

Parameters, elements and information forming and influencing the risk perception of different civil society groups

Introduction

Risk perceptions in the civil society have implications for all emerging technologies. For technology developers, the way the public perceives possible risks of technologies is important as it ultimately impacts their social license to operate. Following the concept of Responsible Research and Innovation, attention to public risk perceptions may help to improve the acceptability, sustainability and societal desirability of the technology and its products.

Against this background it is important to examine how risk perceptions emerge in the civil society, how a balanced assessment of risks and opportunities in the civil society could be fostered and what kind of a role different kinds of institutions might have to play in risk communication.

Description of Work

The outcomes of different national and European studies and reports on public perceptions of nanotechnologies (e.g., the Eurobarometer, synthesis report of the project Nanoview of the German Federal Institute for Risk Assessment) were evaluated and combined with the findings of sociological risk research. In this way, the dynamics of risk perception in the civil society could be analysed and conclusions for further work in the project Gov4Nano and for the possible Nano Risk Governance Council (NRGC) were derived.

Main Results

When considering the risk perceptions in the civil society, it is first necessary to differentiate between professional representatives of civil society (CSOs), who essentially share the principles of technical risk assessment, and laypeople, who assess the risks and benefits of technologies in a different way.

Although some general observations can be made on the risk perception by laypeople – for instance, laypeople tend to emphasise the severity of possible damages more than the probability of their occurrence – individual risk perceptions are affected by our personal experiences, preferences, feelings and values. These can be grouped in four categories:

- Psycho-social factors: Religion, general attitudes towards technology or nature, political stance, trust in institutions, feeling of security and welfare
- Sociodemographic factors: Gender, age, education, income, ethnicity
- Object-related factors: Familiarity with the technology in question, general science knowledge, interest towards new technologies, potential risks and benefits
- Other factors: Use of media, the role one plays in the society

It is important to also note that risk perception does not take place in a vacuum but in an interplay with the surrounding society. Especially the media has a substantial role in “framing”, channelling and providing interpretations how different technologies and the institutions involved in their development could be viewed.



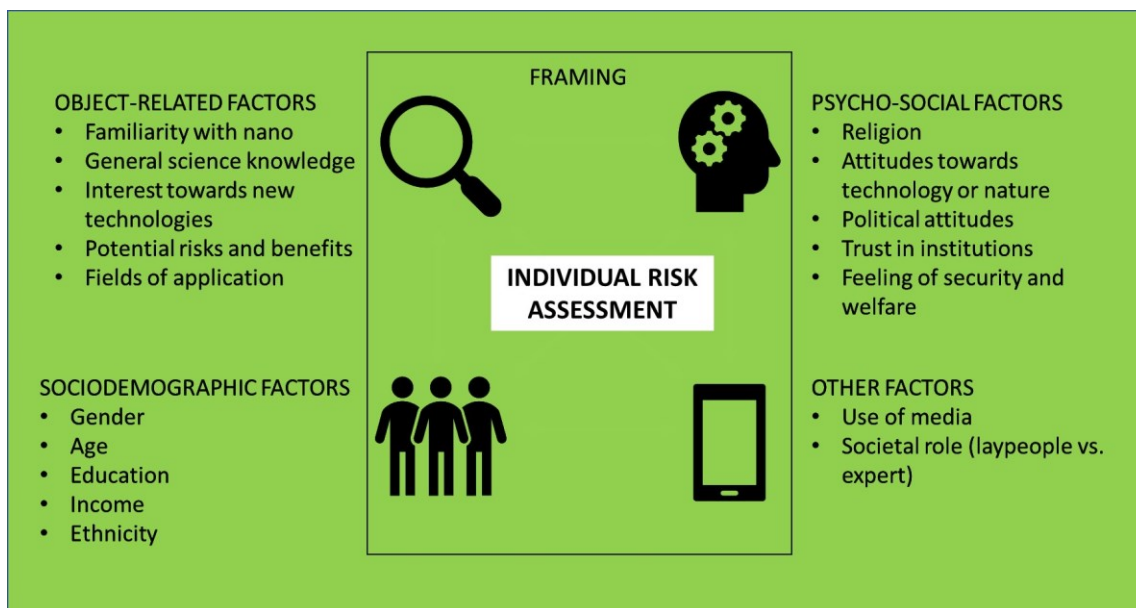


Figure 1: Determinants of individual risk perception in the context of nanotechnologies

Following the increased attention to nanotechnologies as a key enabling technology, public opinions of nanotechnologies have been frequently assessed by means of qualitative and quantitative studies. Whereas the awareness of nanotechnologies varies significantly across European countries, the public perception of nanotechnologies is generally more positive than that of many other technologies. For instance, in the latest Eurobarometer, 41% of Europeans consider nanotechnologies to have a positive and only 10% a negative effect on our future way of life. However, 40% of Europeans replied that they didn't know – a figure very high.

Furthermore, in the last years, the public attention of nanotechnologies has declined. Nanotechnologies are no longer a central campaigning issue for CSOs and media articles on “nano” have become scarcer. Google search queries confirm the trend: Since 2004, queries with the keyword nanotechnologies have dropped steadily.



Figure 2: Google queries for "nanotechnologies" in 2004-2019, percentages from the peak (100%)

Conclusions

Based on these findings, some important points of discussion can be raised:

- There is a strong argument to be made for professional CSOs to be further involved directly in risk governance (and in the possible NRG). They represent legitimate interests of the European public and their involvement contributes to the acceptance of the risk governance regimes.
- Developments in the public opinion need to be monitored also beyond the professional CSOs. The emergence of social media and online campaigning platforms such as Avaaz, Campact or Change.org have led to a diversification – and unpredictability – of the civil society.
- In times of sensational media, provision of reliable and transparent information on risks and benefits of emerging technologies is increasingly important. Existing information platforms on nanotechnologies should not be duplicated, but however critically examined and possible gaps filled in.

For more details about the Gov4Nano project please visit the Gov4Nano website. Public deliverables will be made available in due time via this website.