservation and curation of data poses many questions which cannot be solved by simple policy or mandate’.

Many respondents, especially publishers, underlined that there are considerable differences between the problems related to the access to and preservation of scientific publications and research data.

In particular, they remarked that many publisher and third-party initiatives are devoted to the long-term preservation of scientific publications and that the EU should focus on scientific data by funding initiatives to foster data access and preservation. Some suggested that ‘preservation should be part of the data management plan of scientific projects’.

Some respondents also underlined the importance of joint actions at national, European and wider international levels to ensure the long-term preservation of scientific information, and the need for international coordination to encourage consistent and interoperable practices.

Concerning the role of EU in the area of preservation of scientific information, respondents suggested that it should have a role in: highlighting the importance of digital preservation issues; encouraging actors to comply with best practice in this area; promoting standardised policies; and supporting technical infrastructures to preserve and disseminate scientific information.

In addition, according to one respondent, 'the [European Commission] should take [a] position on the systemic problem of sustainable and distributed long-term funding for discipline-specific solutions in data preservation. One size does not fit all in preservation: different solutions should be found between extremes of community-specific (large) datasets on the one hand and long-tail, small-volume individual datasets on the other.'

Mixed feedback was given on an EU-wide common infrastructure for depositing and obtaining access to scientific information.

Concluding remarks

In the final text area, respondents commented on the overall approach of the questionnaire. While most of them appreciated the opportunity to engage in this process and stated their interest in the follow-up to the survey, some felt that there were too many closed and leading questions.

Many respondents used this text area to comment on the principles and the benefit of policies aimed at improving access to and preservation of scientific information.

Citizen respondents remarked that 'as a matter of principle anything funded by public funds should be made available publicly' and that 'if the taxpayer is paying for research, and research infrastructure, then the fruits of that research should be freely available to the public'.

According to many respondents, open access and preservation ensure that research results are disseminated widely and effectively, guarantee maximum exploitation and impact, maximise public investment in R & D and avoid duplicative research.

They also highlighted the potential benefit of more effective scientific communication: wider access to scientific results can accelerate scientific progress and help small and medium businesses and entrepreneurs to speed up innovation. According to a respondent, 'today, technology allows us to go one step further: make knowledge available to everyone, [be] it for personal information/self-teaching or, maybe more importantly, for giving the EU's SMEs the means to innovate and become leaders in a highly competitive global market'.

It is interesting to note that respondents also focused on the benefits for other stakeholders, including the general public. On this, one citizen respondent pointed out: 'Whether you are a patient seeking health information, an educator wishing to enliven a lesson plan or a researcher looking to formulate a hypothesis, making papers freely available online provides you with the most current peer-reviewed scientific information and discoveries.' Another felt that

'it is important to make young students aware of science's beauty. Science shall become as art: you can observe in it the beauty of nature and human kind.'

Some respondents took the opportunity to outline their role in the scientific communication system. Publishers underlined their investment in creating quality scientific information, while many other respondents expressed their willingness to engage in networking activities to raise awareness and develop policies and infrastructures to improve scientific information system.

The role of the EU in this area attracted many comments. One respondent noted that 'as the problem of access to information is universal, it must be thought at a supranational level. Europe seems to be a suitable level to lead thinking and define policies.' Many respondents commented favourably on the solid approach adopted by the European Commission in this policy area and encouraged its leadership in increasing access and ensuring the preservation of scientific information. Finally, some respondents remarked on the need to make free and permanent access to scientific results one of the principles informing all the EU's funding activities and underpinning the European research area.

III. ANNEX

On-line survey on scientific information in the digital age

In late 2011, the European Commission intends to adopt a Communication and Recommendation on access to and preservation of digital scientific information. This initiative builds on earlier policy developments in this area, and is being developed within the policy contexts of the EU Flagship Initiatives Innovation Union and Digital Agenda for Europe, and of the push for improved knowledge circulation in the European Research Area.

The Communication will take stock of the developments in the area of scientific information, and set out the actions that the Commission intends to take on open access to publications and data in the context of research projects funded by the Union budget. The Recommendation will detail specific actions to be taken at Member State level.

Consultation of interested parties forms part of the policy process. The purpose of this open consultation is to gather information from as many sources as possible, including governments, research institutions and universities, libraries, scientific publishers, research funding organisations, businesses, individual researchers, and other interested parties on their views on scientific information in the digital age. The consultation will feed into the development of possible policy options to be considered, and will contribute to the ex-ante impact assessment that will be carried out.

The consultation is set up as follows:

1. The respondent
2. What role for Europe?

3. Access to digital scientific information (including open access): scientific publications
4. Access to digital scientific information (including open access): research data
5. Preservation of digital scientific information
6. Comments

It will take you approximately 15 minutes to complete the survey. The consultation will close on 9 September 2011.

Results will be published on the Commission's website, including a list of respondents (without e-mail addresses). Regarding personal data protection, please also refer to the European Commission's legal notice:

http://ec.europa.eu/geninfo/legal_notices_en.htm.

The Commission thanks you in advance for your collaboration and valuable input.

Definitions:

In this questionnaire, "scientific information" refers to both 1) scientific (and scholarly, academic) publications published in peer-reviewed journals and 2) research data.

"Research data" or "data" may be numerical/quantitative, descriptive/qualitative or visual, raw or analysed, experimental or observational. Examples are digitised primary research data, photographs and images, films, etc.

"Open access" refers to access over the internet that is free of charge for the reader.

"Preservation" refers to policies, strategies and actions that ensure permanent access to digital content over time.

1. Respondent

1.1 I am replying as /on behalf of a(n) (if you represent more than one category, please choose the most relevant one):* (compulsory)

(at most 1 answer)

- National government
- Regional or local government
- Research funding organisation
- University/research institute
- Library
- Publisher
- International organisation
- Individual researcher
- Citizen
- Other

Other (please specify): (optional)

(maximum 50 characters)

If you answered "national government", of which country? (optional)

(at most 1 answer)

- Austria
- Belgium
- Bulgaria
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland

- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- United Kingdom
- Other

Other (please specify): [\(optional\)](#)
[\(maximum 250 characters\)](#)

If you answered "regional or local government", of which country? (optional): [\(optional\)](#)
(at most 1 answer)

- Austria
- Belgium
- Bulgaria
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland

- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- United Kingdom
- Other

Other (please specify):* (compulsory)
(between 2 and 50 characters)

1.2 Please provide your name (will be published):* (compulsory)

(between 1 and 100 characters)

1.3 Please provide your e-mail address (will not be published):* (compulsory)

(between 5 and 100 characters)

1.4 Please provide the name of your organisation (if you are responding as a citizen, enter "citizen"):* (compulsory)

(between 2 and 100 characters)

1.5 Please provide your country of residence / establishment:* (compulsory)

(at most 1 answer)

Austria

Belgium

Bulgaria

- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain

- Sweden
- United Kingdom
- Other

Other country of residence/establishment (please specify): * (compulsory)
(between 2 and 50 characters)

2. What role for Europe?

2.1 There are already many developments regarding access to and preservation of scientific information in Europe, at governmental, funding body and institutional level. For some years, the European Union has also been developing policies in these areas.

In your opinion, in what specific areas can and should the European Union best contribute to improving the circulation of knowledge, and specifically access to and preservation of scientific information (including both publications and data)?

	agree strongly	agree	no opinion	disagree	disagree strongly
Policy formulation at European level on access and preservation issues <small>optional</small>	<input type="radio"/>				
Co-ordinating existing initiatives in EU Member States <small>optional</small>	<input type="radio"/>				
Supporting the development of a European network of repositories (online archives) <small>optional</small>	<input type="radio"/>				
Encourage universities, libraries, funding bodies, etc., to implement specific actions <small>optional</small>	<input type="radio"/>				

2.2 Comments

(optional)

(maximum 400 characters)

3. Access to digital scientific information (including open access): scientific publications

3.1 Do you agree with the following statement: "there is NO problem with access to scientific publications in Europe"? (optional)

(at most 1 answer)

- agree strongly
- agree
- no opinion
- disagree
- disagree strongly

3.2 How would you rate the importance of the following potential barriers to access to scientific publications?

	very important	important	no opinion	not very important	not important at all
Insufficient national/regional strategies/policies on access to scientific publications <small>optional</small>	<input type="radio"/>				
High prices of articles/journal subscriptions <small>optional</small>	<input type="radio"/>				
Limited or reduced library budgets <small>optional</small>	<input type="radio"/>				
Different Value Added Tax (VAT) rates for online media and printed material <small>optional</small>	<input type="radio"/>				
Lack of awareness and interest within the research community on access and open access <small>optional</small>	<input type="radio"/>				
No incentive system in place encouraging and rewarding practices that enhance access <small>optional</small>	<input type="radio"/>				

3.3 Comments (optional)

(maximum 400 characters)

3.4 Do you think that publications resulting from publicly funded research should, as a matter of principle, be available free of charge to readers on the internet (i.e. open access mode)? (optional)

(at most 1 answer)

- agree strongly
- agree
- no opinion
- disagree
- disagree strongly

3.5 Do you think that open access can increase access to and dissemination of scientific publications? (optional)

(at most 1 answer)

- agree strongly
- agree

- no opinion
- disagree
- disagree strongly

3.6 Do you think that open access to scientific publications can co-exist with the traditional scientific publication system? (optional)

(at most 1 answer)

- agree strongly
- agree
- no opinion
- disagree
- disagree strongly

3.7 Open access to scientific publications can be achieved in different ways, in particular through researchers self-archiving in repositories ("green open access") and through publication in open access journals for a fee ("gold open access").

Which of the following different modes should public research policy facilitate in order to increase the number and share of scientific publications available in open access? Please rate the following options from 1 to 4 (1 = first choice; 4 = last choice):

	1	2	3	4
Open access publishing (author-pays model/"gold open access") <small>optional</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Self-archiving ("green open access") <small>optional</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A combination of self-archiving and open access publishing <small>optional</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Funded conversion of traditional subscription-based journals to open access journals <small>optional</small>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.8 Comments

(optional)

(maximum 400 characters)

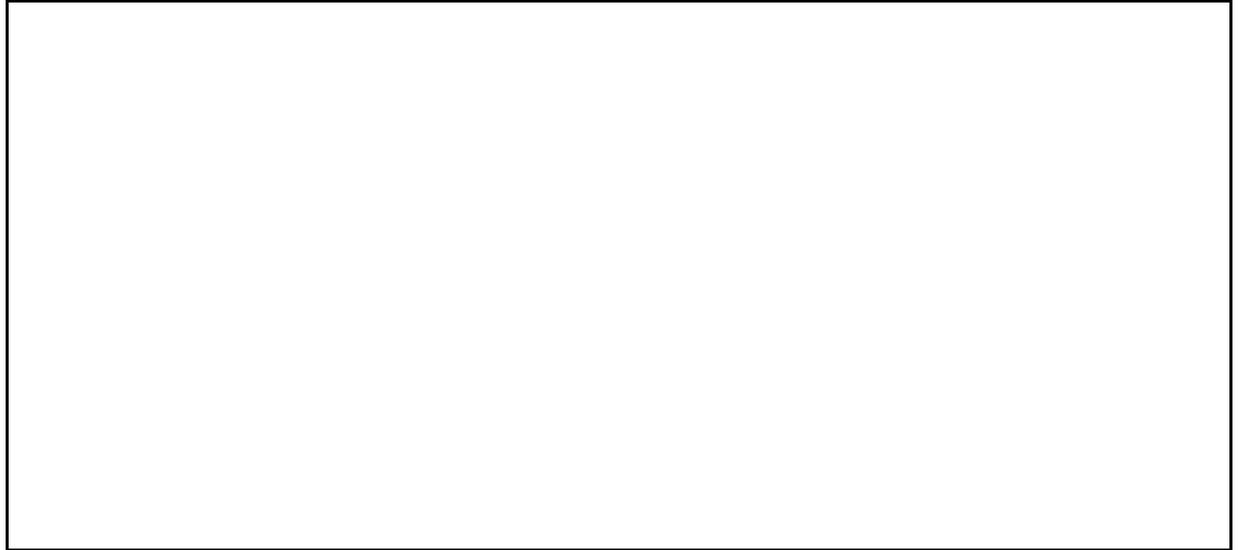
3.9 In the case of self-archiving ("green open access"), what embargo period (period of time during which publication is not yet open access) is desirable?

	agree strongly	agree	no opinion	disagree	disagree strongly
18 months <small>optional</small>	<input type="radio"/>				
12 months <small>optional</small>	<input type="radio"/>				
9 months <small>optional</small>	<input type="radio"/>				
6 months <small>optional</small>	<input type="radio"/>				

3.10 Other embargo period/comments

(optional)

(maximum 400 characters)



4. Access to digital scientific information (including open access): research data

4.1 Do you agree with the following statement: "generally speaking, there is NO access problem to research data in Europe"? (optional)

(at most 1 answer)

- agree strongly
- agree
- no opinion
- disagree
- disagree strongly

4.2 How would you rate the importance of the following potential barriers to enhancing access to research data?

	very important	important	no opinion	not very important	not important at all
Insufficient national/regional strategies/policies on access to research data <i>optional</i>	<input type="radio"/>				
Lack of funding to develop and maintain the necessary data infrastructures <i>optional</i>	<input type="radio"/>				
Insufficient credit given to researchers making research data available/lack of incentives <i>optional</i>	<input type="radio"/>				
Lack of mandates to deposit research data <i>optional</i>	<input type="radio"/>				
Lack of data management requirements in research projects <i>optional</i>	<input type="radio"/>				
Confidentiality/privacy issues <i>optional</i>	<input type="radio"/>				

4.3 Comments

(optional)

(maximum 400 characters)

4.4 Do you think that research data that is publicly available and that results from PUBLIC funding should, as a matter of principle, be available for re-use and free of charge on the internet? (optional)

(at most 1 answer)

- agree strongly
- agree
- no opinion
- disagree
- disagree strongly

4.5 Comments

(optional)

(maximum 400 characters)

4.6 Do you think that research data that is publicly available and that results from PARTLY PUBLIC AND PARTLY PRIVATE funding should, as a matter of principle, be available for re-use and free of charge on the internet? [\(optional\)](#)

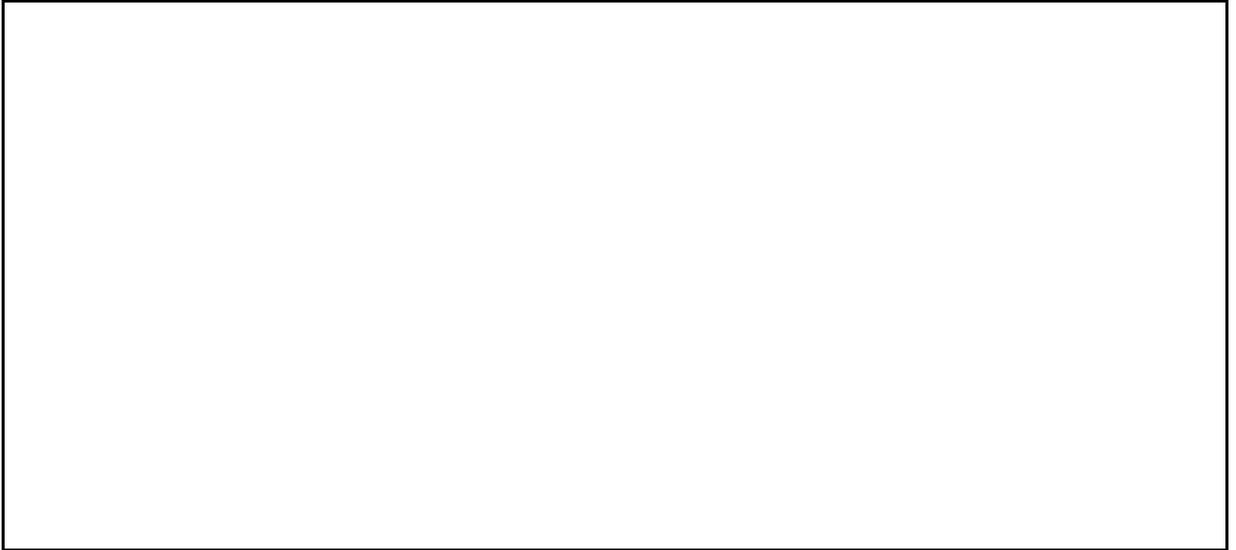
[\(at most 1 answer\)](#)

- agree strongly
- agree
- no opinion
- disagree
- disagree strongly

4.7 Comments

[\(optional\)](#)

[\(maximum 400 characters\)](#)



5. Preservation of digital scientific information

5.1 Do you agree with the following statement: "Generally speaking, the issue of preservation of scientific information is at present sufficiently addressed"? (optional)
(at most 1 answer)

- agree strongly
- agree
- no opinion
- disagree
- disagree strongly

5.2 Do you agree with the following statements regarding potential barriers to enhancing preservation of scientific information in the digital age?

	agree strongly	agree	no opinion	disagree	disagree strongly
<p>It is not always clear which scientific information should be preserved</p> <p><small>optional</small></p>	<input type="radio"/>				
<p>It is not always clear who is responsible for preserving scientific information (research organisations, libraries, governments?)</p> <p><small>optional</small></p>	<input type="radio"/>				
<p>There is no harmonised approach to legal deposit (legal requirement that copies of publications be submitted to a repository, usually a library)</p> <p><small>optional</small></p>	<input type="radio"/>				
<p>Funding for preservation is inadequate</p> <p><small>optional</small></p>	<input type="radio"/>				
<p>The quality and interoperability of repositories</p>	<input type="radio"/>				

need to be further developed <small>optional</small>					
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5.3 Comments

(optional)

(maximum 400 characters)

6. Comments

6.1 Please provide any further comments or inputs in the space below. (optional)

(maximum 600 characters)

European Commission

Online survey on scientific information in the digital age

Luxembourg: Publications Office of the European Union

2012 — 65 pp. — 17.6 x 25 cm

ISBN 978-92-79-23170-4

doi:10.2777/7549

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The 'Online survey on scientific information in the digital age' (open from 15.07.2011 to 09.09.2011) provided stakeholders with the opportunity to comment on the state of play, barriers and potential policy actions in the area of access to and preservation of scientific results.

All citizens and organisations concerned were welcomed to contribute to this consultation. Contributions were particularly sought from governments, research institutions and universities, libraries, scientific publishers, research funding organisations, businesses, individual researchers and other interested parties. The consultation spurred great interest among those stakeholders, with 1140 responses received from 42 countries.

The purpose of the consultation was to gather information from as many sources as possible and receive important input for the future development of policy options in the area of scientific information in the digital age.