

# The Next Big Thing?

Trends Shaping Nordic Innovation

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## **The Next Big Thing?**

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### **Nordic co-operation**

*Nordic cooperation* is one of the world's most extensive forms of regional collaboration, involving Denmark, Finland, Iceland, Norway, Sweden, and three autonomous areas: the Faroe Islands, Greenland, and Åland.

*Nordic cooperation* has firm traditions in politics, the economy, and culture. It plays an important role in European and international collaboration, and aims at creating a strong Nordic community in a strong Europe.

*Nordic cooperation* seeks to safeguard Nordic and regional interests and principles in the global community. Common Nordic values help the region solidify its position as one of the world's most innovative and competitive.

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## Innovation Indicators



In 2008, the Nordic Innovation Centre finalised five projects dealing with Nordic Innovation Indicators, and arranged a conference with more than 80 participants and the involvement of the EU, the OECD, and participation from most EU countries. In 2009, the Nordic Council of Ministers and NICE co-sponsored the Nordic Innovation Monitor by FORA, and a report which investigates new ways of applying indicators in innovation policies. This chapter examines the current discussion on innovation indicators, and discusses why the established models for measuring innovation increasingly are called into question by leading scholars, innovation agencies and countries all over the world. The discussion regarding current methods of measuring innovation is not only restricted to academia. It is highly relevant to the issue of innovation policies to the extent that indicators shape both the policies and programmes for innovation.

The basic document of innovation indicators used in the Nordic countries and elsewhere is called the “Oslo Manual”. The manual defines a firm as innovative if it has introduced at least one product or incorporated one process that was new to the firm itself.

The key to understanding why innovation indicators matter starts from the vantage point that R&D indicators are still the most commonly accepted means of evaluating innovation efforts. R&D plays a major role as a source of inventions, and fits well into a science-push or linear model of innovation. Although most people working with innovation will denounce this model as outdated, it is a fact that it still dominates the way in which innovative activities are measured within the OECD, the EU and Nordic countries.

A UNU-MERIT analysis of 176 academic articles in English using CIS data found that only 5% of these explored innovation strategies, performance or other characteristics of innovative sharing from a systemic perspective. Moreover, of the 176 papers only 12% were found to make any policy recommendations, and only very few discussed the relevance of the results to policy. The UNU-MERIT study notes that to date, one of the main problems involves the poor links between the policy community and the statistical offices and academics that utilise CIS data.

R&D indicators are primarily suited to the assessment of inventions and goods manufacture. This bias towards manufacturing activities means that concepts such as user-driven innovation, open-innovation and changes in management and organisation are not “considered” to be in-

novative activities. Moreover, private and public sector activities are virtually never categorised as innovation.

This must be contrasted with the fact that around 70–80% of all economic activity in the Nordic countries takes place within the services sector. This is also true for many other OECD countries. Nevertheless, the focus of innovation indicators from R&D, and the subsequent spill-over into innovation policy programmes receives major emphasis in the EU's Lisbon Agenda. This is the case in particular in the Barcelona Initiative which stipulates a target whereby all EU countries should exhibit an R&D intensity of 3% of gross domestic product (GDP) by 2010. This 3% goal has become the official innovation policy target in all the Nordic countries since its announcement.

However, the 3% target has its own perverse built-in logic, which has been exposed by an increasing number of scholars studying the subject. One of the arguments is that a country with a very efficient innovation policy resulting in steady economic growth will have greater difficulty in achieving the 3% R&D GDP target than a country with a declining GDP. In fact, the global financial crisis has probably brought more EU countries closer to the 3% figure than ever before, as a direct result of their shrinking economic growth. Furthermore, Luc Soete and others talk about a European "research paradox", in terms of the fact that; "contrary to economic theory and intuition, a strong scientific research base does not appear to go hand in hand with strong technological and economic performance, rather the contrary" (Soete 2006). This paradox is also an issue from a Nordic perspective.

The Norwegian paradox is that a country that invests only 1.7 percent of GDP in R&D has become one of the richest countries in the world. The Swedish paradox is that a country that invests close to 4 percent in R&D, and which is not significantly more innovative than Norway, is actually less productive. These paradoxes can partly be explained by industrial structure. Both Sweden and Finland are hosts to a handful of large, "high-tech" companies. This explains why these countries score so well in terms of R&D indicators. In contrast, Iceland and Norway both support business sectors dominated by small enterprises, often in raw material-based industries or services which, in relative terms, do not normally invest heavily in R&D.

In the UK, NESTA, which is an advisory body to the UK government on innovation, has carried out several studies which show that current innovation indicators cannot explain the relative success of companies operating in most service sectors ranking from retail to oil-drilling. NESTA also found that the OECD's aggregate measures across sectors are simply too crude to cater for how innovation develops within specific sectors. It has therefore initiated the development of a sector-relevant innovation index. NESTA categorises all innovative activities that are not taken into account as hidden innovation. NESTA concludes that: "The importance of hidden innovation means that innovation policy needs to extend beyond stimulating scientific invention to include the adoption and exploitation of technologies, organisational innovation and innovation in services (including public services). As a result, innovation policy should encompass science and technology policy and not the other way around." (NESTA 2007 – Hidden Innovation Report)

It is interesting here to go back in time and examine NESTA's comment in the light of Nordic innovation policy and the underlying rationale stated at its very inception in 2004. A team of experts, lead by Per Koch, wrote in the publication *GoodNIP and Innovation Policies in the Nordic Countries* that:

"The NORIA white book was well received as far as its coverage of the university sector was concerned. However, the book is strongly focused on research as the driver of innovation and growth. As a matter of fact, the text barely goes beyond the world of basic research at the universities, and seems to be deeply embedded in the linear model"<sup>35</sup>

Just as in the UK, the Nordic innovation policy debate still suffers from a linear model "hangover", and has only just begun to recognise the importance of users in innovation, open innovation and the service sector, together with the fact that innovation has many sources. R&D represents only one of these sources, and it is usually not considered to be the most important by companies when they themselves are asked about their main sources of innovation. It is also worth noting that Denmark in 2007 was the first country to adopt a programme for user-driven innovation.

Another inspirational initiative is that of the US Dept. of Commerce's project "Innovation Measurement Tracking the State of Innovation in the

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<sup>35</sup> *Nordic Innovation Policies 2004, GoodNIP*, p. 10, Norway, Oslo, 2004.

American Economy – Measuring Innovation in the 21st Century Economy<sup>36</sup>”. In the foreword it is stated that:

“With developing “new and improved measures of innovation” in three areas: how innovation occurs in different sectors of the economy, how it is diffused across the economy, and how it affects economic growth. While we recognize that the American economy is changing in fundamental ways—and that most of this change relates directly to innovation—our understanding remains incomplete. Indeed, data collection and measurement, while seemingly mundane, loom large in understanding these changes. Policymakers, investors, executives, managers, consumers, and researchers require accurate and complete information in order to make informed decisions. The centrality of the need to advance innovation measurement cannot be understated”.

One of the goals of the Nordic Innovation White Paper was that Nordic innovation policy should support the growth of a leading, Nordic-based, international forum on policy expertise and analysis within the field of innovation policy. Good innovation policies depend on appropriate and reliable data and evidence in just the same way as good research depends on the generation of appropriate and reliable data. It is not clear to what extent current innovation indicators capture the reality of economic activities in the Nordic region. A future Nordic innovation policy might therefore play a useful role in developing co-operation with companies and organisations both within and outside the region in order to develop more relevant sets of indicators.

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<sup>36</sup> A Report to the US Secretary of Commerce by: The Advisory Committee on Measuring Innovation in the 21 Century Economy, US State. Dep. Commerce, January 2008.

