
NEW MODES OF STAKEHOLDER INVOLVEMENT IN EX ANTE IMPACT ASSESSMENTS

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Background of the Study

The Science in Society (SiS) programme

- has been evolving since the **first debates in 2000** under the general heading of "Science, society and the citizen" with the goals of bringing research closer to society
- The shift from Science *and* Society in FP 6 to Science *in* Society in FP 7 and the recent debate on **Responsible Research and Innovation (RRI)** points out to the fact that the programme gained significantly in conceptual terms in recent years
- Our orientation frame was the organisation of the SiS programme into **three action lines**: (1) A more dynamic governance of the science and society relationship, (2) Strengthening potential, broadening horizons and (3) Science and society communicate
- Concretely, seven different topics were analysed in detail: **Ethics, Gender, Governance, Open Access, Public Engagement, Science Communication and Science Education**
- Given this **heterogeneity**, it seems obvious that not one singular policy will yield the expected outcomes but a more targeted approach that takes into account the differences between the different parts of the SiS programme

Background of the Study

- The study “**assessment of future options** for the SiS programme” was part of the interim evaluation led by Technopolis, commissioned by the DG Research and Innovation and carried out between November 2011 and October 2012
- Central questions of the impact Assessment were:
 - How to proceed with SiS actions beyond FP7? How to include the various SiS topics in **Horizon 2020**?
 - What **policy options** are there and how to build up on what already has been established?
 - What does the **SiS community** consider to be possible paths?
- Our approach: Combination of a **prospective analysis** and a **broader public consultation** of key actors, in order to:
 - Get feedback from the **stakeholder communities** on the thematic orientation of the programme
 - Address **controversial issues** (e.g. potential risks, desirability)
 - Develop tailored **recommendations** for concrete policy options and measures

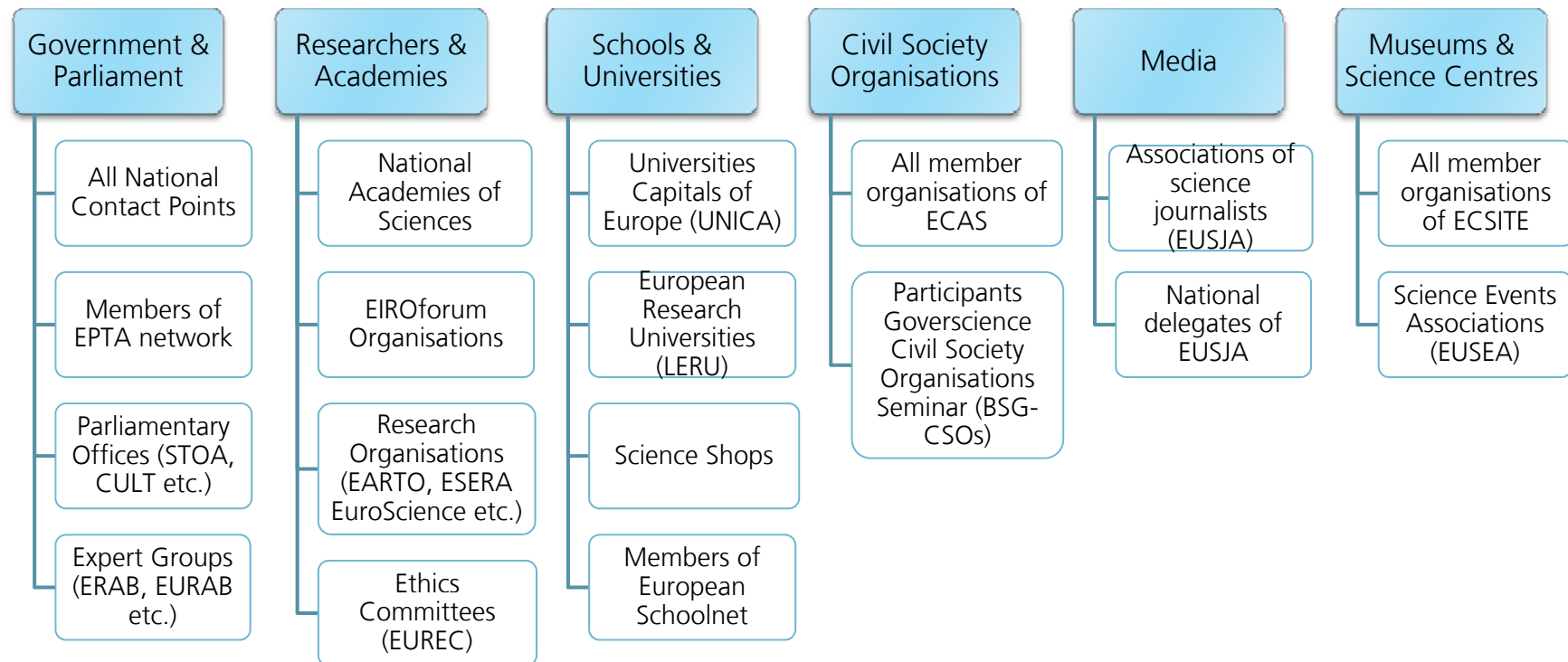
Methodological Approach

- Main methodological innovation used in the course of the ex ante impact assessment: a public consultation process organised in form of a **Delphi-like European-wide online survey based on the snowball sampling technique**
- **Why this particular approach?**
 - First, **social inclusiveness** and broad public engagement represent major aims of SiS and the new RRI approach and should according to this also be considered within the methodological approach for the impact assessment
 - Secondly, workshops or **focus groups** are only feasible with **a rather restricted number of participants** where mainly the narrow community of scientists and science managers could have been involved, which may be the most vocal but certainly not the only group of stakeholders concerned
 - Thirdly, through the **snowball sampling technique** it is possible to reach potential hidden parts of a large and heterogeneous population, which is difficult to define at its margins
- The intention was thus to enable a **much broader variety of stakeholders** across the entire EU 27 as well as across all thematic areas of SiS to give feedback to core question of the future of the SiS programme

Methodological Approach

- For every SiS topic a list of statements was developed, for example in the gender field:
“The total share of female researchers in the EU will be raised to 45 percent”
- The statements are based on a literature review, own expertise in the field and input from selected experts during a qualitative pretest
- For every statement, seven questions had to be answered:
 - **Desirability**
 - **Associated socio economic impacts**
 - Time frame of occurrence
 - Political level of intervention
 - **Most important policy measure**
 - Critical success factors
 - **Potential Risks**
- Additionally the respondents were asked to indicate their age, sex, institutional background, country of origin and their level of expertise in the field
- The online questionnaire was programmed in such a manner that the respondents were able to choose which dimension(s) they would like to treat.

Methodological Approach

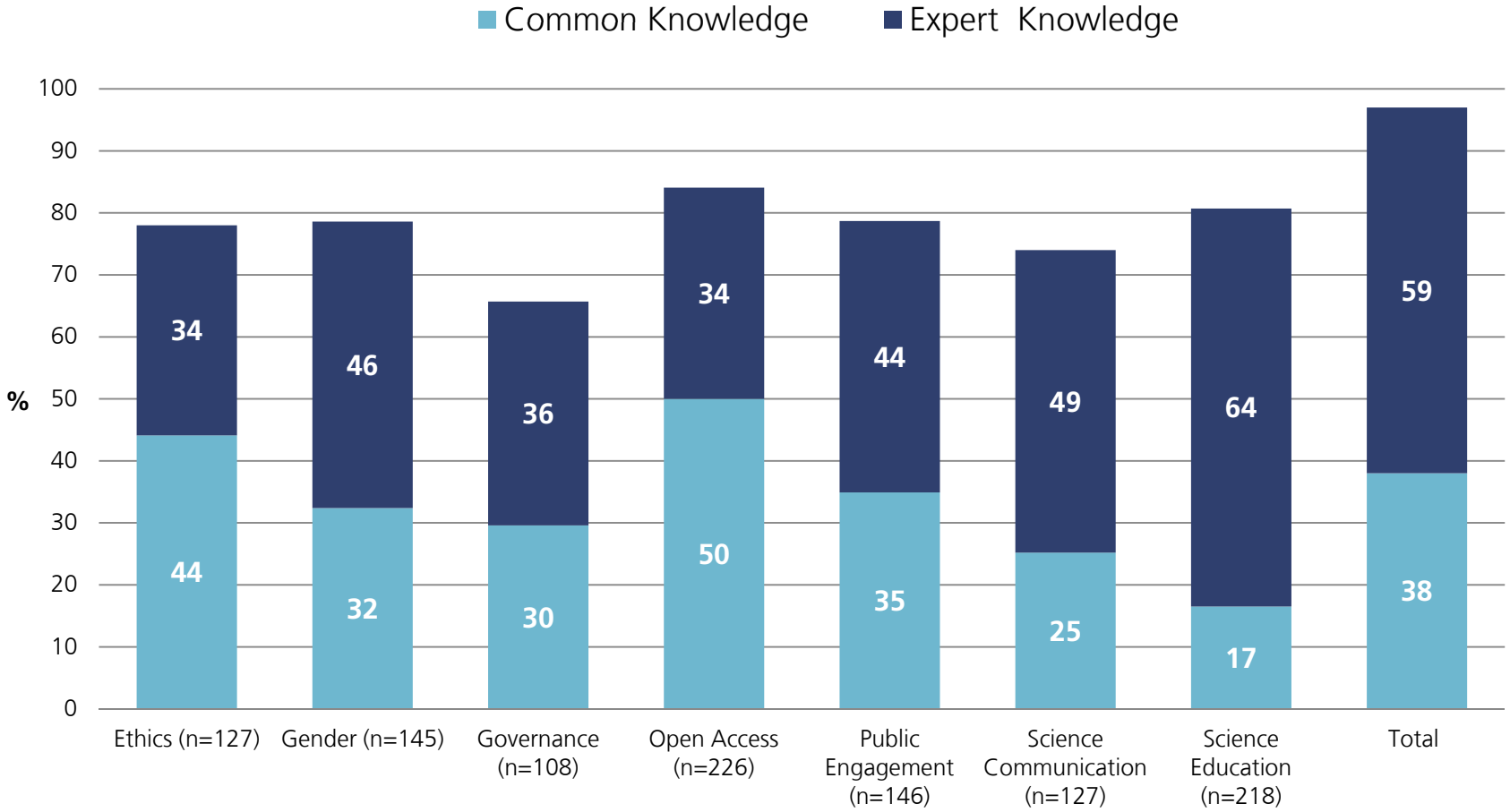


The Respondents

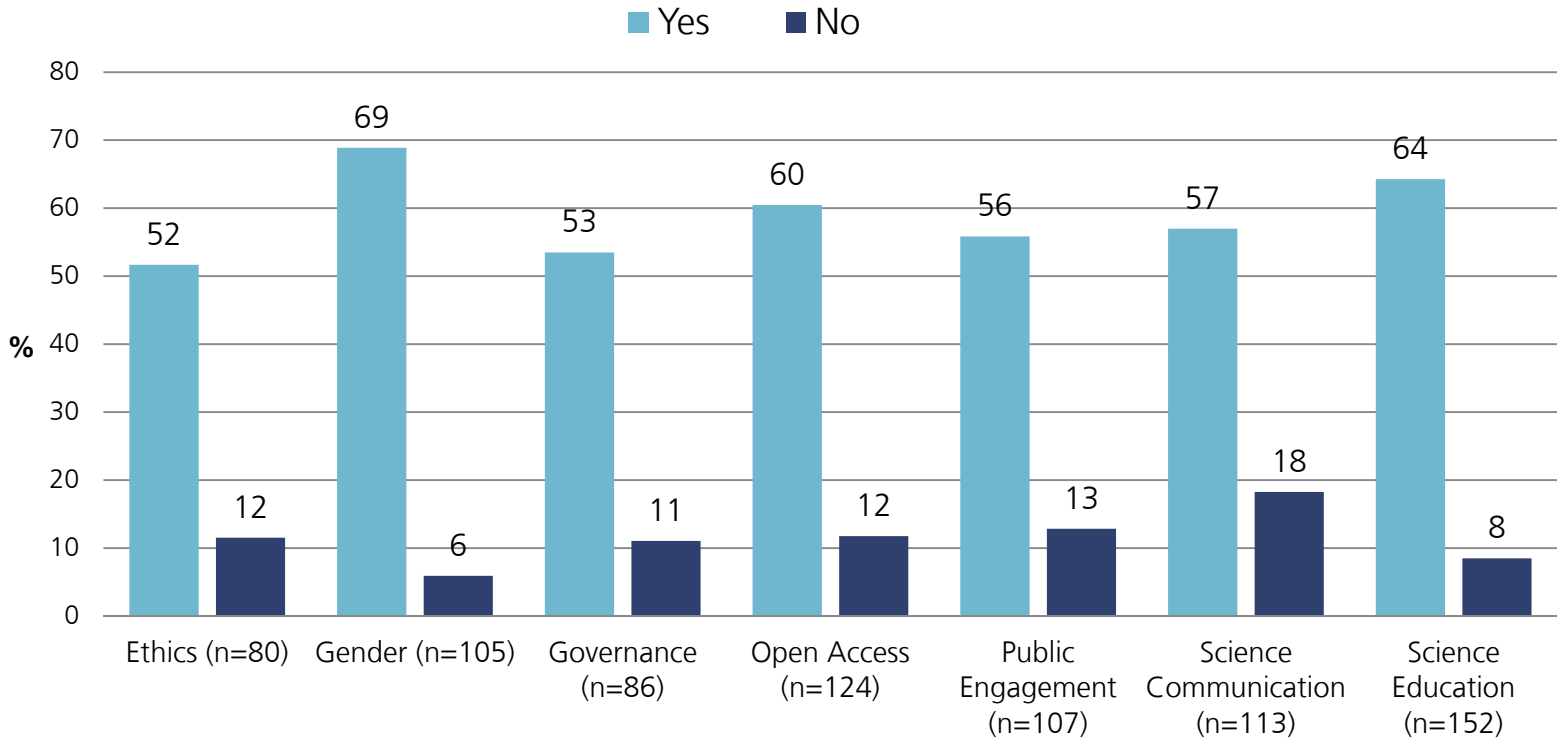
- Overall, 291 respondents answered the whole questionnaire
- The number of answers differs according to topic and categories

Topic	Maximum number of answers	Minimum number of answers
Ethics	127	80
Gender	145	105
Governance	108	86
Open Access	226	124
Public Engagement	146	107
Science Communication	127	144
Science Education	218	152
TOTAL	1097	786

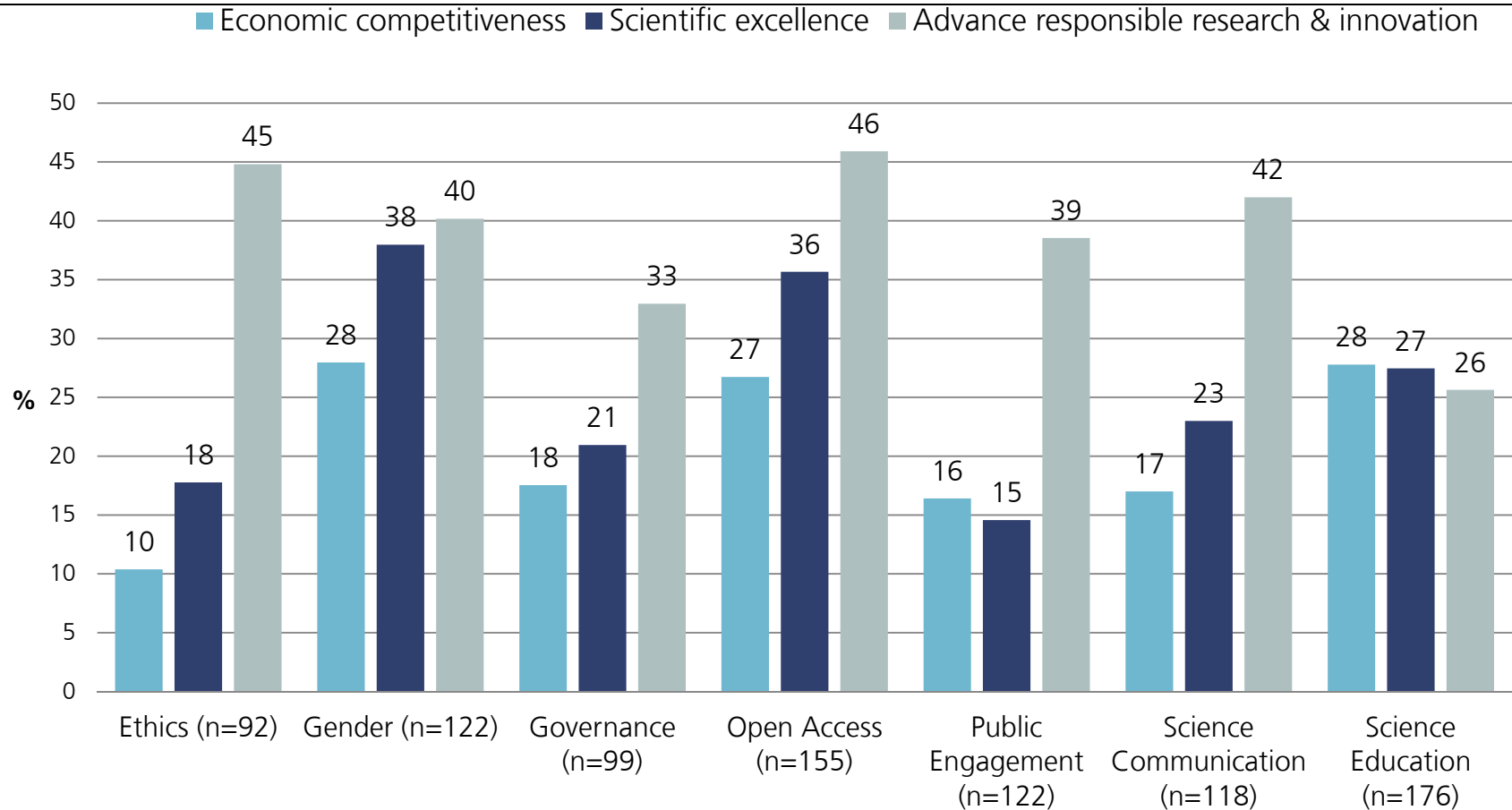
The Respondents



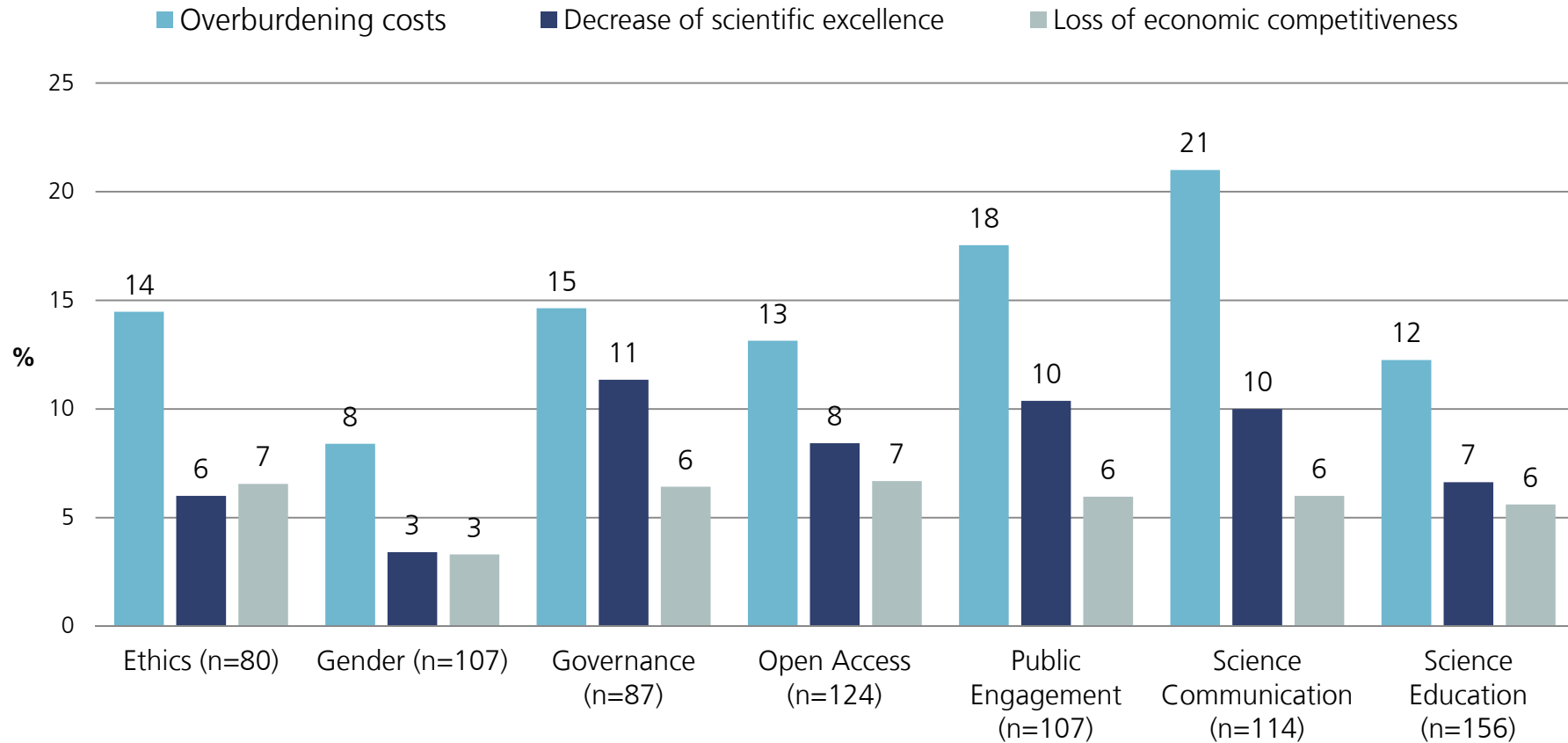
Main Results: Desirability



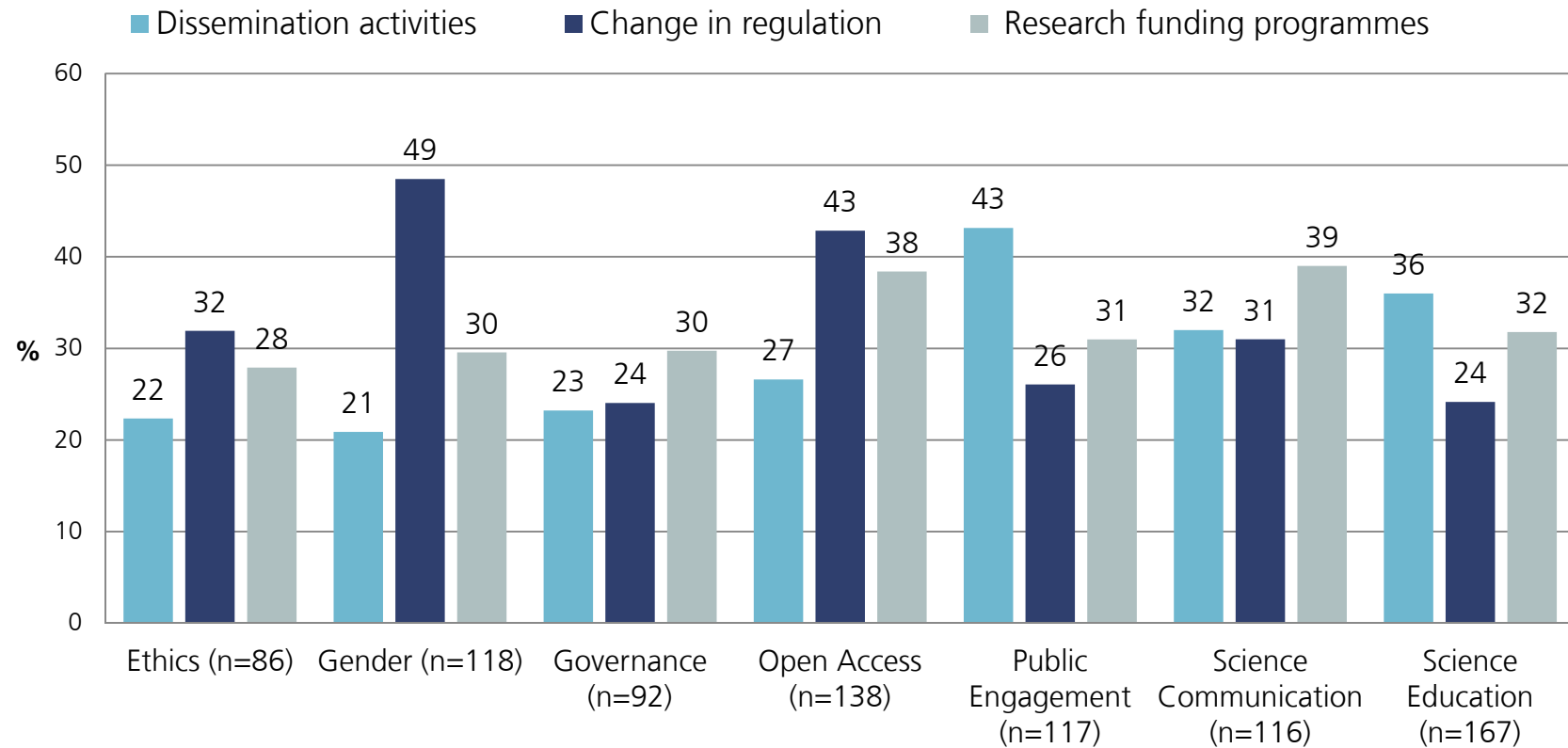
Main Results: Socio-Economic Impacts



Main Results: Potential Risks



Main Results: Necessary Policy Measures



Conclusion

1. The public consultation survey delivered **substantial new evidence** on questions regarding the different SiS topics and future options of the SiS programme
2. As intended, a large and heterogeneous population comprising a **total number of 1,097 respondents** could be reached with the survey
3. In addition to the common experts, which made up 59% of the respondents, 38% of the participants indicated only "**common knowledge**" in the respective area
4. The experts and lay people involved in the survey gave a very **positive feedback** on this particular way to organise a public consultation process
5. Through the complex set of questions and the rather high number of respondents, a **substantial set of relevant findings** could be generated which go far beyond the narrow project context
6. However, as the methodological approach was completely different compared with conventional ex ante approaches, it was **rather difficult (if not impossible) to convince the client** of the strengths and advantages of the methods used and the robustness of the results

Thanks a lot for your attention!

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ANNEX

Number of Statements per Topic / Categories used for the Questionnaire

Number of statements per topic:

Topics	Ethics	Gender	Governance	Open Access	Public Engagement	Science Communication	Science Education
No. of Theses	9	9	8	7	8	8	9

Categories:

1. **Desirability** (Do you consider the goal formulated in the statement desirable?)
 2. **Time Frame** (When do you think the statement will become reality?)
 3. **Main Impacts** (Which socio-economic impacts do you associate with the statement?)
 4. **Level of political intervention** (Which political level is suited best for political intervention?)
 5. **Policy measures** (What is the most important policy measure in order to reach the goals formulated in the statement?)
 6. **Potential Risks** (What potential risks do you associate with the statement?)
 7. **Success Factors** (What are the critical success factors in order to reach the goals?)
 8. **Policy Options** (Which is your preferred policy option for future SiS actions in general?)
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Networks and Expert Groups addressed

British Educational Research Association (BERA)

FEMtech Austria

Certain Yahoo.Gropus such as e.g. „genderromania“ or „Antropologia da Ciência e Tecnologia“ in Brasil

European Platform of Women Scientists (EPWS)

Informationsplattform Open Access

SWIM-Blog – Science Writers in Italy

Mission du National Contact Point de la Communauté française de Belgique - NCP FNRS

<http://www.ncp.fnrs.be/NCP-FNRS/index.html?page=5>

<http://www.wsis-community.org/pg/announcements/view/533483/>

<http://www.bera.ac.uk/news/interim-evaluation-and-assessment-future-options-science-society-sis-actions>

<http://www.scinoptica.com/pages/topics/erhebung-der-european-commission-zu-open-access-und-science-communication.php>

<http://sciencewritersinitaly.wordpress.com/2012/03/18/help-us-bring-the-attention-of-the-ec-on-science-journalism/>

<http://www.epws.net/2012/03/dg-research-survey-future-options-for.html>

http://www.facebook.com/permalink.php?id=78701493153&story_fbid=369452876428624

<http://br.groups.yahoo.com/group/geact/message/1525>

http://groups.google.com/group/sociologuesdelenseignementsuperieur/browse_thread/thread/46ecea3301938d60/58bcb9a780d65ce7?show_docid=58bcb9a780d65ce7

http://quipitone.blogspot.de/2012/03/connotea-bookmarks-matching-tag-oanew_23.html

Statements

Ethics

- 1) The notion that “responsible development” (i.e. considering ELSA in product development) is also a way to improve the coproduction of innovations and contributes to market success is widely accepted among EU companies.
- 2) The awareness of ethical issues among EU researchers will rise across all scientific fields (incl. SSH) and these will be mandatorily demonstrated in all EU applications.
- 3) The provisions in publicly funded research projects to conduct ethically sound science will increase.
- 4) The majority of EU researchers considers Ethical, Legal and Social Aspects (ELSA) not to be a “harassment” or an external control over research activities but as fundamental means of conducting research.
- 5) An EU Ethics Framework for responsible research and innovation, based on fundamental ethical principles and European values will be implemented in coordination with relevant international organizations.
- 6) Religious organisations, nongovernmental organisations and social media platforms that address human rights will become central actors in decision making processes and design of future science policy and research.
- 7) An EU wide charter on ethical and social considerations will be drafted that takes into account the different issues among scientific fields (e.g. issues in SSH are different to those in Biochemistry).
- 8) An effective structure of local/national/EU ethical committees to assess and to approve research projects by transparent and commonly agreed ethical standards will be implemented.
- 9) The notion of Ethics in European research will be substituted by a broader concept of “Responsible Research and Innovation” that emphasises wider societal issues (such as equity, sustainability, etc.).

Statements

Gender

- 1) All relevant actors in science (councils, research institutes, etc.) will increase in their decision-making bodies the proportion of women to at least 40%.
- 2) The recruitment processes for jobs in science are completely transparent in how merit is assessed and selection process functions.
- 3) It is a common standard at EU and member state level to request information about gender aspects in research content as part of project selection process.
- 4) All universities and research organisations in Europe dispose of gender action plans in order to recruit and retain more women for science.
- 5) The total share of female researchers in the EU will be raised to 45 percent.
- 6) All members of project assessment panels are given training to raise their awareness of possible gender bias in selection process
- 7) The early integration of gender aspects in research leads to more innovative approaches and improved quality of methods and outcomes, enabling also companies in Europe to realize a competitive advantage.
- 8) The working conditions in research do not longer require all-embracing full time engagement but allow alternative career paths too.
- 9) Regulatory organisations developing research related standards, e.g. CONSORT, take a lead role in establishing criteria for integration of sex/gender analysis in research, including when reporting results.

Statements

Governance

- 1) All stakeholders (not only sciences-related communities, but also the general public, NGOs, industry, etc.) are involved in a meaningful way in the development of research priorities, including broadly based consensus-building processes.
- 2) SiS aspects are firmly integrated into the selection process of funding programmes of the EC (and not separated from technology development programmes).
- 3) Society's interest in and knowledge of techno-scientific issues has increased significantly, which is a prerequisite for broad public participation.
- 4) Common guidelines including the formulation of good practices regarding the dimensions of SiS are adopted in the ERA ensuring responsible research and innovation.
- 5) An integrated European Research Area has been established and its principles of international cooperation and exchange with third countries are actively followed.
- 6) Scientific advice and expertise in policy-making processes aiming to strengthen the European science system are taken into account in a transparent and inclusive way.
- 7) The number of European universities entertaining institutionalised relationships with the business sector (e.g., adequate representation of businesses on advisory boards of universities) has doubled.
- 8) Knowledge exchange between universities and the society at large is an integral element of universities' duties

Statements

Open Access

- 1) 100% of the publications of publicly funded research in Europe has been made available via Open Access (OA).
- 2) OA is a policy priority and corresponding actions have been implemented in all Member States.
- 3) The majority of researchers is aware of what OA means and they can make the choice whether to use it or not for themselves.
- 4) All existing decentral repositories can be accessed via a unified interoperable European search portal (prerequisites are unified meta-data and document standards).
- 5) The use of creative common licenses or similar mechanisms is broadly established.
- 6) The idea to publish on paper is an idea of the past. Printed journals do not exist anymore, all publications are digital (whether Open Access or not).
- 7) Research data, related to a concrete publication or as raw data, is mostly made accessible via Open Access

Statements

Public Engagement

- 1) The general public will take an active part in decision making processes regarding research topics (direction) and appraisal of publicly funded projects (appropriateness).
- 2) Public engagement will become a key aspect for evaluating individual researchers and research organizations and it will have a similar importance as publications, conference papers etc.
- 3) A governance model for "upstream public engagement" will emerge, that provides for universal public engagement.
- 4) Every publicly funded research project is obliged to publish its results in a citizen oriented way.
- 5) The rate of EU citizens participating in the activities of a CSO dealing with science and technology related issues will rise to 15% (2010: 7%).
- 6) "Responsible Development" that takes into account economic circumstances, social perceptions, political and cultural frameworks and ethical compatibility will become a key concept in R&D processes.
- 7) Social platforms will be promoted and consolidated to broaden the scientific interest of the civil society and to increase input for the development of responsible strategic research agendas.
- 8) The competencies of the general public for science and technology appraisal (understanding political/ power and ethical, environmental, legal and societal aspects) will increase

Statements

Science Communication

- 1) All research outputs will be required to include a lay summary describing the research rationale, methodology, results, any lessons learned and a more prospective statement about the significance and possible implications of the work.
- 2) Science Communication will be an integral part of the duties of all European scientists.
- 3) Collaborative forms of public – science interaction through web based technologies (blogs, wikis, text editing, etc.) will become standard procedures before and after publication of research results.
- 4) The great majority of European research funders will have made science communication obligatory and a condition of funding.
- 5) European research will be evaluated, in part at least, in terms of its success in science communication.
- 6) Professional and target group specific dissemination activities will take up significant parts of the budget in publicly funded research projects.
- 7) New tools, guidelines and training courses assure that most researchers are successful science communicators and most research reaches a mass audience.
- 8) A much greater proportion of European citizens will routinely interacting with the scientific community, with the traditional separation of professional and public eliminated by the explosion in new social media

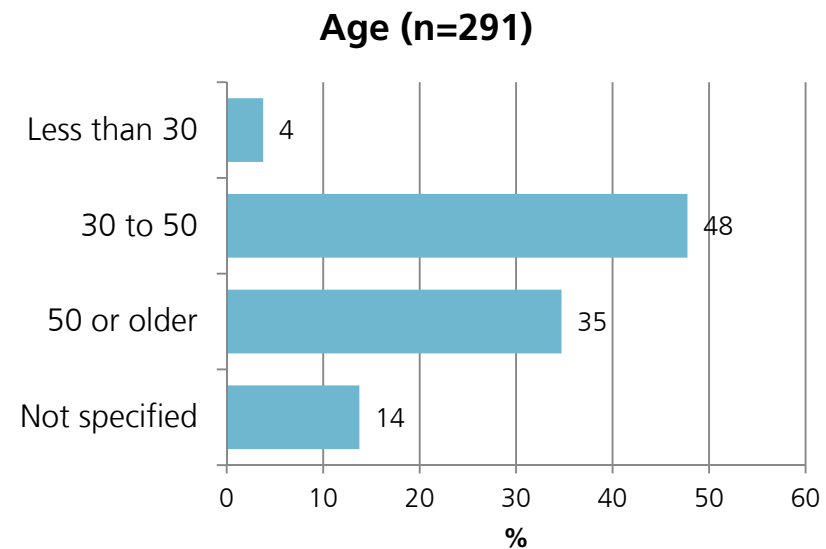
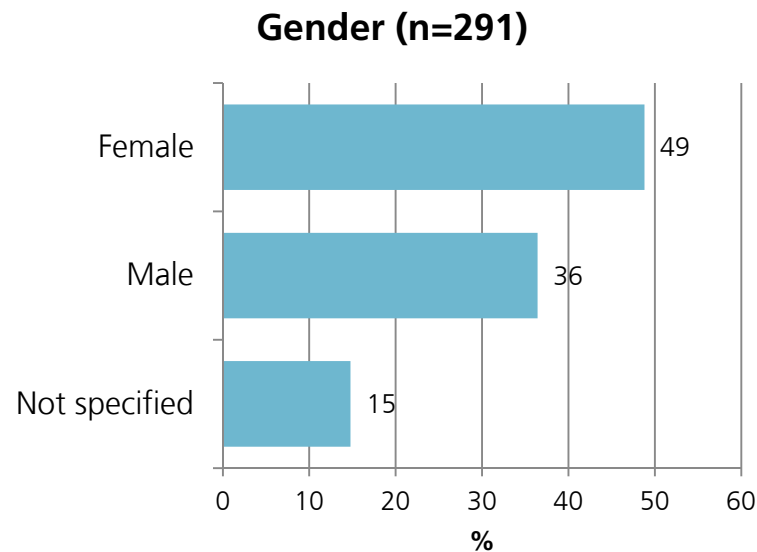
Statements

Science Education

- 1) The number of young people entering careers in science, research and technology will increase significantly due to government actions concerning science education (e.g. National Action Plans).
- 2) Due to a focus on secondary school's science-teaching pedagogy towards Inquiry Based Science Education (IBSE), the number of young people choosing science subjects at universities will increase significantly.
- 3) Inquiry-based teaching will be implemented as the standard science teaching and learning method in the majority of secondary schools in Europe.
- 4) (Almost) all European universities offer children universities to provide scientific lectures for children.
- 5) The interest for science and its practice at a young age will be raised due to more science activities such as science centers, science museums or class room projects.
- 6) The number of companies offering partnerships between industry, schools, and research organisations to bridge the gap between science education and science careers will increase significantly.
- 7) The use of new media and social networks will lead to a positive image of working in science.
- 8) International co-operation and exchange in the field of Science Education research will improve science teaching practice in Europe significantly.
- 9) Systemic reforms that support science education practices sensitive to students' gender, ethnic, culture and social class variations will be implemented

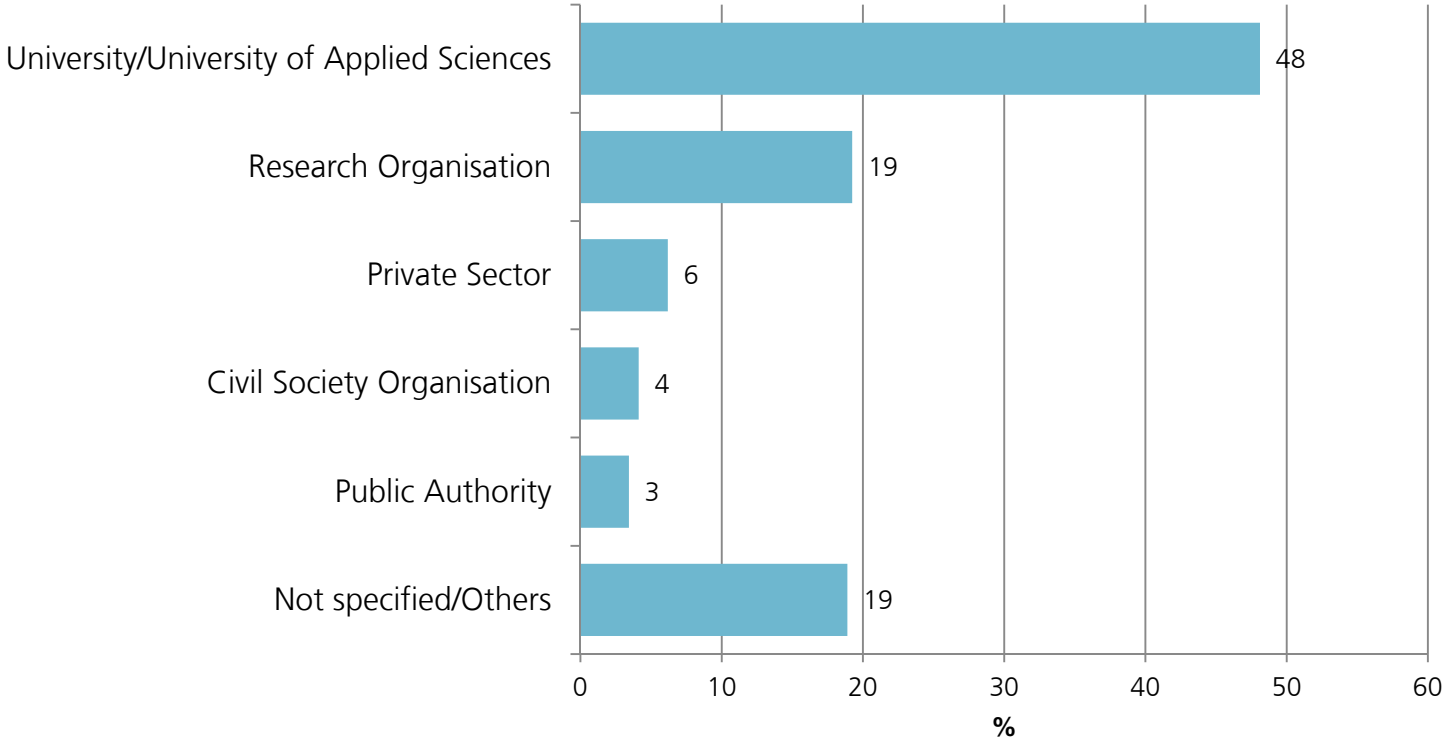
Characteristics of the Respondents

- From those respondents who indicated their socio-demographic background (N=291), 49% are female, 36% are male and 15% did not specify their sex
- The majority of respondents belongs to the group of people which is between 30 and 50 years old, further 35% are older than 50 years



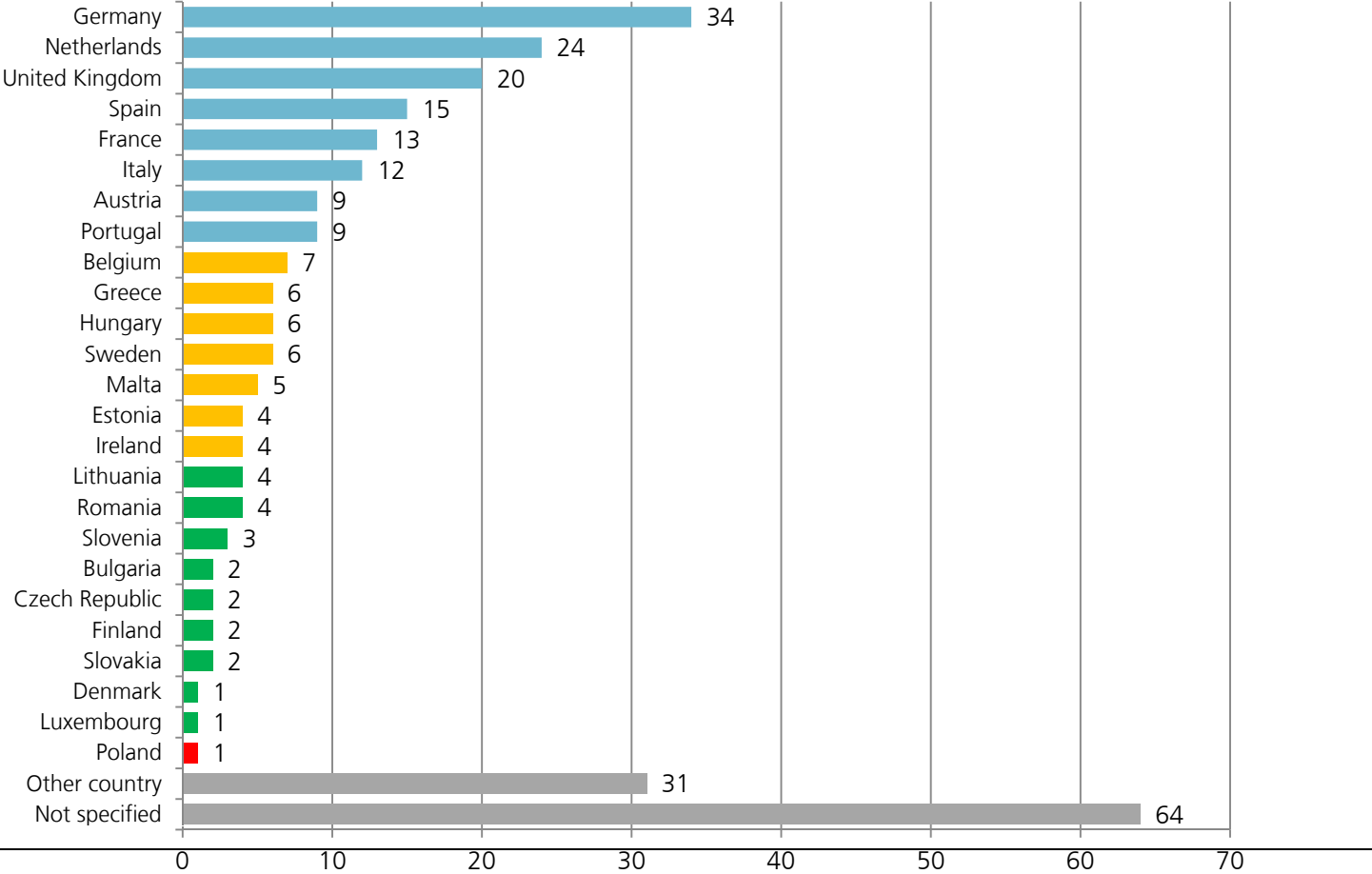
Characteristics of the Respondents

Institutional Background (n=291)

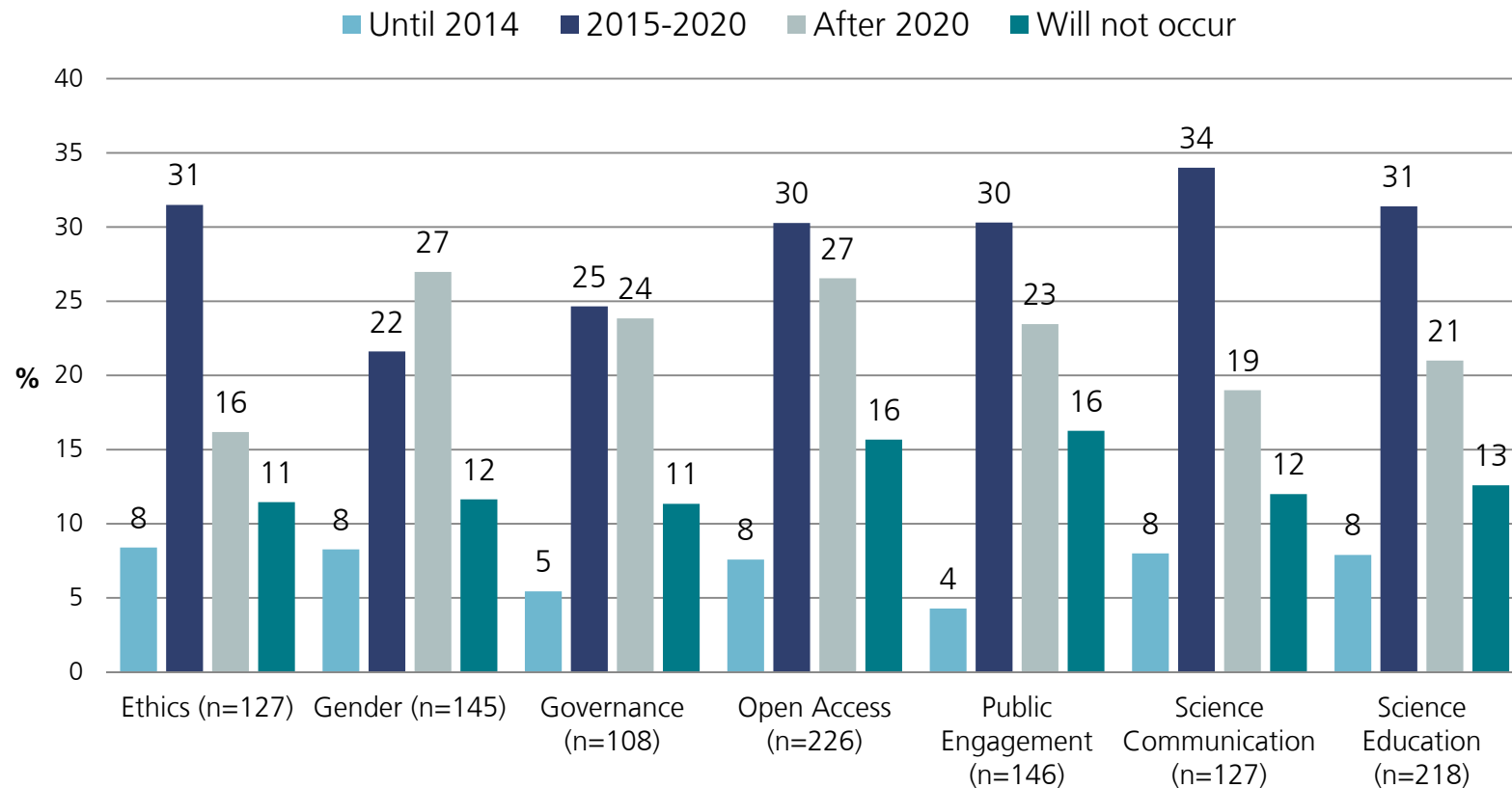


Characteristics of the Respondents

Residence (N = 291)



Main Results: Time Frame of Occurrence



Main Results: Success Factors

