

## Exploring Societal Impact *Part Two: Activity by researchers*

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ADVANCING  
**DISCOVERY**

# About this report

This report forms the second part of a three-part summary of the findings of a global survey with more than 9,000 researchers, conducted in June 2019. The work took place as part of a joint project between Springer Nature and the Association of Universities in the Netherlands (VSNU), [Towards societal impact through open research](#).

The goals of the survey were to better define the criteria for research impact in relation to the UN's 17 sustainable development goals, asking researchers what motivations are relevant where their work relates to one of these SDGs; to which audiences is impact generation focused outside of academia; to what end do researchers undertake activities to generate impact as part of their work; and how important it is. The research also aimed to identify means of support for impact generation, from the library, institution, funder, publisher or from other third parties.

In addition to analysis of global trends, this report highlights findings from a subset of 99 responses from researchers in the Netherlands. However given the small sample size, these highlights should be treated with caution.

The findings from this survey will be used to develop a best practice toolkit for researchers, focused on the specific needs of researchers in the Netherlands, working on individual SDGs. The toolkit will be made freely available from the project website.

For further details about our methodology and the demographics of the survey respondents, please see the [Appendix](#). A full list of survey questions and the raw data can be downloaded from [Zenodo](#). Part one and three of the report can be found [here](#).

# Headline findings:

## **Respondents report using a wide variety of activities to increase their societal impact**

- The most commonly reported activity for increasing societal impact is presenting at a conference, with just over half saying that they promote their research on a scientific social network
- When asked which activity has the greatest effect on increasing the societal impact of their research, 'publishing open access' is the most popular answer

## **Most researchers spend 10% or less of their time on activities to increase societal impact**

- A fifth of respondents could be described as "heavy promoters", reporting that they spend more than a fifth of their time on these activities. This group were more likely to engage in promotion via podcasts and video sites
- Three-quarters of respondents either 'somewhat agreed' or 'strongly agreed' that measuring societal impact was something they should do more of. Most said that a lack of time was a challenge to doing so, but a lack of methodology, a lack of technical expertise and a lack of incentive were also reasons given

## **Researchers are predominantly using academic impact measures to track societal impact**

- Citations are used by three quarters of respondents to track societal impact, and downloads by over half
- Altmetrics and social media mentions are used by around a quarter of respondents

# Part one: Activities to grow societal impact

This section explores:

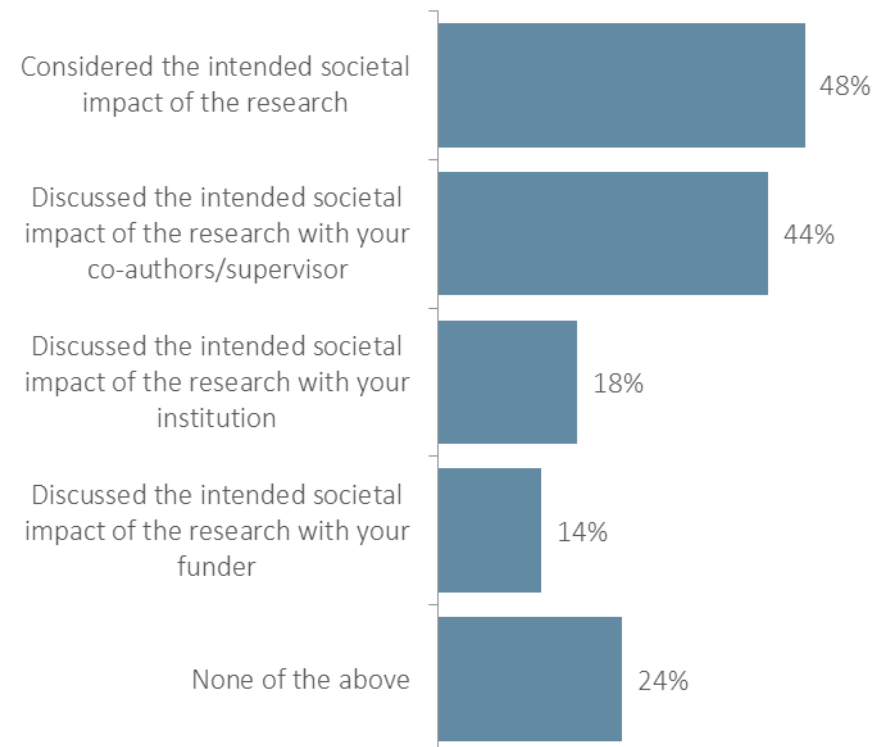
- What consideration of impact occurs ahead of research?
- What activities are undertaken to increase societal impact?
- How much time is spent on generating societal impact?

## Thinking about societal impact prior to research

Around half of respondents consider impact ahead of research, but discussions with institutions and funders are much less common

- Nearly half of respondents said that they considered societal impact before carrying out research. A large proportion of these discussed the impact with their co-authors or supervisor
- Around a quarter of respondents said that they neither considered nor discussed societal impact ahead of their most recent research
- Netherlands researchers were more likely to consider societal impact, with 57% discussing intended societal impact with co-authors or supervisors.

**For your most recent publication, which of the following did you do before carrying out the research?  
Please mark all that apply. (n=5,388)**



## Activities undertaken to increase societal impact

### Conferences are the most popular route for increasing societal impact, followed by scientific social networking sites

Respondents reported a wide variety of activities that they carried out to increase the societal impact of their research. The average respondent carried out between 3 and 4 of these activities:

- The highest proportion (58%) presented at a conference, with just over half (52%) promoting their research on a scientific social network such as *ResearchGate*
- More than three quarters (76%) of researchers in the Netherlands reported presenting at a conference to increase the societal impact of their research
- Netherlands researchers were much more likely to have published open access than other countries (56% compared with 42% globally).

**For your most recent publication, which of the following have you done (or do you plan to do) to increase the societal impact of the research?**  
Please mark all that apply. (n=5,525)



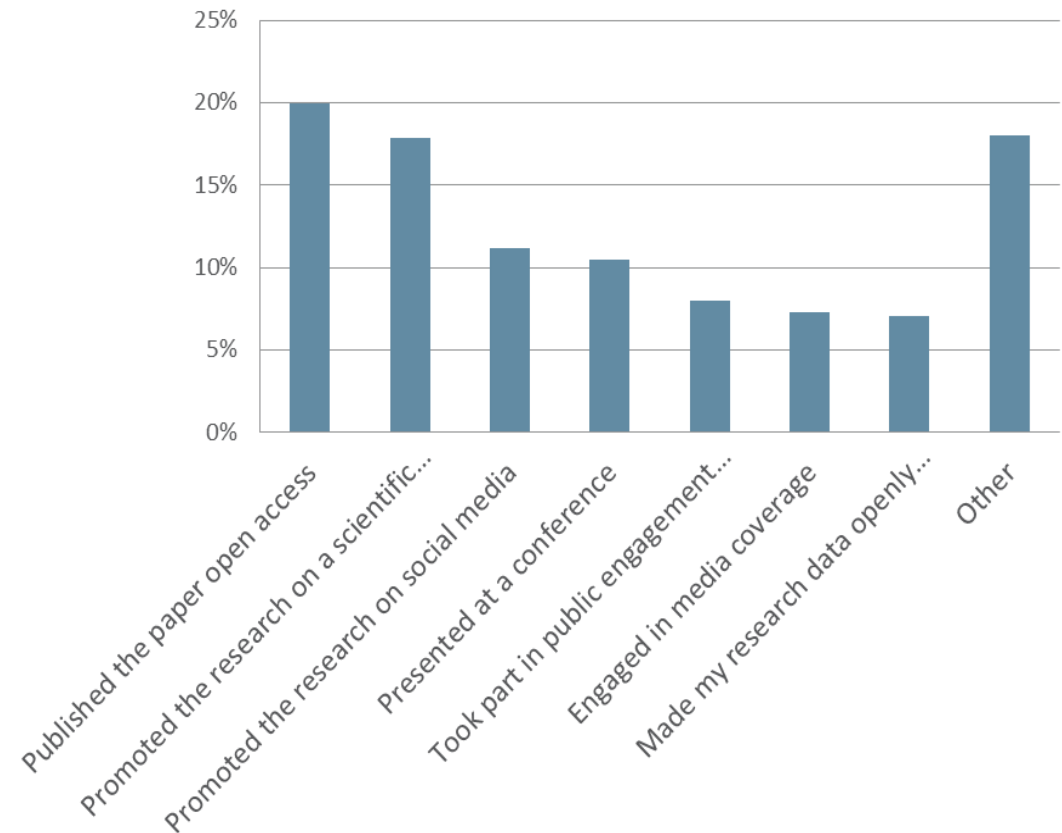
## Activities undertaken to increase societal impact

### Open access is seen as having the greatest effect on increasing societal impact

Researchers were asked which of the methods they used was likely to have the greatest effect. This shows that although a large number of researchers promote their papers at conferences with the hope that this may increase the societal impact of their research, a larger proportion of those who publish via an OA model believe that it is more effective in increasing societal impact.

- Publishing on a scientific networking site (e.g. ResearchGate) was the second most popular method
- The effectiveness of scientific networking sites was seen as much lower for researchers in the Netherlands (7% vs 18%), with promotion on social media the second most effective method (selected by 17%)
- There were no statistically significant differences between demographics.

**Of these activities, which one do you believe is likely to have the greatest effect on increasing the societal impact of the research? (n=4,286)**





## Activities undertaken to increase societal impact

### Researchers see the greatest effect on increasing societal impact from channels that increase accessibility and reach

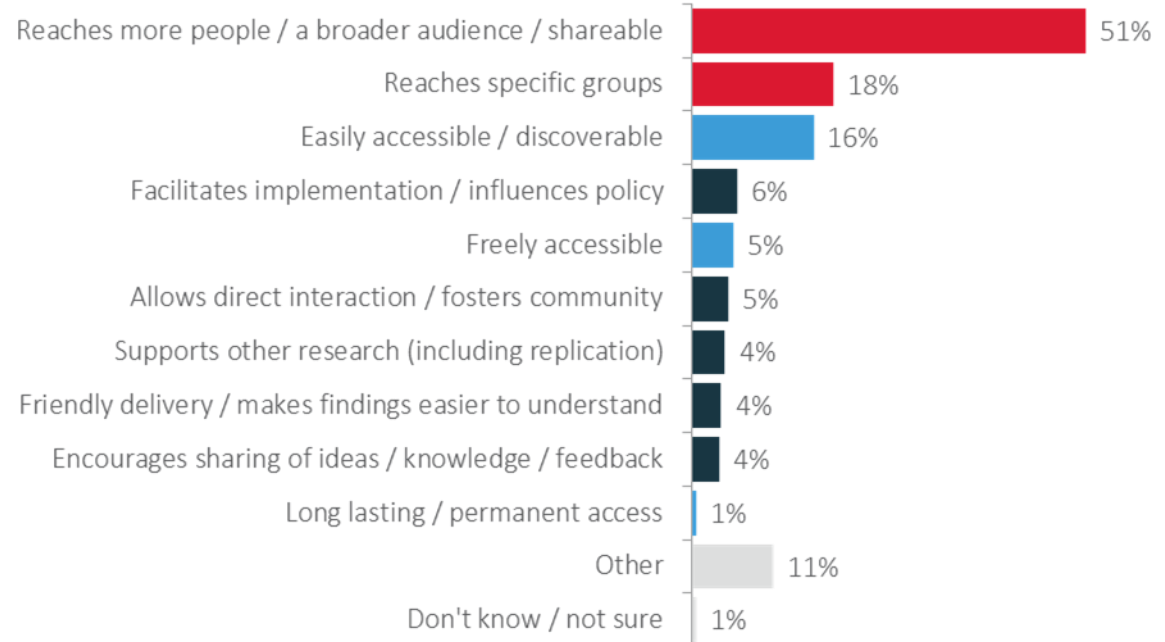
Researchers provided open text responses on why they felt a particular activity was more effective in increasing societal impact. These point to three main reasons:

**Reach:** enables the researchers to reach more people, or a broader audience, or specific groups

**Accessibility:** easier for potential readers to access due to discoverability or free access

**Effect and influence:** the activity makes the findings easier to understand or disseminate

#### Reasons why participants thought this had the greatest effect on increasing societal impact of the research





## Activities undertaken to increase societal impact

### Examples of respondents' comments on what activities have the greatest effect on increasing the societal impact of research 1/2

#### Published the paper open access

*Open access allows the general public as well as vast readership with/without specific interests to access the findings and apply it on the societal needs. The applicability of research finding increases tremendously with an open access publication of the findings.*

*reach emerging and developing economies which cover the largest audience.*

*Open access journals have a demonstrated higher penetration into readers' population, since don't have to pay to get the whole paper. The more readers=more citings, more practitioners can use/apply the knowledge.*

*I think there is an evolution in how people access information. The more accessible research findings are, in my estimation, the greater the advancement of new information, theories, and ideas.*

#### Promoted the research on a scientific social networking site

*Researchers actively visit these platforms and they provide a means of sharing PUBLICLY FUNDED research for FREE.*

*Reaches more people; previous publications have been picked up by NGOs.*

*Promoting research on scientific social websites helps to reach a large number of peers who are most likely to understand and cite your research. Social media such as Facebook or others can equally reach lots of people, but very few are likely to be able to understand and follow research papers adequately.*

#### Presented at a conference

*There are widely attended conferences on this specific topic that are attended by practitioners and government agency researchers and extension personnel.*

*This activity has the potential to reach a greater range of people and also allows me to build personal connections with the listener/consumer.*

*A conference gives very good opportunities to engage in discussions with researchers in the same field and potential end users of the results (industry developing new technology, clinicians).*

# Activities undertaken to increase societal impact

## Examples of respondents' comments on what activities have the greatest effect on increasing the societal impact of research 2/2

Promoted the research on social media	Engaged in media coverage	Made my research data openly accessible	Took part in public engagement activities
<p><i>Our Facebook page is followed by journalists, who can write about it in daily newspapers.</i></p> <p><i>At the end, it's all about how many people you reach. The Facebook page of my workgroup alone has more than 1.1k followers... In combination with other social media and compared to the full text reads of my research papers, more are reached by social media.</i></p> <p><i>Because there you have immediate access to society - and it allows for 2-way communication.</i></p>	<p><i>Policymakers read newspapers, not research articles. Mainstream media also influences public opinion, which is of importance to politicians.</i></p> <p><i>I think it's the medium that will reach the most people outside of academia. The flip side is that media coverage of science is often fairly poor and tends to misinterpret the research (most likely because of a lack of expertise, and time constraints that don't allow most journalist to understand the science).</i></p> <p><i>Media are more accessible to general public than podcast or video.</i></p>	<p><i>Allows for future researchers to more easily use and extend this research.</i></p> <p><i>If the data is not also accessible, it cannot be verified and is essentially close to worthless.</i></p> <p><i>[with access to data] donors can interrogate the findings to see if it's feasible for implementation.</i></p> <p><i>Open access provides the possibility to discover things in other research areas that might be a stimulus for new research.</i></p>	<p><i>To reach the grass root level where the research needs to be implemented.</i></p> <p><i>Because it created direct, personal bonds with people in policy networks, who can then spread the ideas into their practice and into their networks.</i></p> <p><i>Given that people pay taxes that support our research, sharing our studies to the society is our duty as citizens. Therefore, this kind of approach could bring us the opportunity to interact with society and give the opportunity to participate.</i></p>

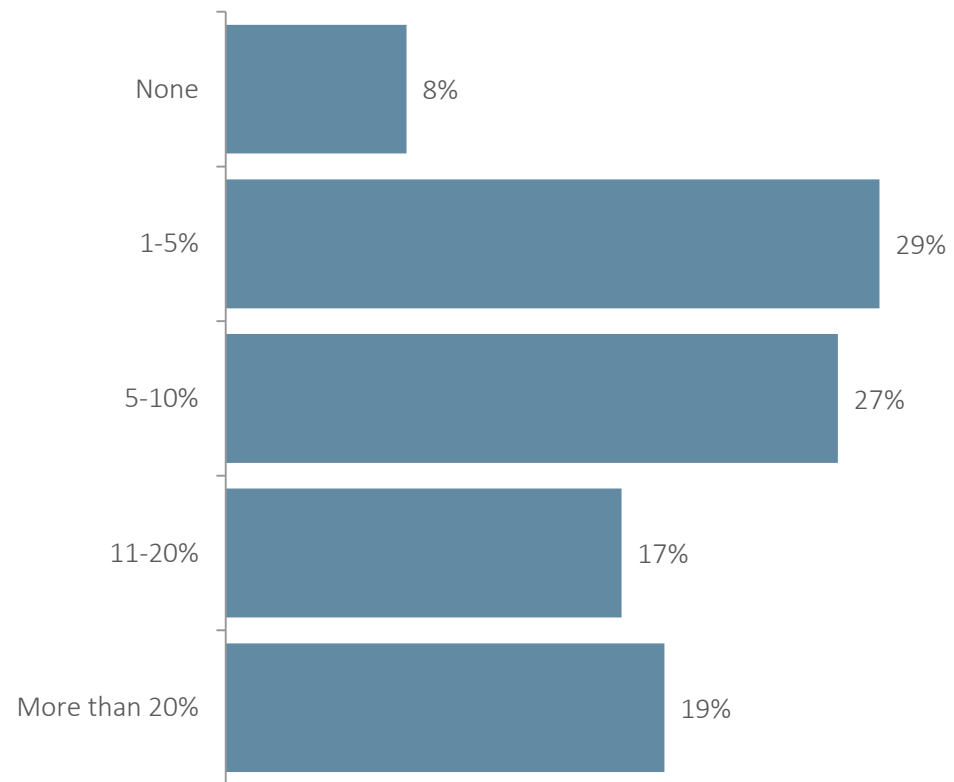
## Time spent on increasing societal impact

### Most researchers spend 10% or less of their time on activities to increase societal impact

Over half of respondents say they have spent between 1% and 10% of their time on activities that are intended to increase the societal impact of their most recent research. Only 8% said they had spent no time on this.

Nearly a fifth of respondents said they spent more than 20% of their time on these activities.

**In the last year, approximately what % of your working time have you spent on activities that are intended to increase the societal impact of your most recent research? (n=5,388)**



## Time spent on increasing societal impact

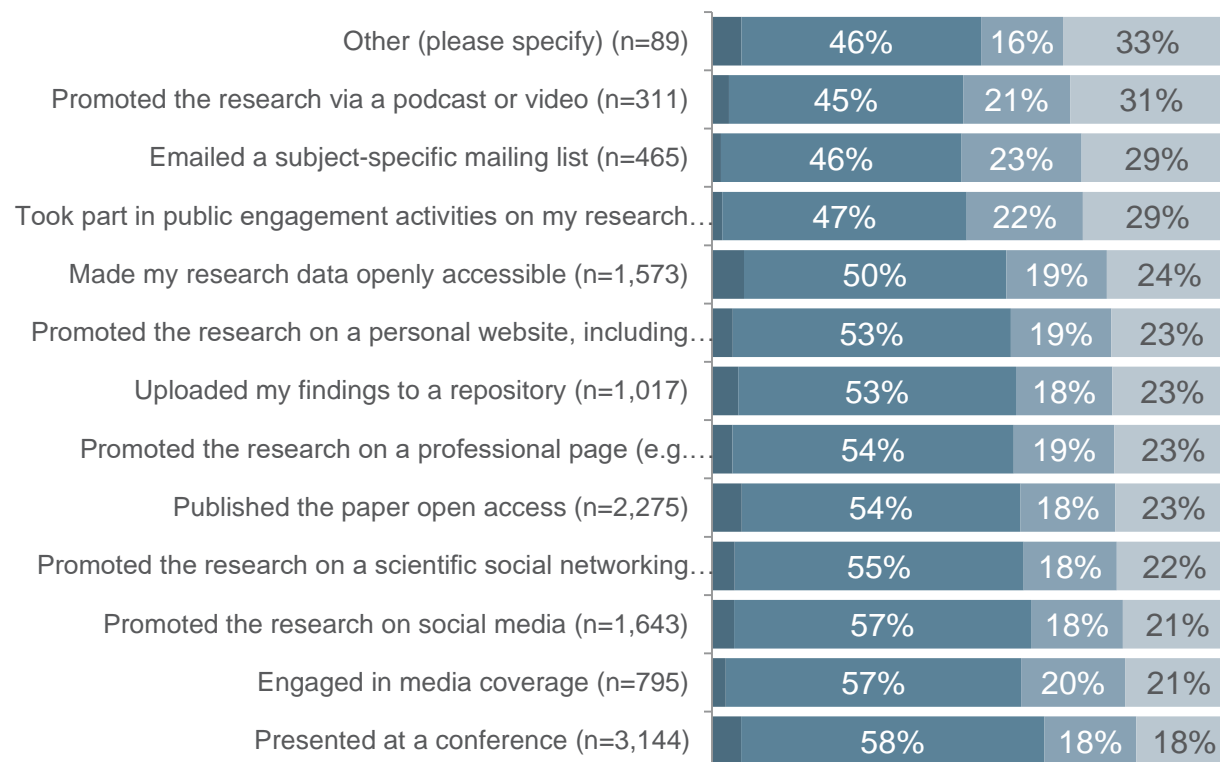
### Those spending more time are more likely to be promoting via multimedia or email

Respondents saying that they spent a higher proportion of their time on activities to increase societal impact were more likely to say the activities they carried out were:

- Promoted via podcast or video (31%)
- Emailed a mailing list (29%)
- Other (33% selecting this said they spent more than 20% of their time): ‘Other’ responses covered a wide range of activities, but some were clearly major undertakings. Examples included:
  - “With colleagues we established an institute for promotion of science”
  - “Included in a book directed to politicians of the European Union”
  - “invited to talks”

#### Activities carried out vs % of working time spent on activities to increase societal impact? (n=5,388)

■ None ■ 1-10% ■ 11-20% ■ More than 20%



## Part two: Measurement and tracking

This section explores:

- What methods of measurement and tracking are employed by researchers?

## Measuring societal impact

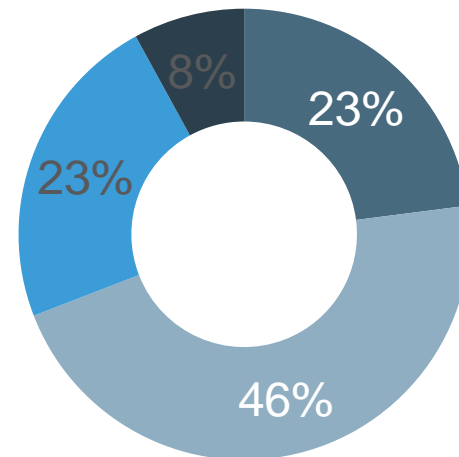
### The vast majority of researchers are trying to track the societal impact of their research

Around a quarter of respondents said that they 'always' attempt to track the societal impact of their published research, and only 8% 'never' attempt to track societal impact.

These answers may be open to interpretation, as the definition of an attempt could be rather subjective. However, that only 8% said that tracking societal impact was something they never tried to do does at least suggest that there is a strong appetite for knowing more.

To what extent do you attempt to track the societal impact of your published research?  
(n=5,302)

■ Always ■ Sometimes ■ Rarely ■ Never



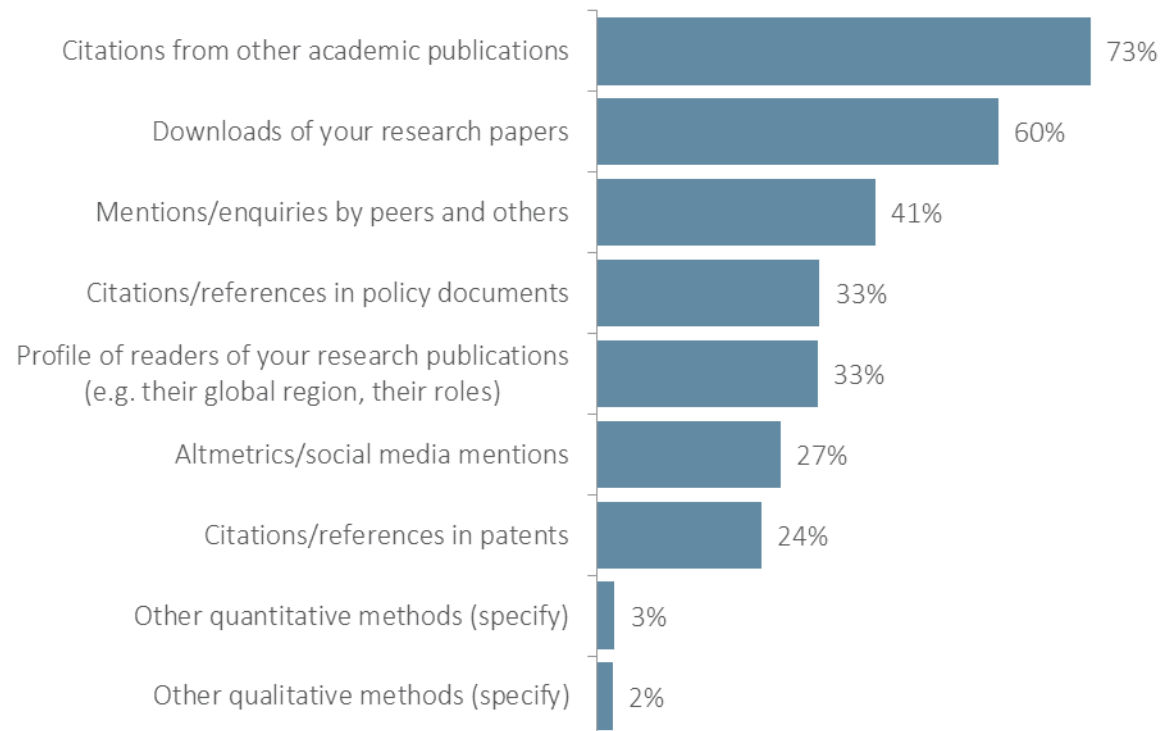
## Measuring societal impact

### Citations are used by three-quarters of respondents to measure societal impact

Respondents reported using an average of 3 methods to track societal impact.

- The long-established and quantitative measures of citations and downloads are the most commonly used methods to track societal impact. However given that these are traditionally measures of academic impact, it may be that the definition of 'societal impact' was insufficiently clear to all respondents, or it may be that there remains a lack of understanding about effective measures for societal impact amongst researchers
- A third or more of respondents said that they used mentions or enquiries by peers and others and citations in policy documents
- Over a quarter said that they used altmetrics or social media mentions.

#### What methods do you use to track societal impact of your research? Mark all that apply (n=5,302)





## Measuring societal impact

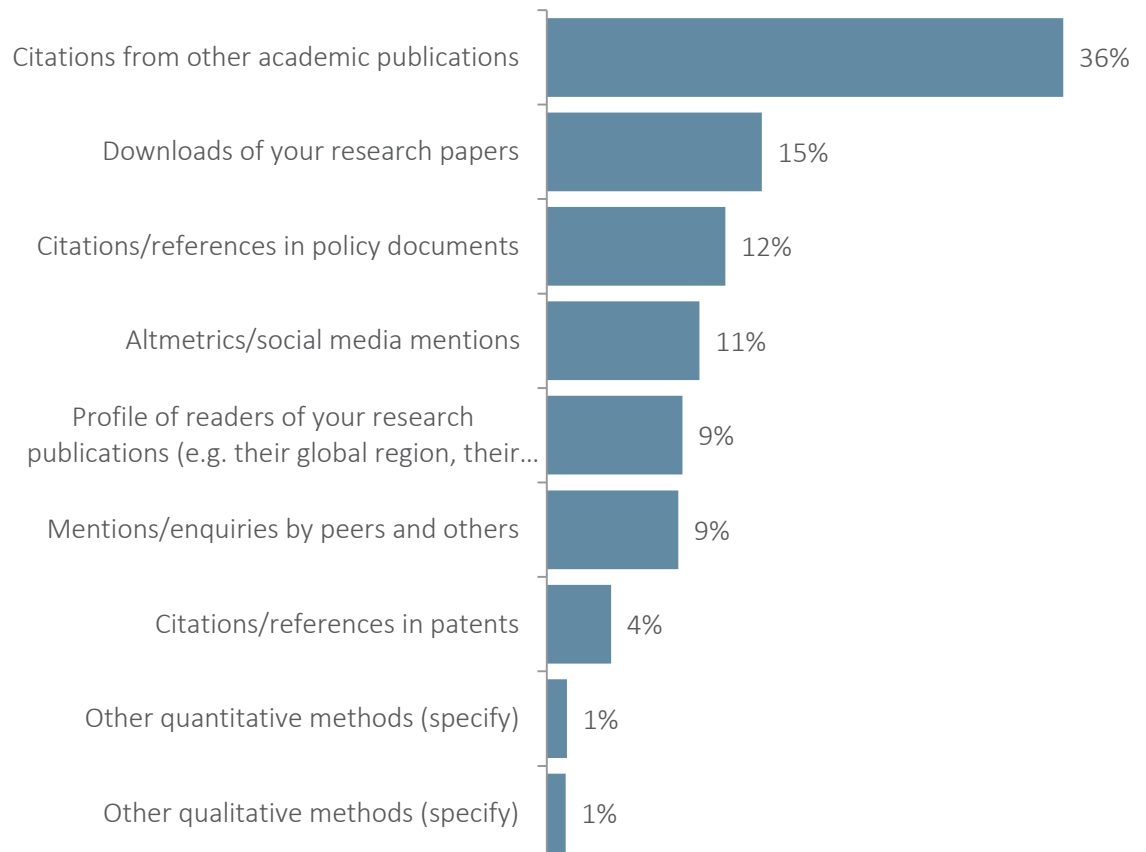
### Citations also most popular way to track societal impact

As well as being the most commonly used, citations were also most commonly considered the best way for tracking societal impact.

Although this does tally with the high percentage of respondents wanting to be read by their peers, as previously noted, citations may not accurately measure societal impact. These results may reflect a lack of understanding on what is meant by societal impact, or a lack of adequate methods across disciplines to track societal impact more generally.

Where citations are easy to measure across all disciplines, broader measures of societal impact may be more difficult to track, and further work is needed to support researchers in this area.

#### Which one method do you think is the best for tracking the societal impact of your research?(n=3,791)



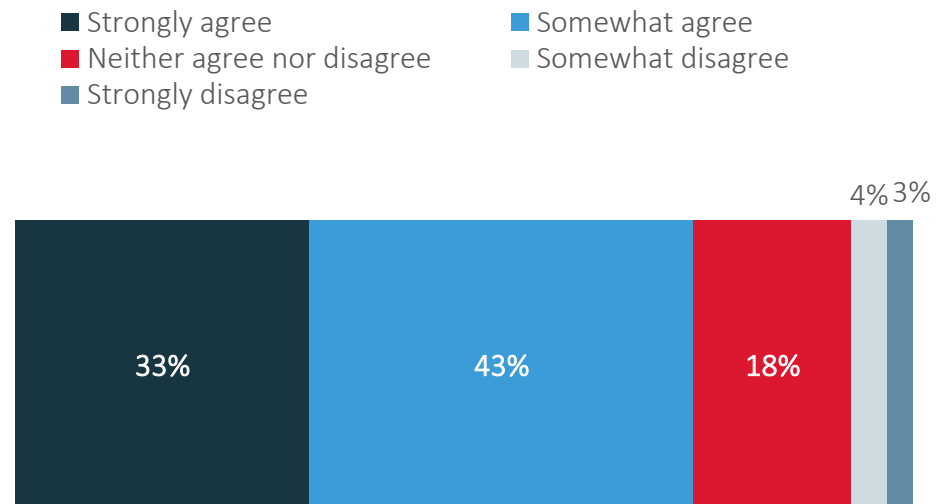
## Measuring societal impact

### Over three-quarters of respondents feel they should be doing more to measure societal impact

A very large proportion (76%) of respondents either 'somewhat agreed' or 'strongly agreed' that measuring societal impact was something they should do more of:

- A third strongly agreed with this sentiment, and only 7% disagreed
- General agreement was much higher in India and 'Other' parts of the world, and with younger respondents
- Medicine and Social Sciences were the disciplines where the highest proportion of researchers agreed that they should do more measurement of societal impact.

**"Measuring the societal impact of my research is something I feel I should do more of" (n=5,184)**



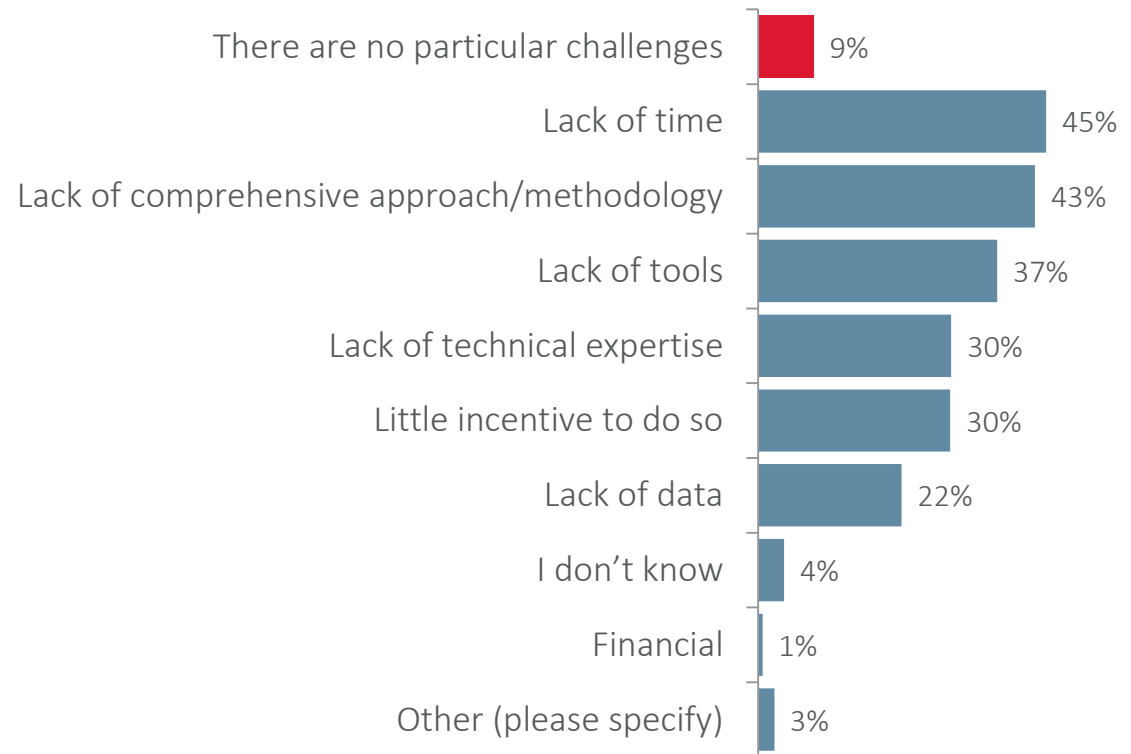
## Measuring societal impact

### Time constraints prevent more tracking of societal impact, but there are other challenges too

This question was only asked of those who agreed that they should be doing more to measure societal impact.

- Europe and N. America were most likely to cite lack of time
- Lack of incentive was significantly more likely to be given as a reason by respondents from N. America (40%)
- Amongst disciplines, social scientists were most likely to say that there was little incentive to track societal impact (41%).

#### What are the challenges with regards to tracking the societal impact of your research? (n=3,897)



# Thank you

Find out more about the project and download further resources from <https://www.springernature.com/gp/researchers/sdg-impact>

## The story behind the image



### Antarctica meltdown could double sea level rise

Researchers at Pennsylvania State University have been considering how quickly a glacial ice melt in Antarctica would raise sea levels. By updating models with new discoveries and comparing them with past sea-level rise events they predict that a melting Antarctica could raise oceans by more than 3 feet by the end of the century if greenhouse gas emissions continued unabated, roughly doubling previous total sea-level rise estimates. Rising seas could put many of the world's coastlines underwater or at risk of flooding and storm surges.



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