Responsible Research and Innovation: Opportunities, obstacles and needs of the stakeholder groups in Europe

A summary

Melanie Smallman

UCL

The Responsible Research and Innovation (RRI) toolkit project sets out to develop tools for five key stakeholder groups (policymakers, industry, civil society, researchers and education) to encourage and support them in taking up the concepts and practices associated with RRI.

To understand more about these stakeholders and the dynamics between them, the project organised a series of interactive one-day meetings across Europe in Autumn 2014. These meetings took place in 22 European countries, bringing together more than 400 individuals from across the stakeholder groups to discuss their understandings of RRI, the opportunities and obstacles in moving towards this approach and their ideas of practical measures to help the implementation of RRI.

Key findings:

1. **Participants identified a large number of opportunities that could come from adopting RRI practices, procedures and cultures. These include:**

   - The chance to bring science and society closer and avoid future controversies
   - Improving the culture of science and scientific careers by expanding the role of scientists in society and giving research a problem oriented focus
   - Creating better innovations, new markets and increased competitiveness and creativity through wider input, problem focus and new networks
   - Democratic benefits from more engaged citizens
   - Improved learning by connecting research and practice

2. **Obstacles identified as hindering progress towards RRI goals included:**

   - Attitudes, in particular a lack of buy-in, resistance to change and the tendency to focus on short term goals in research, innovation and policy
   - Knowledge and the lack of a shared understanding of what RRI is – and what it means to each of the stakeholders
   - The unpredictability of science which makes it difficult to control and plan
   - Industry's focus on profit
   - A lack of networking opportunities within and between stakeholders
   - Lack of time, money, people and infrastructure
   - Skills – the lack of expertise and training to implement RRI, as well as 'soft' skills for scientists

3.   **Actions suggested to help implement RRI included:**

- Developing a definition of RRI that is clear and common to all stakeholders, whilst at the same time bringing the concept to life for the different stakeholders
- Providing opportunities for networking and to build relationships between the various stakeholders and the stakeholders and the public
- Training and guidance on how to 'do' RRI
- Rethinking ethos of funding, rewards, continuing development and promotion in scientific community, to encourage researchers to consider the outputs, consequences and impacts of their research
- Reflecting society's needs and socially desirable outcomes in research funding – and gathering and using data to assess this
- Including courses in ethics and communication for science students
- Embedding RRI into organisational structures by integrating it into existing strategies, charters and policies

4.   **While most stakeholders have a reasonably clear understanding of public participation, they appear to know little about other aspects of RRI**

5.   **There is a strong tendency for stakeholders to see the responsibility for RRI resting with stakeholders other than themselves.**

While there is considerable overlap between stakeholder groups and countries, it was clear that some Actions will also need to be stakeholder specific:

Stakeholder	Opportunities	Obstacles	Needs
Policymakers	Involving public can make policy, research and innovation more acceptable and more accountable New partnerships Enhance competitiveness and creativity	Policymaking is inflexible and doesn't necessarily involve the public Difficult to reach representative publics Too much focus on the short-term	Support for collaboration between different stakeholders Review science practice and funding Develop training for research funders and managers on RRI

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Stakeholder	Opportunities	Obstacles	Needs
Industry and Business	Increase competitiveness and creativity Generate new networks and partnerships Outcomes focused on the end-user	Need for the right relationships RRI needs to be 'sold' to industry and business RRI shouldn't generate further bureaucracy	Support collaboration between stakeholders Help to find new markets and models Remove any bureaucratic obstacles to RRI
Civil Society Organisations	More engaged informed citizens More open communication between science and society New networks and partnerships	Need for the right relationships Clearer information about RRI Limited resources	Formalise public involvement in decision processes Improve science communication Include RRI in organisational strategies and structures
Researchers	New opportunities for individual researchers Coordinating existing RRI practices across research and innovation structures New networks and partnerships	Scientific culture rewards publications not RRI Science is unpredictable and academic freedom important RRI shouldn't generate more bureaucracy Need for the right relationships	Change current research culture to be more in line with RRI Include RRI in training and education Review research funding and commissioning through an RRI framework
Education	New networks and partnerships Improve science education More inclusive and diverse engagement	Need the right relationships Time is scarce Systems and attitudes difficult to change	Change the curriculum to include and reflect RRI Train teachers on RRI Build a community of practice