National Level Foresight in The United Kingdom and Germany

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Abstract

Foresight in the United Kingdom and Germany are compared to illustrate and provide the background to validate the structure and variables selected for the FISTERA country reports and synthesis for Work Package 1.

Context

Both countries are among the largest members of the EU and have comparable GDPs per capita. While Germany spends a greater proportion of its GDP on research and development, it has a more fragmented R&D due to the existence of several large research organisations and its federal system. The latter means that the universities are the affair of the *Länder,* although research itself is the responsibility of the national government. In the UK, the Research Councils are an important feature, although most public spending on R&D is the responsibility of the ministries.

In both countries, there is a degree of worry that high-quality research is not being exploiting sufficiently by indigenous industry.

In both countries, there are research activities, such as innovation studies, science policy studies or technology assessments, which either overlap with foresight or are performed by institutions also involved in foresight. The terms used for these studies are not clearly defined. For instance, the British Prime Minister has a “strategy unit”, which does work sometimes termed as foresight, although elsewhere it might be called something else.

Foresight Studies in the UK and Germany

The cases selected for closer examination in FISTERA are the Second United Kingdom Foresight Cycle, which started in 1999 and ended in 2002, and the German “Futur” process, which goes back to 1998, with the bulk of activities running from 2001-2002. While both are large, national-scale exercises, the aims of the UK project are rather broader, while the German project is focused mainly on programmes to be funded directly by the science ministry (BMBF).

In both countries, there have been three large national exercises: 3 cycles of foresight in the UK, two Delphi studies after the Japanese model and “Futur” in Germany.

While the pre-history of the foresight in the UK is well-known, reaching back at least to Martin and Irvine’s work for ACARD, German attempts to achieve similar goals to foresight’s, including public participation, may be traced back to socio-liberal phase of the early 1970s. However, there was a distinct break in continuity of such efforts until the first Delphi study in 1991, which was modelled more on Japanese experience.

UK Foresight from the 1990s to the Present

Foresight is the responsibility of the Office of Science and Technology, which among other things coordinates the Research Councils and at this time coordinated science efforts of the ministries. Foresight was originally launched with the aim of setting priorities for science and technology, but also of improving connections between the science base, wealth creation and quality of life. An important further aim was promoting “foresight culture” throughout society. Originally termed “Technology Foresight”, the technology part of the name was dropped following experience with public consultation. Work was organised in panels and included a Delphi survey in addition to “public consultation”. Work was conducted under considerable time pressure.

The first cycle was concluded with a consultation phase and a review by the Parliamentary Office of Science and Technology (POST). Among the major concerns were that Foresight had been **too** influential, in particular having a negative impact on the funding of "blue skies" speculative research.
Due to a shift of OST from the Cabinet Office to the DTI (economics, industry ministry), it seemed less likely that other departments would participate in foresight. As a consequence, the second cycle was more of a bottom-up effort, involving both more branches of government and industrial associations. This was also due to a shift in emphasis towards the "foresight culture" goal and to the recommendation for the core programme to focus on underpinning themes and issues and areas characterised by interdisciplinarity. The Delphi study was dropped from the second cycle. The national project spawned several regional foresights plus the "young foresight" programme for schools.
The third cycle, launched in 2001, has a completely different approach, focusing on 2 – 4 subjects per year. This seems to reflect a more strict implementation of the POST recommendations of 1997 than the second cycle.

Foresight Studies in Germany

The first and second Delphi studies in Germany were modelled very closely after the Japanese foresight programme, which was a rare case of continuity in forward studies since the "futurology wave" of the 1960s and 1970s. The intended and actual impact of this type was more indirect: the results were published in a large report which was followed by an extended diffusion phase. Presentations were tailored for specific audiences so that these could make their own use of the findings. The second Delphi was structured in twelve subject areas such as chemistry, mobility research and health and space research. According to some critics, the Delphi had no genuine impact on the strategic decisions of the research ministry.

Beside the large "national" Delphi, there were smaller exercises, including one called "Technology At The Outset of the 21st Century", which caused the research ministry to create so-called "Leitprojekte" (Lead Projects or Guided Projects).

One outcome of the latest foresight exercise in Germany, "Futur: The German Research Dialogue", are so-called "Leitvisionen" (guiding visions). The design of "Futur" was influenced by international experience, which underlined participatory aspects. The Delphi method was dropped from this exercise due to criticism that all the really creative work in Delphi took place during the formulation of the questionnaire statements.

Futur was conducted by a consortium on behalf of the research ministry. Its expected impact is on research funded directly by the ministry, although indirect effects are also expected through the participative process. Particular efforts were made to encourage participation by such groups as young people, women, journalists, artists etc. The process was deliberately broad: Workshops to launch the dialogue were not organised by subject, but intended to facilitate the collection of topics. These were then structured and thereby reduced and Futur was structured as a successive filtering process to result in those topics regarded as a greatest interest. These were then written into the "Leitvisionen", which were then subjected to public discussion. These will eventually form the basis of programmes for research and development funded by the ministry.

ICTs in the Foresight Projects

In the second UK foresight cycle, there was a panel on "Information, Communications and the Media", which produced a final report "Let's Get Digital". Work on technologies was done by a sub-group of this panel, on "Information Technology, Electronics and Communications" (ITEC). This sub-group produced a report on Technologies, explaining how they might effect life and work in the future, and a report on "visions", which contains scenarios mentioning specific technologies. This sub-group also did a SWOT analysis on the UK and ICTs. The "main" ICM Panel report contains 11 recommendations, which make little mention of specific technologies, but are related more to creating conditions and regulations. Several recommendations address education and learning.

ICTs play a role in all four of "Leitvisionen" produced by "Futur", but are more prominent in two: "Living in the Networked World- Individual and Secure" and Understanding Thought Processes". Each vision leads to a set of research priorities, e.g. human-machine interaction and mobile devices, embedded systems, security for the first, neuroscience, bioanalogous information processing etc. for the second.

Impact and Discussion

The differences in the development of foresight in the UK and Germany are probably due to a some degree to the differences in responsibilities for R&D in the two countries.

The first UK cycle is suspected in some quarters of having exerted too much influence, in particular by bringing research closer to industrial interests, and also by marginalising “blue skies” basic research. “Foresight” has spawned the “Young Foresight” programme and a series of regional exercises. The second cycle of Foresight was reorganised very much as a bottom-up programme, with the core Foresight panels and supporting staff mainly playing the role of coordinator and facilitator.

This is obviously in response to a shift in emphasis away from directly determining research priorities to creating a “forward-thinking culture” and creating links between actors in science and technology. These are usually underlined as the main benefit of the exercise, and there is strong evidence that this is indeed the case judging by the number of spin-off activities in associate programmes etc.

In both the United Kingdom and Germany, there has been a move away within foresight from the Delphi method. In the case of the UK, it was one, albeit essential, element of the approach to foresight. In Germany, Delphi was at the core of the entire foresight exercise, with other activities either serving to prepare the Delphi survey or to exploit its results. In the UK, Delphi was abandoned since it had proved both difficult to organise, given the lack of experience of most participants with the method, and difficult to exploit fully, given the time restraints for panel work in the first cycle. In Germany, there seems to have been the criticism that all visions and trends described as the outcome of the study had in fact already existed in the heads of those formulating the questionnaire items.
The “Futur” process was conceived as a dialogue for such visions and trends to be developed in a transparent, open process, involving not only established experts, but also artists, young people, and even the general public.

Despite the differences, foresight in both countries is now again using roughly comparable approaches, although for different reasons and with different target audiences. The “Futur” findings are mainly intended to inform decision making within the BMBF, possibly also creating something like a “forward-thinking” culture in the process and as such are a new attempt in the field. The third cycle of the UK foresight programme purports to be the legitimate heir to its predecessors and, as such, is embedded within an emerging “culture”.

The leading question for foresight is whether the change in approach does not ultimately have negative impact on this culture. It could also be that Foresight has created new closed-shop or old-boy networks, which will continue to function independently of whatever course foresight take in the future.

Year	United Kingdom "national"	Germany "national"
1960s/1970s		SfS activities on S & T priorities
1980s	Review by Martin and Irvine (1984) First blueprint for foresight	
1991		1st German Delphi starts
1992	OST created, Blueprint for foresight by PREST, PA	
1993	White paper "realising our Potential"	1st German Delphi ends
1994	First UK Foresight Cycle begins	„Technologien zu Beginn des 21 Jahrhunderts"; Mini-Delphi with Japan
1995	OST moved to DTI	Mini-Delphi ends
1996		Second German Delphi begins
1997	Review by POST	
1998	"Blueprint" for second UK foresight cycle published Performance and Innovation Unit (PIU) created within Cabinet Office	Second German Delphi ends, "Futur" launched Potentiale und Dimensionen der Wissensgesellschaft
1999	End of first UK foresight cycle, second cycle begins	"Forward Thinking" conference in Hamburg "Futur" pilot studies in 2 areas
2000	Foresight "Toolkit" made available Appointment of regional foresight coordinators; "Young foresight"	
2001	Prime Minister's Forward Strategy Unit (FSU) created within Cabinet Office	Main phase of "Futur" launched
2002	Second foresight cycle ends, third begins PIU, FSU and part of Centre for management and Policy Studies merged to form Strategy Unit (SU)	"Futur" Leitvisionen published and submitted to public consultation. "Futur" project ends
2003	End of consultation phase, third cycle	"Futur" Mark II?

Table 1: A Chronology of Foresight in the UK and Germany