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Research governance for tackling 'societal challenges': time for radical redesign

Abstract:

This paper uses the Nordic cooperation as a laboratory to explore the claim that the type of state governance and organisation structures we have used for research and innovation policy over the last 30-40 years may have served us well in the past but in the context of the 'societal challenges' we now have to address in policy, they are no longer fit for purpose.

We can think of the organisation and governance of research and innovation the post-War period as involving three 'regimes', each backed by a different 'social contract' between science and society.

- The 'Endless Frontier' regime, in which ministries or departments of state pursued their respective missions while 'basic' researchers were largely funded on trust
- The 'Innovation Policy' regime, beginning with the OECD's work in the 1960s to launch the idea of 'science policy' but which in practice tended to focus on linking research to industry and obtaining returns to society in the form of economic development and growth
- An emerging 'Societal Challenges' regime, in which the focus of research and innovation policy has to broaden beyond industry or individual ministry missions to deal in a more integrated way with more or less existential threats to society such as climate change

The shift from the Endless Frontier to the Innovation Policy regime meant in many countries (especially in Europe – less so in the USA) that the education and industry ministries took the lead in relation to research and innovation policy. They generally organised and governed research and innovation policy by focusing on what the Nordic countries call a 'two pillar' system, focused on these two ministries.

However, two-pillar systems have important weaknesses. They reinforce the long-standing battles between education and industry ministries, representing respectively (to simplify grossly) the view that researchers should drive research on the one hand and that industrial relevance should drive it on the other. This polarisation in some cases leads to a funding deficit in 'strategic' or 'applied' research, creating a gap in knowledge exchange among 'producers' and 'users' of knowledge. They marginalise mission research and create research and innovation policy coordination needs that are hard to satisfy. These coordination issues have been much discussed, for example in innovation system reviews, over the last decade. They become increasingly urgent with the shift to the Societal Challenges regime.

The paper illustrates these developments using the Nordic area and the Nordic cooperation in research and innovation, which has its own set of institutions in the form of councils of ministers at the inter-governmental level and three agencies that answer to these councils.

In effect, the Nordic cooperation mirrors the compartmentalised structures of the national governments' organisation and governance.

The Nordic area has long 'punched above its weight' in terms of its capabilities in research and innovation and in the levels of welfare it has been able to afford its citizens. Global growth, globalisation and changes in the nature of scientific and industrial innovation as well as national and European policies provide pressures for the Nordic area to act as a more unified way – especially in relation to the 'grand' or 'societal' challenges increasingly seen as central to the next generation of research and innovation policy. Like the rest of Europe, the Nordic area needs to build critical mass and quality in research, further improve innovation performance and combine the strength of different sectors of society to address the challenges. This implies reforms at the level of universities, research institutes and – not least – the governance and organisation of the state research and innovation funding system.

Three sets of general challenges relating to research and innovation face the Nordic countries today. One set of challenges concern how to deal with global trends in a very small corner of the world. A second set comprises the challenges Europe faces more broadly and which therefore apply to the Nordic system as well as to the overall European one. The third set is made up of the so-called 'global' or 'societal' challenges, which growing numbers of countries see as policy priorities. We argue that this third category of challenge is game-changing in relation to the organisation, funding and governance of national research and innovation systems. Thus, Nordic Member States' research and innovation policies tend still to be deficient in terms of system governance and policy coordination, lack of focus in thematic priorities and (in some of the Member States) organisational fragmentation. We provide examples from the Nordic countries that illustrate the breakdown of the two-pillar structure when faced with these new challenges.

At the level of the Nordic cooperation, the announcement of a Nordic Research and Innovation Area (NORIA) and the associated reforms of 2004 that led to the current Nordic agency structure were an initial response to the announcement of the European Research Area at EU level. They were based on a 'two pillar' model, essentially imitating the roles and spheres of action of the education and industry ministries at national level. At the time, this was probably best practice.

However, already in 2007, the Nordic prime ministers launched a Top-level Research Initiative (TFI) on energy, climate and the environment launched that cut right across these structures and the associated funding channels. This was the first time the Nordic area had attempted to address one of the major societal challenges at the Nordic level. It revealed that the two-pillar principle and the associated fragmentation of agencies is inadequate to tackle this challenge at the Nordic level.

This analysis has triggered a proposal¹ to create a broad Nordic research and innovation policy implementation agency able to tackle not only the missions of the three existing agencies but also to have the scale and adaptability to tackle societal challenges. This also implies a more integrated organisational and governance approach to research and innovation funding in a time when the societal challenges are being recognised.

¹ Erik Arnold, *Strengthening the Nordic Cooperation: Societal challenges and the structure of Nordic R&D cooperation*, Oslo: Nordforsk (forthcoming, 2014)

This analysis has implications that go far beyond the Nordic area. The key conclusion is that two-pillar systems are not fit for purpose under the Societal Challenges regime. In very many countries, as well as at the European level, the organisation and governance of research and innovation needs radical redesign.