

Innovation in the Public Sector

Publin Report No. D24

Summary and
policy
recommendations

By Per Koch, Paul
Cunningham, Nitza
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Hauknes



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By Per Koch, Paul Cunningham, Nitza Schwabsky and Johan Hauknes

Based on contributions from the national Publin teams

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Executive Summary

Background

Publin has been part of the Programme for research, technological development and demonstration on "Improving the human research potential and the socio-economic knowledge base, 1998-2002" under the EU 5th Framework Programme.

One important goal of the Publin project has been to develop a consistent and general basis for the main processes of public sector innovation and policy learning. The overall objective has been to contribute to the knowledge base for the European and national policy development in this area. This applies to the need for a broad based "holistic" innovation policy that goes beyond the call for reform and increased efficiency and looks at learning and creativity in public institutions and at their interaction with private and non-governmental organisations and with various knowledge institutions.

Publin has made use of a rather broad concept of innovation that goes beyond the use of technological inventions.

Given that the overall objective for public sector activities must be increased welfare and a better quality of life for its citizens, it makes sense to focus on all behavioural changes that contribute to achieving these goals. Hence we define innovation as deliberate changes in behaviour with a specific objective in mind.

Innovation is often problem solving, in the meaning of "what can we do differently in order to solve a problem". It should be noted that in this context we do not count "radical" innovations only – i.e. innovations that are new to society – but also practices and the use of technology that is new to a specific institution.

Publin has found that there are a lot of innovation activities taking place in the public sector in the European countries. Even if there is no pressure to generate profit, as often found in private companies, public employees try to improve their ways of doing things. They are motivated by idealism, the joy of creating something new, an interest in the topic at hand, career ambitions etc.



In order to learn and innovate, the actors must interact with others, these being people, organisations or various sources of information. Their ability to innovate is dependent on their ability to find such relevant competences, understand them and make use of them. The better the actors are at developing networks that can help them get access to relevant competences and partners, the greater are the chances that their innovation processes will succeed. This means that an innovation policy for the public sector must also be a learning policy for the public sector.

Barriers and drivers

Publin has mapped different types of barriers and drivers for innovation, i.e. social phenomena that hinder or encourage innovation activities in such institutions.

Among the important barriers to public innovation, are the following:

- *Size and complexity.* The public sector comprises extremely complex and large-scale organizational entities that may develop internal barriers to innovation.
- *Heritage and legacy.* Public sector organisations are prone to entrenched practices and procedures.
- *Professional resistance.* There are professional groupings with their own communities of practice, belief systems and perspectives.
- *Risk aversion.* Public organisations are under the close scrutiny of both politicians and the media, and employees are not normally rewarded for taking risks.
- *Need for consultation and unclear outcomes.* The large range of stakeholder involvement generates a strong requirement to consult and review any planned changes.
- *Pace and scale of change.* There have been so many reforms that employees are becoming “innovation fatigued”.
- *Absence of capacity for organisational learning.* There may be a lack of structures or mechanisms for the enhancement of organisational learning.
- *Public resistance to change.* Elements of the public might be risk-averse.
- *Absence of resources.* There may be a lack of financial support or shortages of relevant skills or other support services.
- *Technical barriers.* There may be a lack of technological solutions to the problem at hand.

Among the important drivers and facilitators for innovation are:

- *Problem-oriented drivers.* People innovate in order to solve certain problems.
- *Non-problem oriented drivers.* Innovations may improve on the former situation.
- *Political push.* Strategic change frequently requires strong, top-down, political will.

- *Growth of a culture of review.* Assessment practices may stimulate innovation.
- *Support mechanisms for innovation.* Authorities may implement policy measures aimed at funding and encouraging innovation.
- *Capacity for innovation.* Public employees have often high levels of professional expertise, creativity and problem solving.
- *Competitive drivers.* Performance targets may encourage the use of innovative approaches.
- *Technological factors.* Technological innovation can be a strong determinant for subsequent innovation.
- *NGOs and private companies.* Models developed by NGOs and private companies may be adopted by public institutions.

Policy recommendations

These are some of the policy recommendations given in this report:

Learning and innovation

Develop learning strategies

Public managers and frontline employees interviewed by Publin report a lack of dialogue between different parts of the public system, horizontally and vertically, while at the same time underlining the importance of knowledge diffusion.

Public institutions ought to develop in house learning strategies needed to find, understand and make use of competences developed elsewhere. Public institutions will normally benefit from developing inter- and intra-organisational networking, coordination and cooperation at all levels.

Possible mechanisms for improving learning include:

- Systematic in house teaching by senior staff.
- The recruitment of relevant expertise.
- Staff suggestion boxes.
- The exchange between institutions of “guest workers”.
- Sabbaticals and measures for life long learning.
- Involving employees in the commissioning of new technology, services and research, thus making them part of relevant networks of expertise.
- Establishing formal networks and working groups with companies and organisations delivering competences and technologies, as well as with stakeholders, NGOs and relevant policy institutions.
- Participation in national and international fora for innovation and policy learning.
- Improved access to periodicals, databases and other sources of information and media surveillance (including mapping of relevant research from the Framework Programmes).
- The establishment of informal social arenas where people involved in innovation processes may meet and brainstorm. This includes workshops, conferences and the establishment of venues (in house cafés, regular dinners etc.) where people can meet.

Invest in technological know-how

Employees need to know enough about technological possibilities and limits for innovation in their area of responsibility to make sensible choices as regards when and how to invest in new technologies. Again managers must focus on the development of relevant in house competences.

Performance measures and evaluation

Organisations should develop and use indicators for innovation and organisational performance, most of all because it contributes to the learning of the whole organisation.

However, the evaluation of the performance of an organisation must not be reduced to quantitative measures alone; as such measures have a tendency of replacing the overall welfare objectives of the organisation: i.e. the institution will focus on reaching the quantitative targets, not on the overall welfare of the users of the relevant service. Organisations should use broad based evaluations that also include qualitative assessments to improve their innovative capabilities.

Organisations and especially coordinators higher up in the public hierarchy may benefit from developing systematic plans for evaluation of organisations as well as policy strategies. In many countries and sectors such evaluations are only carried out on an *ad hoc* basis.

Innovation leads to a need for more changes

Innovation is often problem-driven and may solve practical and organisational problems in an organisation. However, changes made one place in the system, may lead to new problems elsewhere. Managers and frontline employees must be trained to recognize this cycle and develop ways of dealing with it.

Innovation and learning on the policy level

Encourage policy learning

There is a tendency among some policy makers responsible for innovation, research and knowledge policies to neglect their own learning and innovation activities. Although they do actively learn through their day-to-day activities, there is often a lack of strategies for learning and innovation in directorates, councils and ministries.

Policy institutions should make active use of workshops, sabbaticals, courses and other forms of training. There could be exchanges of employees for limited periods of time, so that policy makers (including both civil servants and politicians) may learn to know other institutions and their cultures more intimately. Furthermore, there may be implemented more radical recruitment policies, in order to avoid the clone problem (leaders employing people sharing their same belief system or educational background only) and in order to get a more even distribution as regards age, gender and educational background.

Make policy learning part of work descriptions

Institutions should consider making policy learning an obligatory part of work descriptions and employment contracts, and institutions should identify the resources that are to be allotted to such learning.

Make use of ad hoc working groups

Both informal networks and high level forums lead to learning and cooperation.

However, the informal networks are often vulnerable (linked to a few persons only) and the high level fora often lack the time needed for more in depth discussions and learning processes. One way of improving such communication is to establish *ad hoc* or permanent medium to low level working groups given concrete tasks of producing policy analysis and recommendations.

Make use of international organisations

Institutions should make active use of international organisations like the EU, OECD and the UN as learning arenas. Moreover, senior managers should invite junior civil servants along on some meetings and conferences, giving them access to the same networks.

Use of research

Innovation policy organisations have a right to demand unbiased and critical recommendations when commissioning research and analysis. However, research institutions and consultancies should not be understood as “report factories” that produce policy advice on a totally independent and objective basis.

Such researchers and analysts cannot develop a proper understanding of policy development without a close interaction with policy makers. Policy makers are experts in their own fields, and researchers will have to learn from them in order to understand the unwritten social, cultural and political context of policy development. Policy learning is therefore often the result of a fruitful interaction between policy makers and policy analysts.

This perspective has importance for the development of learning and innovation networks and forums, where it can be useful to have members from both groups.

Attitudes, belief systems and entrepreneurship

Widen the belief systems of the people involved

Policy makers – including politicians – must be aware of the need for new world views and concepts. The battle for innovation and reform is often the battle of concepts and beliefs.

One important reason for encouraging networking and inter-organisational forums is the need to combat “silo-mentalities” resulting from the existence of different belief systems. By meeting employees from other organisations, managers and front-end employees are exposed to different world views. Even if the parties do not agree on a common ground, the realisation that employees from other institutions think in a different way may help communication. To avoid mental and institutional lock-in public institutions can also develop quality leadership that creates the right climate for change.

Encourage entrepreneurs

Managers should encourage local entrepreneurs with sufficient vision and determination to push innovation processes through, for instance by giving them funding, responsibility and sufficient freedom. Incentive mechanisms can be viewed as a step towards this goal but not as an isolated substitute for it.

Develop team spirit

Public organisations should consider ways of developing a team spirit, giving employees a sense of ownership of the innovations at hand. Internal politics and power struggles often reduce the innovative capabilities of an organisation.

Make room for pluralism and creativity growing out of different approaches

It is important to encourage pluralism as regards different approaches to improving service provision to client groups in terms of allowing many different service providing organisations (NGOs, stakeholder associations, private companies etc.) as they may generate different models and different types of innovation.

Public perception of innovation in the public sector

There seems to be a gap between the perception of managers and end-users as regards the recognition of public sector innovation found in our interviews. It might be that public sector employees overestimate their own innovative capabilities, but given that we have found innovation activities in large part of the public sector, it might also be that end-users underestimate the amount of innovation taking place in the public sector. Hence public sector institutions should find some creative ways of communicating their innovative skills to the public.

New ways of measuring public sector innovation may make such processes more visible (see below). However, care needs to be taken to ensure that innovation is not simply perceived as further reorganisation, rationalisation or change for its own sake: the benefits of innovation must be clearly proven and demonstrated (again, see below).

Risk aversion

Develop participatory processes

One of the main strategies for overcoming risk aversion is to convince the stakeholders of the need, potential and actual benefits arising from innovation and engage them in consultative and participatory processes. This applies to employees, professional groups and end-users.

Demonstrate utility

Risk aversion may be overcome through the demonstration of the utility of innovations, for instance through pilot projects and by referring to “good practice” from other organisations and countries.

Accept risk

Politicians, policy makers and public managers should clearly communicate that there is and must be risks involved in innovation processes, and that there is a difference between mismanagement and the will to take sensible risks.

Objectives

Innovation should have clear and sensible objectives

One should avoid “innovation for the sake of innovation” and pure political and ideological window dressing.

Look at innovation as an investment that may lead to improvements elsewhere in the system

There will always be a need for “more resources”, so policy makers will have to make some hard choices as regards to where to put public money. It should be kept in mind, however, that funding of innovation in one part of the system may lead to savings elsewhere in society. Keep in mind that “public expenditure” can often equally well be labelled as a “public investment”.

Similarly, the “returns” on such investment may be expressed in several ways beyond cost-savings, such as improved quality of life and service provision, electorate satisfaction, increased opportunities for further innovation, etc.

Innovation policy instruments

Develop policy measures for knowledge production, dissemination and learning

Policy makers should design structures and systems to promote, stimulate and disseminate innovation in the public sector and between the public, private and third sectors. This applies to traditional research programmes as well as policy measures aimed at encouraging learning and networking.

Make use of incentive schemes, but in moderation and while giving the participants room for innovation

Policy makers may make use of indicator and assessment schemes for stimulating innovation, but should avoid more extreme forms of New Public Management techniques. These have a tendency to focus too much on a set of indicators developed for the perceived needs of present day society and do not give enough room for organisations to change and meet the unexpected.

EU should include the public sector in its innovation policies

The European Union should contribute to the development of a broad based “third generation” innovation policy that also encompasses the public sector. Such a policy should encourage policymakers to move beyond the technological perspective of innovation and promote the concept of organisational, process and conceptual innovations, to name but three.

It should also aim at improving the coordination of innovation and knowledge policy initiatives between relevant ministries and agencies, as well as the policy learning processes taking place in these institutions.

Indicators for innovation in the public sector

One of the reasons public sector innovation tends to become “invisible” is that we have no proper methods of measuring this activity. The Community Innovation Survey does cover innovation activities in companies, but no related data exists for public institutions.

Hence there is a need for:

- The development of extensive and appropriate measures of innovation activities, performance and characteristics at the micro-level. A key part of this is the development of suitable collection methodologies. An apt framework for this would be to see this in the context of the OECD/EUROSTAT Oslo Manual, recently released in its third revision.
- A documentation of present European System of Accounts methodologies for estimating production in public sectors and the underlying data sources. Policy analysis must consider explicitly the impact of these methodologies on the content and conclusions of specific analyses.
- A further development of supplementary or alternative methodologies on valuation and volume oriented output measures.

- The combination of flexible and well-documented sectoral performance measures, i.e. within the National Accounts-framework, and the development of appropriate activity and performance statistics.
- The combination of micro-level activity data, standardized aggregate performance data and measures of innovation activities in order to analyse the relative importance and complementarities of structural reforms of public activities, micro-level adaptation to these and independently initiated processes of micro-based innovation.

The EU may involve the OECD in the development of such indicators. On Public and innovation on the public sector

How do public sector institutions innovate?

Publin started out as an attempt to answer the following question: How do public sector institutions innovate?

For some this may seem like an unnecessary question, as it is a common conception in most European countries that the public sector does not innovate.

Public sector institutions are considered to be conservative, bureaucratic and slow moving, and when they actually do change, this is perceived to be due to activities taking place outside the public institutions, such as idealistic NGOs trying to change a policy or private companies developing a new cure for cancer.

There is certainly some truth in this, and the Publin researchers have witnessed both change resistance and risk aversion in their studies. However, Publin grew out of

research on innovation in the private sector, and the researchers knew that bureaucracy and conservatism is found on both sides of the public/private divide.

Moreover, the researchers used a broad definition of innovation – “deliberate change with a certain objective in mind” – pointing to behavioural changes that are common in most, if not all, human contexts. So, although public and private actors face different organisational structures and different incentive systems, they should still learn and they should all face the need to solve certain problems. In short: innovation must be a human phenomenon, not an activity restricted to the private sector.



Publin's main objectives

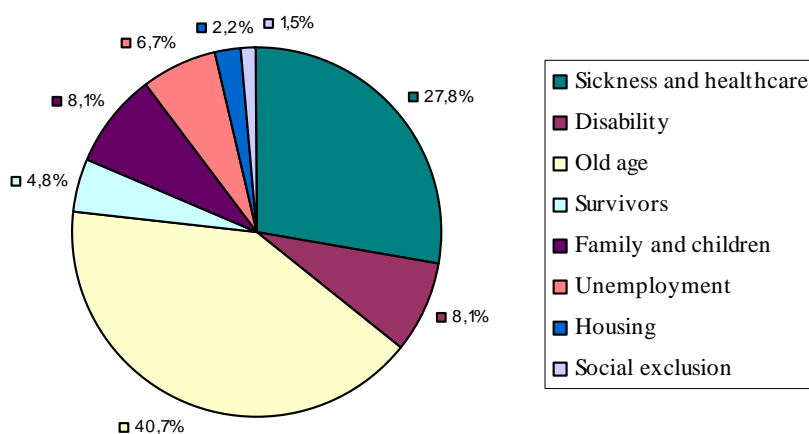
According to the contract with the Commission, the main objective of Publin has been to: "...develop a consistent and general basis of understanding of the main processes of public sector innovation and policy learning."¹

As part of this Publin was asked to:

- contribute to the development of the theoretical foundation for studies of innovation in the public sector
- pinpoint innovation strengths and weaknesses in contemporary public service organisations and policy making institutions
- examine the influence politics, management, evaluations, cultural traits and entrepreneurship has on innovation in public organisations
- analyse networks, knowledge flows and sources and drivers of learning and innovation in public organisations
- give new insight into the learning processes underlying development in public sector bureaucracies
- consider the effects of public innovation in the broader societal context of socio-economic development models (i.e. go beyond traditional objectives as "increased efficiency" and include factors like social cohesion, the environment, welfare needs, the quality of life and more)

Government welfare spending 2002 in the EU

(as percentage of total social expenditure in the EU)



Source: Eurostat (2004). From Publin report D14.

¹ Publin, Technical Annex. For a broader presentation of the Publin project, see [Hwww.step.no/publinH](http://www.step.no/publinH).

The innovation policy context

Obviously, the overall objective has been to contribute to the knowledge base for European and national policy development in this area. The public sector, regardless of how you define it, is of great importance in all European countries. These institutions fulfil functions and provide services that are essential to their citizens.

Moreover, the public sector is of great importance to the other sectors of society, such as the private sector or the “third” civil sector. Changes that take place in the public sector may therefore be of importance to a county’s industrial development or its social and cultural life.

The overall objective of any public policy must be the welfare of its citizens and their quality of life, and given that the public sector is the main vehicle for achieving these goals, these institutions’ ability to do what they are asked to do is essential. Furthermore, given that our societies are constantly changing, due to technological, social and cultural circumstances, their ability to adapt to new challenges – i.e. “change behaviour” – is equally crucial.

European policy makers clearly see this need, which is why there is an ongoing debate on “public reform”, “modernization”, “measures for increased efficiency in public sector organisations” etc. However, as yet there has not been developed a comprehensive innovation policy for the public sector, in the same way as we find in industrial policy areas.²

Innovation policies in the European countries are increasingly influenced by the so-called systemic approach to learning and innovation. According to this view technological advance and competence building is characterized by constant interplay and mutual learning between different types of knowledge and actors, including firms, institutes, universities, sources of financing, relevant public agencies and more.

According to this way of thinking public authorities may encourage innovation by strengthening learning and by developing efficient networks for the distribution of knowledge and personnel. The general framework conditions for innovation, including taxation, physical infrastructure, public institutions, laws and regulations must also be taken into consideration. This is why we now witness a new interest for the so-called third generation, “holistic”, innovation policy, i.e. an innovation policy that also includes policy areas that are not directly targeting innovation in companies as such.³

One Public ambition has been to contribute to the development of a public sector “holistic” innovation policy that goes beyond the call for reform and increased

² For a presentation of European industrial innovation policies, see the EU Trend Chart on Innovation (www.trendchart.org).

³ See for instance Louis Lengrand et al: *Innovation tomorrow, Innovation policy and the regulatory framework: Making innovation an integral part of the broader structural agenda*, DG Enterprise Innovation Papers No. 28. Luxembourg 2002, pp. 10. See also the OECD MONIT exercise: [Hwww.step.no/monit/H](http://www.step.no/monit/H), summary report: *Governance of Innovation Systems, Vol. 1: Synthesis Report*, OECD 2005.

efficiency and looks at learning and creativity in public institutions and at their interaction with private and non-governmental organisations and with various knowledge institutions.

The limits of Publin

The public sector area is enormous, and no single research project can cover it all. Moreover, there has already been much research on change and reform in the public sector. Keeping that literature in mind⁴, the Publin teams have chosen to delimit the research area along two axes:

1. The researchers have made use of a systemic approach to innovation, both in the theoretical and methodological work and in the case studies.
2. As regards the case studies, the Publin teams have focused on the health and social sectors.

The systemic approach⁵ was chosen as it had been used in studies of private sector innovation with great success by many of the Publin partners.⁶ Moreover, given that it has been an overall goal to contribute to a systemic innovation policy for the public sector, this approach also made sense from a policy perspective. This does not mean that other schools and traditions were not taken into consideration.

The Publin team made use of research from various traditions and disciplines. This applies for instance to the sociology of knowledge, social-constructivist and philosophical perspectives, new public management research and more.⁷ Hence organisational studies of innovation were used actively⁸ as were the actor network approach⁹. Publin has not, however, tried to develop one “grand, unified theory of public innovation”.

Selecting the health and social sectors for the case studies was a pragmatic choice. The two sectors are related and overlapping, which made cross-case study comparisons more likely. Moreover, these are sectors of great interest in all European countries. Not only are these areas where new technologies and new competences make a difference (cf. developments within the pharmaceutical industry), but they are also areas that affect practically all citizens at one time or another. This has made them politically sensitive.

⁴ Publin report D16.

⁵ See e.g. Lundvall 1992; Nelson 1993; Saxenian 1994; Carlsson 1995; Edquist 1997; Malerba 2002, 2004, Dosi 1998; Foray and Freeman 1993; Rosenberg 1982; Rosenberg 1994; Rosenberg 1992. For a review, see Fagerberg 2004.

⁶ This applies for instance to studies of innovation in the service sector, such as in SI4S, (Services in Innovation, Innovation in Services), funded by the Targeted Socio-Economic Research (TSER) programme of the European Commission (DGXII) under the Fourth Framework Programme. The project was coordinated by HJohan HauknesH at the HSTEP GroupH (now NIFU STEP, Norway), and included several Publin institutions and researchers. For more information see [Hwww.step.no/old/Projectarea/si4s/start.htm](http://www.step.no/old/Projectarea/si4s/start.htm).

⁷ Publin report D16.

⁸ See e.g. Van de Ven 1986; Aldrich and Fiol 1994; Van de Ven et. al. 1999; den Hertog and Huizenga 2000.

⁹ See e.g. Latour and Woolgar 1979; Callon 1980; Latour 1987; Callon 1992, 1995.

Policy makers are struggling to reconcile the needs of the public and the possibility generated by research and on site innovation with the constantly increasing costs. For instance: as people grow older, their need for such services increases. There is also an increase in chronic diseases and long-term conditions, at the same time as many are complaining about a decline in institutional care and a shortage of health and social care professionals. On the social side we hear a call for the integration of social groups into mainstream.

It should also be noted that these sectors are going through some radical changes or innovations as regards the relationship between clients and service providers. There is talk of patient empowerment and a personalization of services, and even consumerisation and privatization of public services.

In addition to the case studies, the Publin teams conducted extensive literature reviews¹⁰, discussions on the differences between innovation in the public and private sectors¹¹, a survey of the structure and size of the public sector in an enlarged Europe¹², a discussion on policy learning¹³ and two surveys accompanied by interviews covering all participating countries.¹⁴

The concept of innovation

As noted, Publin grew out of private sector innovation studies. Given that learning and creativity underpin all kinds of innovation, this makes sense. The Publin team has taken it for granted that there is something common to all human innovation. The danger with this approach, however, is that it may lead to the researcher forcing public sector innovation into a mould that does not fit. In other words, there may be characteristics of public sector innovation that are different from innovation processes in the private sector.

This is one of the reasons Publin did a mapping of existing literature in related research fields. Moreover, we made it one of our tasks to analyse the differences between public and private sector innovation, partly because it would give us a better understanding of innovation processes in both sectors, and partly because such an analysis would provide input to public sector policy recommendations. In other words: Only if we know the unique aspects of public sector innovation, can we develop relevant policy measures targeting this part of society.

The reader will find different definitions of the term “innovation” in Publin reports and papers, but they all have one thing in common. They all describe innovation as *a deliberate change in behaviour with a specific objective in mind*.¹⁵

Green, Howells and Miles (2001), in their investigation of service innovation in the European Union, provide a related definition of the term innovation which denotes a process where organizations are

¹⁰ Publin report D16.

¹¹ Publin report D9.

¹² Publin report D14.

¹³ Publin report D15.

¹⁴ Publin report D17.

¹⁵ See Publin report D20 for a detailed theoretical discussion of the concept of innovation.

...doing something new i.e. introducing a new practice or process, creating a new product (good or service), or adopting a new pattern of intra- or inter-organizational relationships (including the delivery of goods and services).

What is clear from Green, Howells and Miles' definition of innovation is that the emphasis is on novelty. As they go on to say,

innovation is not merely synonymous with change. Ongoing change is a feature of most... organizations. For example the recruitment of new workers constitutes change but is an innovative step only where such workers are introduced in order to import new knowledge or carry out novel tasks.

It should be noted that such definitions deviate from many popular uses of the word. Most peoples' mental model of thinking about innovation has a strong legacy from market-based activities in general and from manufacturing activities in particular.

The ways people reflect over the innovation concept in both everyday and analytical usage tend to carry with them a reification – or even materialisation – of innovation. In the policy sphere there is a tendency to think of innovation in the public sector as the application of new technologies or products. Deliveries from the pharmaceutical industry come to mind.

Innovation in the public sector may indeed include the production of material “things” or products, but more often than not public innovation entails the application of already existing “things” or the delivery of services, accompanied by organizational change and policy development.

This becomes clear when one looks at various forms of innovation in the public sector. Here are but some of the activities changing public sector practices:

- *new or improved services*
(for example health care at home)
- *process innovation*
(a change in the manufacturing of a service or product)
- *administrative innovation*
(for example the use of a new policy instrument, which may be a result of policy change)
- *system innovation*
(a new system or a fundamental change of an existing system, for instance by the establishment of new organizations or new patterns of co-operation and interaction)
- *conceptual innovation*
(a change in the outlook of actors; such changes are accompanied by the use of new concepts, for example integrated water management or mobility leasing)

- *radical changes of belief systems or rationalities*
(meaning that the world view or the mental matrix of the employees of an organization is shifting)

There are several reasons for choosing such a wide definitions of “innovation”. The main one is that the “reified” technology-oriented understanding leads us to ignore the learning aspect of innovation. Employees, in this case civil servants and managers, are not empty containers that can just adapt new technologies developed elsewhere. They must find, understand and learn to make use of new technologies in order to make them work. In addition, as noted many “changes of behaviour” are not caused by the adaptation of new or altered technologies, but by the use of new services, organisational changes or the application of new competences in general.

Moreover, public innovation cannot be reduced to the adaptation of inventions developed elsewhere. Actually, much of the technological innovation taking place in the *private* sector is born out of interaction between public and private institutions. This is especially clear in the health sector. New equipment is often developed as a result of a dialogue between the customer – let us say a hospital – and the manufacturing company. The pharmaceutical industry interacts closely with universities and research hospitals when developing new medicine and treatments.

Furthermore, much of the innovation taking place in the public sector is born *in* public institutions. This especially applies to organisational change, but public institutions may also develop new technical inventions. This obviously applies to public research institutions – like universities, government laboratories and institutions for defence – but also to health institutions and social services.

The difference between the public and private sectors

In the Publin report D9 *On the differences between public and private sector innovation* Ian Miles and Rannveig Røste argue that there are great differences between the public and private sectors as regards innovation. They point out that public organizations are typically the primary supplier of services and are not competing in order to maximize profits. This lack of product competition is widely held to mean a lack of incentives to improvement.

However, as Miles and Røste point out, the notion that the connection between a firm’s behaviour and pecuniary reward is the central dynamic of economic rationale and the development of innovation has to be seen as too simplistic.

One obvious difference between the public and private sectors is that the public sector is not profit driven in the business sense of the term. However, the motivations for innovation found in the public sector are probably also present in private firms, and definitely in third sector organisations.

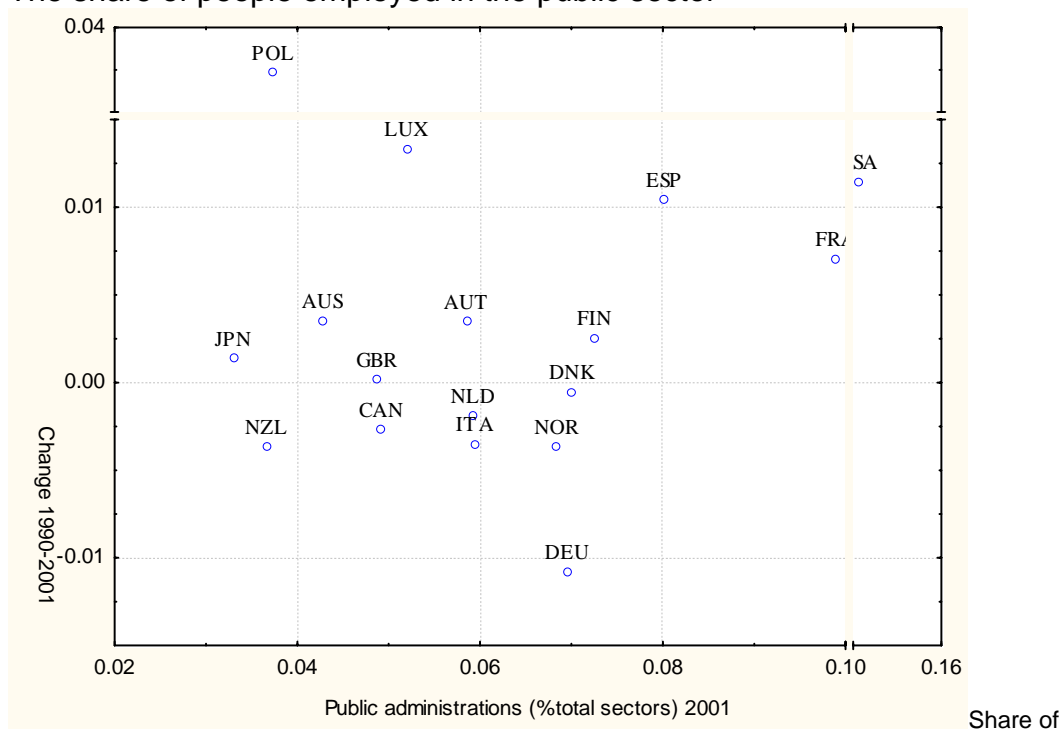
The fact that public institutions are not profit driven, should not lead us to believe that public sector employees and managers are not concerned about financial matters. As is the case *within* private companies, public sector units and organisations fight for funding and influence.

One important outcome of the Publin project is that we have learned more about innovation-related human behaviour in general, and that this knowledge may also be used to get a better understanding of incentives for innovation in the private sector as well.

We have found that public sector workers may be motivated by idealism, the joy of creating something new, an intense interest in the topic at hand, friendship and a sense of belonging, career ambitions, etc. Many public sector occupations also embody a strong vocational element with a clear desire to be of service to the public.

Another factor that makes the public sector different from the private is the unit of analysis. Apart from publicly owned companies, most public institutions are part of a larger chain of command and control where it is harder to draw a line between the different parts of the system – and where legal frameworks provide little help in this. For instance: public agencies – like research councils or directorates of health – interact closely with ministries as well as subordinate institutions and “users”. The innovation activities in these institutions are heavily influenced by decisions made above and below in the chain of command. The closest parallel in the private sector will be large conglomerates or multinational companies.

The share of people employed in the public sector



public administration (including defence and compulsory social security) in total employment (from Publin Report D14 *The structure and size of the public sector in an enlarged Europe*, by Andrés Maroto and Luis Rubalcaba)

Another important difference is that the political aspect is much more important in the public than in the private sector. Policy decisions normally affect companies indirectly, through laws, regulations and financial support. The public sector is at least formally controlled by elected politicians. The intimate link between this governance dimension and funding of current expenses of the activities implies a very strong link between ownership and control on the one hand and the growth strategies of the subsidiary organizations.

Just as important are the differences in management incentives. Public managers are in general more likely to receive lower and less performance-based material benefits, which may influence their willingness to take risk. It may be that the public sector – on an aggregate level – recruits fewer risk-taking entrepreneurs than the private sector relatively speaking, due to the expectations of rewards or penalties of entrepreneurial activity.

Moreover, it is likely that innovative private companies are more likely to accept “failure” than public institutions. By “failure” is here meant innovation projects that do not accomplish their expected objectives. Private companies may consider “failures” an integrated part of any risky enterprise, while the pressure to short term economizing of public funds – and not wasting the public purse – may imply a critical disincentive to innovation. Overall, we would then expect to see public organizations being risk-averse relative to market-oriented firms, essentially due to the characteristics of the effective incentive system facing the two kinds of organizations.

Differences between private and public sector innovation

	Private Sector	Public Sector
Organising Principles	Pursuit of Profit, of Stability or of Growth of Revenues.	Enactment of Public Policies.
Organisational Structures	Firms of many sizes, with options for new entrants.	Complex system of organisations with various (and to some extent conflicting) tasks
Performance Metrics	Return on Investment	Multiple performance indicators and targets
Management Issues	Some managers have considerable autonomy, others constrained by shareholders, corporate governance, or financial stringency. Successful managers liable to be rewarded with substantial material benefits and promotion.	While there are efforts to emulate private sector management practice, managers are typically under high levels of political scrutiny. Successful managers likely to receive lower material benefits than comparable private sector managers.
Relations with: ~ End-Users	Markets may be consumer or industrial ones, and firms vary in the intimacy of their links with the end-users of their products, but typically market feedback provides the verdict on innovation.	End-users are the general public, traditionally seen as citizens, though recently there have been efforts to introduce market-type principles and move to see them as customers or consumers.
~ Supply Chains	Most firms are parts of one or more supply chains, with larger firms tending to organise these chains.	Public sector is typically dependent on private suppliers for much of its equipment, and is a very important market for many firms.
~ Employees	Nature of workforce varies considerably, and relations between employees and management range from	Public sector employees are typically highly unionised (economists and social scientists in the central administration and health- and social professionals as

	fractious to harmonious. Efforts are made in some firms to instil company loyalty and/or a customer-centric approach, but employee motivations are often mainly economic ones of securing a reasonable income..	nurses, social workers, child-care workers, teachers etc in the public services). Many are also professional workers organised through professional associations. While usual concerns about status and salary are experienced, many workers enter public service with idealistic motivations.
~ Sources of Knowledge	Companies have considerable flexibility in sourcing innovation-related information from consultants, trade associations, and public sector researchers, but many smaller firms have limited resources to do so.	Despite large resources, parts of the public sector may be constrained from using private sources of knowledge (other than those of suppliers). Public sector sources of knowledge (e.g. Universities) may be highly oriented to other parts of the public sector.
Time Horizon	Short-term in many sectors, though utilities and infrastructural services may have very long horizons	Short-term: policy initiated innovations need to pay off within the election period.

These must be considered archetypal features of the public and private sectors and their relations to the propensity and direction of innovation. Based on a table developed by Ian Miles and Lawrence Green (2004). See Publin report D9 *On the differences between public and private sector innovation* by Thomas Halvorsen, Johan Hauknes, Ian Miles and Rannveig Røste for a more elaborate version.

One thing is clear. We have found no proof that the public sector is less innovative than the private sector. Public sector employees and organisations do innovate, in some cases very actively. However, given our broad definition of innovation and the lack of relevant quantitative data on an international level it is not possible to prove if it more innovative than the private sector in general. However, there are studies that indicate that public sector organisations may innovate more than private sector organisations of the same size.¹⁶

What is the public sector?

So far we have taken the concept of the public sector for granted. However, it is not easy to make a perfect definition of what the public sector entails, especially in a time where there is no one-to-one relationship between the area of public responsibility and the organisations providing public services.

For instance: health and social services are a public responsibility in all European countries. However, in some countries the required services are provided by public institutions. In others private companies and third sector organisations like the church are involved in providing publicly funded services as well.

The ultimate objective of Publin is to provide an improved basis for European innovation policies by extending the present knowledge base to encompass activities and functionalities with strong public participation and where the

¹⁶ Louise Earl did a study of Canadian organisations propensities to engage in technological and organisational innovations in the period of 1998 to 2000. Earl found that around 80 percent of the public sector organisations had introduced significantly improved organisational structures or management techniques, twice the rate recorded by the private sector. The public sector also led in the introduction of significantly improved technologies – 85 percent compared to 44 percent for the private sector. Among larger firms and organisations (those with at least 100 employees) the rates of introduction of technological change were roughly similar for the public and private organisations. (Earl 2002 and 2004)

provision to the public is not generally based on market-based mediation.¹⁷ Publin has therefore chosen a pragmatic approach to defining the public sector.

The importance of innovation policies to target also public and other non-market provided services is evident. This point should need no arguments beyond pointing to the fact that an innovation policy that ignores such services, their generation and provision, miss crucial elements of the welfare agenda that provides the core rationale for innovation policies. The well-known processes of blurring the line between public and private institutions, market and non-market provision institutions, etc. do not change this.

There is another reason for including non-public companies and institutions providing publicly funded services, and that is their role as nodes in the diffusion network of innovations.

Private companies and non-governmental organizations may implement innovations that are later adapted by publicly owned services (and vice versa), or they may be key nodes in the generation of signals on certain forms of innovation to the wider community of actors within the relevant sphere of activity. It is, among other things, this interaction that makes the systemic approach to innovation so fruitful.

The public innovation system

In order to learn and innovate, the actors must interact with other actors, these being people, organizations or various sources of information. Their ability to innovate is dependent on their ability to find such relevant competences, understand them and make use of them.

We are using the word “competences” deliberately here. Information, being any codified presentation of data, is of no value unless you have the competences needed to interpret it.

Defining the public sector

“The term ‘public sector’ is often used indiscriminately. Three definitions can be found (Khury and Van der Torre, 2002; Kuhry, 2003):

Legal definition: the public sector includes government organizations and organizations governed by public law

Financial definition: besides the above organizations, the public sector includes private organizations largely funded by public means, including non-profit organizations providing education and health care

Functional definition: in this case the public sector includes all organizations in the field of the public administration, social security, law and order, education, health care, and social and cultural services, irrespective of their funding source and the legal form of the supplier. The functionally defined public sector is sometimes termed the ‘quaternary sector’ in policy debates in some European countries, such as Netherlands or Belgium.

In this report, the functional definition is applied. Instead of the awkward term ‘quaternary sector’ the term ‘public service sector’ will be used in this context.”

From PUBLIN report D-20: Andrés Maroto and Luis Rubalcaba: *The structure and size of the public sector in an enlarged Europe.*

¹⁷ See report D20 for a more detailed discussion.

The better the actors are at developing networks that can help them get access to relevant competences and partners that can help them in their learning processes, the greater are the chances that their innovation processes will succeed.

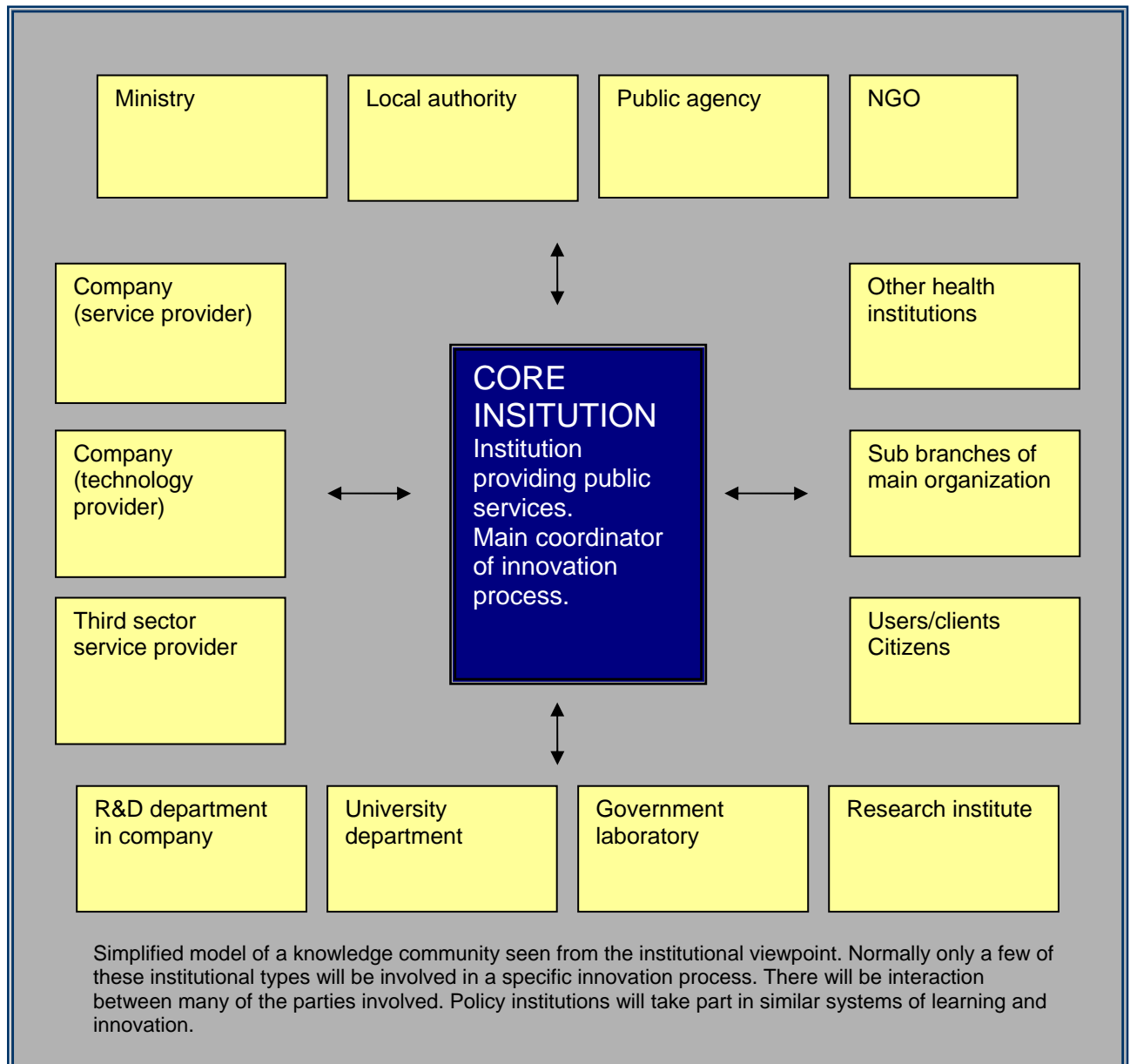
These innovation networks may be informal, i.e. dependent on individuals working in the public organization. A network may be used on an *ad hoc* basis, i.e. to solve a “small” problem that needs a solution right now. Hence a ministerial policy maker may call a colleague in the Directorate of Health, in order to get input to a new policy strategy, and a nurse in a local hospital may call a colleague he met on a conference in order to discuss the use of a new method of treatment.

However, these networks may also be used in more systematic innovation processes, where the organization as a whole has decided to start an innovation process aimed at solving a particular problem. This may for instance entail discussions with private companies which deliver machinery, equipment or services, and may also in some cases involve research institutions. The figure on the next page is a presentation of an institutional network for learning and innovation.

On the basis of this model we can stipulate that “successful” innovation, i.e. innovation processes that leads to a solution to the problem at hand, requires:

- Networks with relevant competence and technology providers, including
 - informal person based networks
 - formal participation in consortia, partnerships and organisations on the organisational level
- Access to relevant in-house competences
- An innovation friendly culture and organization
 - An in-house culture that encourages – or at least allows – relevant learning and innovation processes
 - An in-house organizational structure that supports such learning and innovation processes

Given that any public organization or unit is part of a larger hierarchy, the last point may be extended to include structures that support learning in a wider set of related public institutions. The innovative capabilities of a hospital may be strengthened or weakened by policies made by – let’s say – the Directorate of Health. Furthermore, the Directorate’s ability to innovate requires a close interaction with the Ministry of Health. In this respect public institutions differ from private companies, where the chain of command is normally much, much shorter.

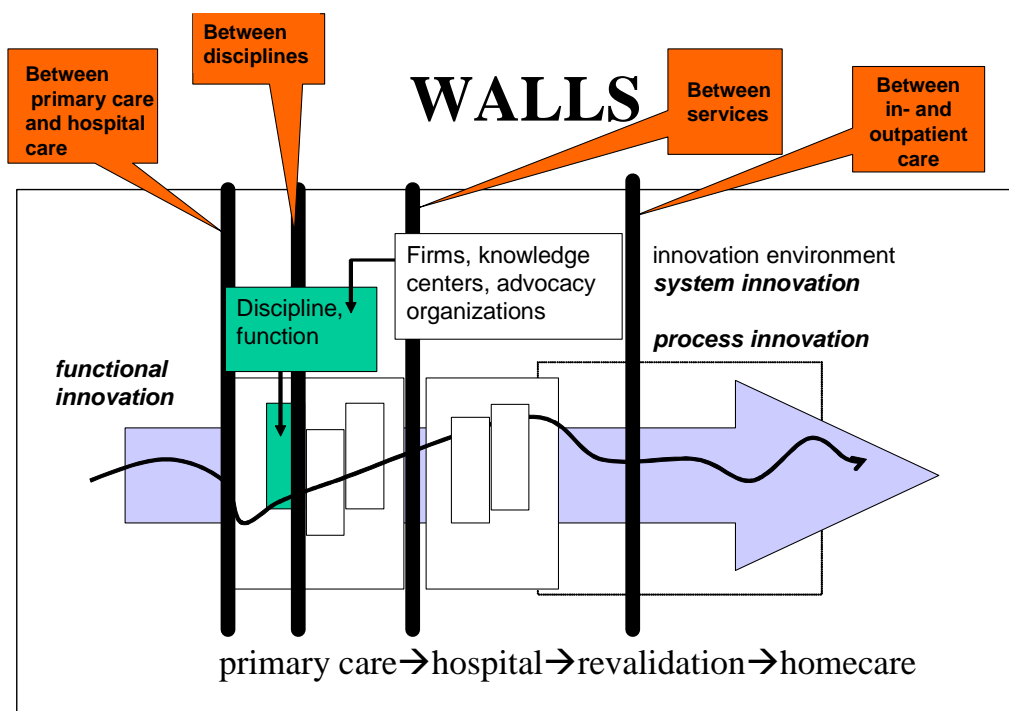


Given the systemic nature of innovation, any analysis of the innovative capabilities of public organizations, must take their innovation culture and networking abilities into consideration. We must find out what engenders innovation and what hinders it.

Horizontal functional innovation and its barriers

In the Dutch Publin health sector case study report¹⁸ Friso den Hertog, Rifka Weehuizen and Maarten Verkerk argue that in order to understand how these innovation processes work, we have to have a far more detailed understanding of micro innovation systems and how they are constructed around connected sequences of problems and opportunities. In *Gestalt*-terms one might say that the map of the health care system is the background, and the story of the innovation process is the foreground.

¹⁸ Publin report D12-5.



Interfaces along the horizontal dimension. The arrow shows how the patient moves through different parts of the health care system. The walls are barriers hindering competence diffusion and learning.

The use of systems models implies the use of two basic dimensions. The first or horizontal dimension refers to the *process* by which the system transforms inputs into outputs, or in every day language: the treatment and care of people. The transformation takes place with the help of various functions (disciplines, technologies and techniques). The functions together represent the process, or in every day language again: patients go through a process from diagnosis and intake to treatment.

The authors argue that in this process one can observe two kinds of innovations: (1) *functional* innovation originating from health care disciplines and health care technology, and (2) *process* innovation which concerns the design of the health care organization.

The introduction of a new psycho-pharmaceutical treatment might be regarded as a functional innovation, while a new team-based intake procedure is to be regarded as a process-innovation. The functions that are fulfilled in the health care process can be allocated in different organizations in the health care value chain. One might think in this respect about ambulatory mental health care, home care, rehabilitation centres and general practitioners (“GP’s” or “family-doctors”).

The role of crisis and reframing in learning and innovation

In the Dutch case study, the management of a psychiatric hospital decided to implement a major innovation: the implementation of so-called care programmes (*zorgprogrammas*).

This is a patient-centred, process-oriented, evidence-based approach, which involves major changes in the care chain. A newly hired experienced manager from outside the health care sector was willing to take up the task to prepare an innovation plan for and with the organization; he was the innovation “entrepreneur” in the process. There was considerable resistance to change, especially from the side of the psychiatrists, who up until then were “kings in their own kingdom” and did not feel like giving away power to professional managers. At some point the innovation process was slowing down, it was very hard to get from the conceptual phase to the phase of actual implementation.

Then a crisis hit the organization: there were serious financial problems due to mismanagement by the director. The director had to resign and the “entrepreneur” of the innovation process was appointed as the new director. The crisis made the personnel including the psychiatrist see that they needed to change in order to survive as an organization and this facilitated the implementation of the innovation.

It changed their perspective dramatically. Instead of seeing the innovation as an unwanted change involving more effort of the personnel and representing a threat to the positions of the psychiatrists, it now was seen as a solution that could save the organization and the people working in it.

A crucial element was to gain the trust and confidence of the employees in the time of crisis. The “innovation entrepreneur” recognized the crisis as a “window of opportunity” to get acceptance and support of structural organizational changes. It involved substantial management skills to take away the distrust; many employees in the health care sector are cynical, seeing innovation as a hidden attempt to simply cut costs.

An acute crisis however changed the view of “we” (the employees) against “them” (the management) into a “we” (the organization as a whole, together) against “them” (the financing institutions of health care). The new director made sure that the organization did not perceive him as an agent of “them”. The reframing was important for increasing the willingness to change. The wider institutional structure was conducive to innovation because the main financial agency involved offered an arrangement to deal with the financial difficulties on condition of a plan of how things would be done differently and better. Because of all this the innovation still goes ahead.

For the Dutch case study, see Publin report D12-5 *The Netherlands: HProcess Innovation in Mental Health CareH* by Friso den Hertog, Rifka Weehuizen and Maarten Verkerk

The “walls” depicted in the figure on page 22 refer to phases in the treatment process where innovation can be hindered. There may be insufficient communication between primary care and hospital care, meaning that the GP undermines the work of the hospital and vice versa. There may be walls between disciplines, where some professional groups undermine the authority of others or where there is lack of communication and coordination. Moreover, there may be conflicts between in house services and between in house and out-patient care.

Vertical process innovation and its barriers

The authors point out that the vertical dimension of the system concerns the different levels of management and policy-making. Four levels can be distinguished:

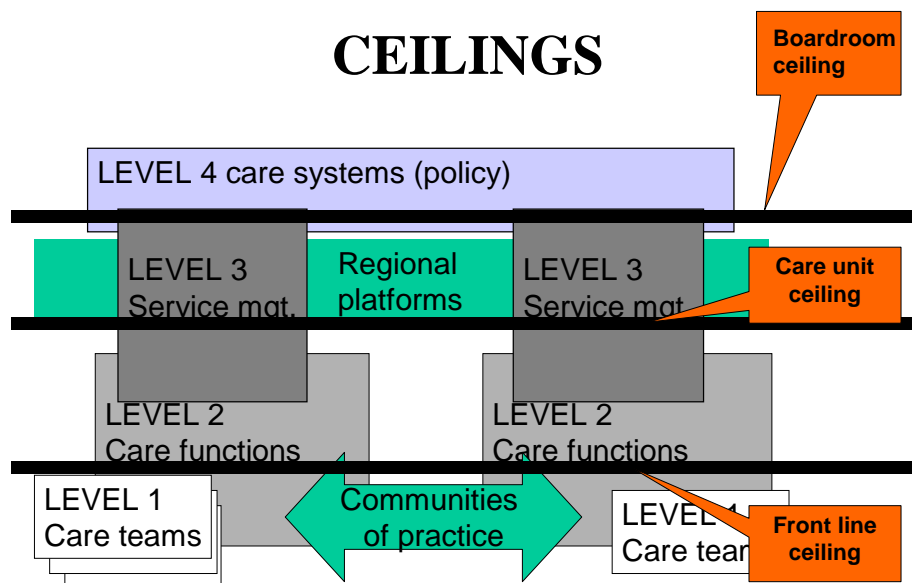
1. the operational level where doctors, nurses and other professionals are dealing with the treatment and care of patients,
2. the level of health care functions, where disciplines are managed,
3. the management level of the service organization as a whole, and
4. the health care systems level, where policies for regional or national health care systems are formulated.

At most levels there are lateral links with professionals and policy makers in neighbouring health care services.

den Hertog *et al.* add that the horizontal and vertical processes have a different nature or character. That means that every process has its own language, standards, procedures, and dynamics. The first process is characterised by care for the patient. The second process is characterised by hierarchical power and economical considerations.

This dimension leads to other types of conflicts and obstructions to innovation. The hospital management is, for instance, measured according to incentive structures that do not necessarily fit with the patient care needs perceived by the doctors or the nurses. Moreover, the educational background of the management team – and their work experience – is different from the one of doctors and nurses. They may not simply understand what is needed for good patient care. On the other hand the doctors and nurses may lack the experience needed to understand what it takes to run a large institution like a hospital. Moreover, they may not appreciate the needs policy makers and politicians have for control of the use of the tax payers’ money.

In any case, such conflicts may hinder innovation processes that bridge the different levels.



Interfaces along the vertical dimension. Again lack of communication between the levels may hold back much needed innovation.

These vertical and horizontal processes are *interlaced* in one and the same organisation. The complexity of the implementation of innovations is determined to a large extent by the quality of this interlacement.

This complexity demonstrates the need for in-depth evaluation of innovation in public sector organisations. In order to break through the walls and ceilings policy makers and reformers need to understand the social processes that have put them up. This is why simple incentive structures often fail to work the way we expect them to do. And this is why purely quantitative measures of innovation and production may fail to capture the underlying causes for innovation failure. In order to understand why learning and innovation processes are undermined, someone has to go into the organisation and map and truly understand the nature of the walls and ceilings.

Service and policy level innovation

These two horizontal and vertical processes correspond to what the Publin researchers have called service level innovation and policy level innovation. Not only are there differences between innovation in the manufacturing or innovation in services, between innovation in the private and the public sectors. There are also differences between innovation in public service organisations and the part of the public system that is focusing on policy development.

However, it should be noted though that there are no clear-cut borders between the service and the policy levels. As den Hertog and his colleagues point out a hospital will have to operate on both levels, both as a service provider and as an institution taking part in a political hierarchy, including policy institutions such as directorates and ministries.

Policy learning

When thinking about innovation in the public sector, there is a tendency to focus on service level, front end, innovation.

Given our broad definition of innovation, however, it is clear that there is also learning and innovation on the policy level, i.e. in institutions responsible for policy development and policy advice, including directorates, ministries or related organisations.

The Publin researchers René Kemp and Rifka Weehuisen define policy learning as a “change in thinking”, not any change in thinking, but a structured, conscious change in thinking about a specific policy issue. The following chapter is partly based on their report.¹⁹

Types of learning

Kemp and Weehuisen draw a distinction between individual learning, organisational learning and social learning. When collective learning extends beyond individual companies (or institutions) we may talk about *social* learning. Social learning is often about values and other “higher-order” properties such as

¹⁹ Publin report D15.

norms, responsibilities, and goals. It is less about truthful, scientifically validated knowledge being learned.

Knowledge may be explicit or implicit, individual or collective. A useful way of labelling combinations of such knowledge is that of Lam (2000).

Cognitive Level: Knowledge Types

		Ontological Dimension	
		<i>Individual</i>	<i>Collective</i>
Epistemological Dimension	<i>Explicit</i>	Embrained Knowledge	Encoded Knowledge
	<i>Tacit</i>	Embodied Knowledge	Embedded Knowledge

Source: Lam (2000)

Embrained knowledge is knowledge that is dependent on conceptual skills and the cognitive abilities of the individual. It is formal, abstract or theoretical knowledge. It is knowledge that can primarily be obtained through formal education and training, in other words, “learning-by studying”.

Embodied knowledge is tacit-individual knowledge, coming from experience. It is context specific, based on hands-on-experience and “learning-by-doing”.

Encoded knowledge is knowledge that is codified and stored in blueprints, recipes, written rules and procedures. It is collective-explicit, but not necessarily easy to make use of. In order to “decode” encoded knowledge, you need to know how to read and understand it.

Embedded knowledge is the collective form of tacit knowledge residing in organizational routines, practices, values, norms and shared beliefs.²⁰ It comprises the unwritten rules of the game. This type of knowledge plays an important co-ordinating role but it is often hard to point out. Embedded knowledge is relation-specific and situated.

Different types of organisations

Lam uses the above knowledge-combinations to typify organisations and to talk about organisational learning and innovation.²¹

²⁰ The above descriptions are taken from Lam (1998), published in Lam (2000).

²¹ Descriptions are from Lam (1998), published in Lam (2000).

Organisational Level: Co-ordination and Learning

		Knowledge agent (Autonomy and control)	
	Standardization of knowledge and work	<i>Individual</i>	<i>Organisation</i>
<i>High</i>		Professional Bureaucracy	Machine Bureaucracy
<i>Low</i>		Operating Adhocracy	J-Form Organisation

Source: Lam (2000)

Organisations in which “embrained knowledge” is important are typified as “professional bureaucracy”. They are bureaucracies that derive their capability from highly trained individual experts. Co-ordination is achieved “by design” and by standards that predetermine what is to be done but within this, individual professionals are quite autonomous. Examples are universities, hospitals and craft production firms.

The learning focus is narrow and constrained within the boundary of formal specialist knowledge with corollary implications for innovation. Hence in-depth learning is not only possible, but encouraged. However, broad based organisational learning and communication across professional borders may become difficult.

An organisation that depends heavily on “encoded knowledge” can be defined as a “machine bureaucracy”. The key organising principles are specialisation, standardisation and control. It is an organisational form designed to achieve efficiency and stability. Mass production firms are an example. The implications for innovation are not given by Lam, but one likely scenario is that such organisations will find it hard to adapt to shifting framework conditions, making innovation less likely.

Organisations in which “embodied knowledge” plays a key role are called “operating adhocracy”. Such an organisation draws its capability from the diverse know-how competencies and practical problem-solving skills embodied in the individual experts. The administrative function is fused with the operating task, giving the individual experts a high degree of autonomy and discretion in their work. It also leads to a close integration of technical and managerial expertise. There is a suggestion that such firms are relatively good at radical innovation.

In the public sector such organisations should be very flexible and adaptable, but the fragmented and individualized nature of the learning process may make organisational learning and competence diffusion difficult.

An organisation that derives its capability from knowledge that is embedded in its operating routines, team relationship and shared culture is termed a J-form organisation (J standing for Japanese). The J-form organisation combines the stability and efficiency of a bureaucracy with the flexibility and team dynamics of an adhocracy. J-firms are good at collective learning but the learning is potentially conservative. The J-form organisation is good at sustained innovation but may find it difficult to innovate radically.

In this scheme innovation is linked to knowledge and learning. The extent and form of innovation depends on the characteristics of the knowledge involved in the innovation, and the characteristics of the innovating organization.

The role of research

An interesting topic is the influence of researchers on policy change. Policy development in innovation policy is not a simple transformation of findings from innovation research into policy.

In the policy realm (which transcends government) there are intricate social rules, conflicting worldviews, intense power struggles, and uneven levels of competence and funding. These together determine the way a policy problem is “framed”.

The frame of reference of policy makers generally is different from the frame of reference of policy-analysts and researchers doing policy-relevant research.

Jenkins-Smith and Sabatier (1993) point out those substantial cultural differences impede interaction between researchers and government officials. Policy analyses are often used in a partisan way²², to enhance organizational credibility, occupy “turf” and delay undesirable decisions. It is being said that if researchers and policy analysts wish to have a significant impact on policy, they must generally abandon the role of “neutral technician” and instead adopt that of an “advocate”.²³

Research suggests that in order to have an appreciable impact on policy, analysts should dress policy proposals in language that policy makers can understand and can act upon. This requires an understanding of the policy world as an own reality or “life world”.

What is policy learning?

There is an enormous literature on the topic of organisational learning, with even specialist journals dealing with learning such as “Organizational Learning” and “Management Learning”.

There is no generally shared concept of learning but a number of different definitions of learning. A dictionary definition is that it is acquiring knowledge or skill through study, experience or teaching.

According to Huber (1991) an entity learns if, through the processing of information, *the range of its potential behaviours is changed*. This learning may be due to new knowledge or experience. But people may also learn about values, goals and the framing of issues—issues that are important for policy and possibly innovation. In the policy literature it is quite common¹ to think of learning as a *change in the habit of thought*, i.e. a changed view rather than an increased capability thanks to new knowledge. (...)

Sabatier (1993, p.19) defines policy learning as *a relatively enduring alteration of thought or behavioural intentions that are concerned with the attainment (or revision) of the precepts of a policy belief system*. The advantage of this definition is that it transcends an information-based view of learning, by taking on board alterations in frames, values and meanings. Please note that changes in values, frames and meanings may have very little to do with truth.

From Publin report D15 René Kemp and Rifka Weehuizen: *Policy learning, what does it and how can we study it?*

²² Policy-makers tend to show a certain degree of “shopping” behaviour: taking selectively that which supports their existing ideas or interests),

²³ Taken from Jenkins-Smith and Sabatier (1993, p. 4)

The importance of belief systems

There are conflicts and power struggles in policy development and politics. The conflicts exist at the ministerial level; between departments, between different groups and organizations in the ministries and between the different ministries and agencies. They are also found in service level organisations, where – as we have documented – there is not always a perfect harmony between the various professional groups.



These struggles reflect to a large extent conflicts of interest and power, prestige and funding. However, if this was all there was to it, one could at least presume that the contestants shared a common view of reality, which would – in principle – make communication less complicated. If you took away the tactics and saw through the rhetoric, it should be easy to establish a common ground for learning.

However, the conflicts are actually often based on different concepts of reality – i.e. different mental structures, rationalities or “belief systems”. By a belief system we understand a relatively long lasting understanding of the reality shared by members of a culturally and socially defined group.

As the Nordic GoodNIP project put it (Koch et al 2003):

Rationalities persist, or have inertia. They continue to operate after the period during which they originated and are embedded in institutional structures and arrangements as well as in policy practices and instruments. The rationalities are generally unspoken – they are not explicitly formulated in policy processes – but are visible in the construction of concepts and attitudes.

This means that problem definitions cannot be taken for granted, as having an objective ground. They reflect the viewpoints and interests of the relevant actors,

which are connected to actor “life worlds”—their experiences and professional and cultural background. Accordingly, different policy milieus belong to different “belief systems”. It is not only that they disagree on policy directions or the distribution of funding; they also disagree on how the world is put together, i.e. the political, social, cultural and ideological reality underpinning the policies.

Given that policy institutions have a tendency to hire people who belong to their own “belief system” and support the dominant point of view in an organisation, their understanding will be reinforced. Moreover, given that other policy organisations, for example directorates, ministries or even departments of such, are grounded in other and often conflicting belief systems, communication and cooperation may break down, making the development of a coherent and broad based innovation policy very difficult.

There is no one-to-one relationship between belief systems and ideological systems or scholarly disciplines, however. In such conflicts, actors will often make use of the arguments that helps his or her position, even if there is a lack of theoretical coherence.

Such belief systems can also be reflected in the various models used by politicians and policy makers developing public services and policies. To a certain extent such models may also echo traditional left wing/right wing ideologies; although in the present day society one should be very careful oversimplifying such dichotomies. Today socialist and social democratic parties may make use of arguments grown out of the liberal tradition (e.g. through the use of various forms of privatization and the use of management techniques developed in the public sector), while centrist and conservative parties may argue for the need for a more egalitarian social policy.

Based on the Norwegian Case study Helge Godø has developed a list of models found in Norwegian social sector policy development. Some of these models can also be found in other countries, although the number of models and their combination may vary from country to country.²⁴ The models represent policy-driven solutions (prescriptions) that will alter existing ways of providing welfare and care services to the elderly, if implemented. The five models that were identified are:

²⁴ The core of this consists of interviews with 24 organizations and entities that in some way or other are relevant for the question of providing help to the elderly, with a special focus on helpless elderly living at home – and innovation activities related to these. In addition, the models were constructed using secondary information sources such as the web, newspaper articles, etc. As models, these are analytical constructs, i.e. based on interpretation and systematization of the empirical material. The innovation models are not cognitive categories in the minds’ of the actors who work in the field. However, many of the elements that make each model distinct are articulated by informants as political and normative identities and advocacy, i.e. in terms of characteristics that they believe make them different from others.

Typologies and models of innovation in welfare service provision in Norway

Type	Framework	Innovation focus	Networks & cooperation	Bottlenecks	Public measures	Technological aspects
Corporative welfare provision model (socialist)	Strong role of public entities in provision of welfare services based – legacy of welfare society	Inherent belief in the creativity & commitment of workers	Autonomous working groups empowered to solve goals set by political system	Conservatism of groups with vested interests in existing systems (e.g. labour unions) & commitment of management	New type of “social contract” that will give legitimacy to the capability of public service provision	New technology should be developed in close cooperation with workers – training & education just as important as technology
Market oriented welfare provision model (right-wing, NPM)	Strong belief in the creativity & efficiency of markets, amplified by giving users right to choose	Clear roles related to provider-customer relationships; belief in efficiency of markets in providing welfare	Contractual and formalized with clear interfaces – delivery of services or goods most important criteria	Structural conflict of markets and hierarchies; contractual rigidities vs. political malleability	Deregulation and liberalization of regulatory and legal barriers, focus on budgets	Accounting and standards enabling comparison, ICT based legal applications
Communitarian welfare provision model (NGOs)	Clemency coupled with ideals of civil society; communitarianism	Inherent belief in the creativity of altruism and idealism; idealism spurs search for innovative solutions	Based on common values and outlooks on providing charity and clemency	Exclusion and selection based on moralism (“pauvre honnete”), capriciousness of voluntary culture	Recognition of the legitimacy of NGOs; financial aid to NGOs – donations and charity foundations	Publicity to community (media, PR), ICT for mobilizing volunteers,
Family oriented welfare provision model	Ideal of household as the complete unit; private solutions provided by family members (i.e. women – wives, mothers, etc.)	Basically non-innovation as an innovation, i.e. reinventing the family through preservation and reinterpretation	Internal to the family, close and multiplex, rich modes of interaction – ego-dependent	Anachronism; values that are antithetical to modern values, in particular modern gender roles	Subsidies to families that provide care to elderly, disabled, etc.	Few, related to rebuilding homes for elderly and disabled (wheel-chairs, etc.)
ICT-oriented welfare provision model	Conventional bureaucratic model transposed to ICT-systems	Engineers outside create innovations	Computer and mobile communications, “user-friendliness”	Instrumentalism in approaching care	Infrastructure and investments in ICT development	Essential

Developed by Helge Godø based on the Norwegian Publin case study. Taken from a chapter in the forthcoming Publin book.

- Corporative welfare provision model
- Market oriented welfare provision model
- Communitarian welfare provision model
- Family oriented welfare provision model
- ICT oriented welfare provision model

To sum up: Policy development has its own social rules of the game that are different from those found in research organisations or private companies. It is not that policy makers, including civil servants and politicians, are more irrational than other human beings – they are not. They have, however, to take other factors

into consideration than the plain factual knowledge delivered by researchers and other analysts.

Hence any strategies for encouraging policy learning and innovation at the public sector policy level must take the social, cultural and even psychological framework conditions into consideration.

Barriers and drivers for innovation

In report D19 *Innovation in the health sector – case study analysis*, Paul Cunningham lists several barriers to innovation in the health and social sectors, as well as drivers.

They can serve as examples of framework conditions influencing the innovative capabilities of institutions as well as individuals. The following text is mainly based on his analysis.

Barriers for innovation in the public sector

The public systems studied appear to share a number of common features which could act in a way to hinder or prevent the process of innovation. Although a number of categories have been identified, they are rarely mutually exclusive and one barrier may be the cause or effect of one or several others in a complex interplay.

Size and complexity

Typically, the public sector comprises an extremely complex and large-scale organizational entity, composed of multiple-tiered interlinked systems. This size and complexity can generate factors that hinder the innovation process, such as localised skills shortages and gaps, lack of clear agreement with respect to perceived problems, approaches and solutions, and communication difficulties.

Typically, such large-scale organizations are prone to the development of internal barriers – “walls and ceilings” – and, in the worst case scenario, the development of “silo mentalities” wherein parallel systems maintain their own organizational norms, beliefs and practices with little communication with each other.

In the Dutch case mentioned above the self-assessments made by managers and professionals showed serious problems of communication and cooperation between professionals and professional groups. The lack of cooperation (i.e. the “walls” from the figure on page 22) had a negative impact on the continuity of care and of the care provider. Professional autonomy was regarded as an unassailable principle. Another outcome of the self-assessment was that communication and cooperation with external partners in the health care value chain had to be improved.

Heritage and legacy

Public sector organizations are frequently prone to entrenched practices and procedures – that which has worked in the past is seen as good practice and there is frequently an attitude of “if it isn’t broke, don’t fix it”. The systemic impact of innovation and change is often viewed as an unwelcome perturbation to the

overall functioning of the organization and change and new operational methodologies may be discouraged.

Similarly, there may also be a tendency to adopt the “not invented here” attitude with an unwillingness to accept novel ideas from outside the immediate organizational peer group.

Obstacles to learning in the public sector

There are clear obstacles to learning in the public sector. Although learning is a normal human phenomenon there are significant obstacles to learning within the process of government and policy making. According to Chapman (2002, p. 13) the most important obstacles are:

- An aversion to failure, exacerbated by the political process which uses failure to score points rather than learn lessons
- The pressure of uniformity in public services.
- Shared assumptions between civil servants and ministers that command and control is the correct way to exercise power.
- Lack of evaluation of previous policies.
- Lack of time to do anything other than cope with events.
- A tradition of secrecy used to stifle feedback and learning.
- The dominance of turf wars and negotiations between departments, effectively making end-user performance secondary to other considerations.
- The loss of professional integrity and autonomy under the knife of efficiency in policy making, and resistance and protection of vested interests by some professional and intermediary bodies

The barriers have to do with mentalities, tradition and with power by obstructing learning feedback.

Taken from Publin report D15 *Policy learning, what does it mean and how can we study it?* by René Kemp and Rifka Weehuizen.

Publin interviewees perceive barriers to innovation as deriving from public service’s leadership and management (i.e., budget cuts or poor allocation of budget funds, and poor leadership), traditional regulations and work routines, internal and external politics, employee resistance and poor learning environment.

Professional resistance

Public health systems comprise a number of distinct and well-established professional groupings, with their own communities of practice, rationales, and perspectives. These tend to adhere to their established roles, and associated policy agendas.

Parts of the public system may operate according to differing command and control structures, and if the two do not fit resistance to innovation may be the result.

A lack of dialogue between different parts of the public system, horizontally or vertically, between different

professional groups may also hinder innovation and its dissemination. Thus, different medical professions may be unwilling to accept the ideas of others, even if both share similar professional status (for example, surgeons and anaesthetists), whilst the problem may be exacerbated between members of (perceived) hierarchically separated professional levels (for example, gynaecologists and midwives, or doctors and ambulance staff).

Risk aversion

There is an understandable inherent resistance (which is particularly strong in the medical professions) to undertake or implement changes which may result in an increased probability of risk (to the patients in their care or to the other recipients of their services). The emphasis placed on the development of evidence-based medical and clinical practice over recent years is one consequence of the health professions’ desire to minimise the unforeseen consequences of new health interventions.

Public/political profile and accountability

The health and social sectors have a professional and public duty to deliver the highest possible standards of care. As a result, health is a major political issue and the shortcomings of government health policies often form the focus of political, and hence, media debate. Public service managers and politicians are very wary of enacting changes that may result in negative outcomes, particularly if there is the risk that these will attract media focus.

There may also be a tendency towards a blame culture, with its associated high levels of accountability. Added to this is the risk of patient litigation in the event of adverse impacts and events. Similar problems are found in other parts of the public sector.

Need for consultation, and unclear outcomes

The large range of stakeholder involvement within the public sectors often generates a strong requirement to consult and review any planned changes and modifications and to attempt to identify all the potential consequences of such actions. This is exacerbated by the complexity of the systems. Thus diffusion or roll-out of new innovations forms a major management issue.

A related problem concerns the systemic nature of innovation, i.e. the possibility that the introduction of one innovation may shift the underlying problem to another, downstream, part of the system or may have unforeseen and adverse consequences. Thus, the introduction of any innovation should require close *ex ante* assessment, coupled with careful review and evaluation.

Pace and scale of change

Many public administrations, for a variety of political and policy reasons (such as the introduction of New Public Management approaches), have over recent years been subject to a large number of often radical changes. The pace of change has also been dramatic and this has led to an environment of shifting targets and the absence of adequate opportunity to reflect upon and assess the consequences of many of the innovations introduced.

The introduction of new political ideologies, new “world views” etc. may also accelerate the pace at which policy makers (at all levels) wish to see change implemented. While political will may be viewed as a driver for innovation and change, the systems to which it is applied may become “innovation-fatigued” and resistant to further change.

Absence of a capacity for organizational learning (at all levels)

There may be a lack of structures and mechanisms for the enhancement of organizational learning, exacerbated by their scale and complexity and the problems these features generate. If there is a lack of dialogue between the actors in a complex system, for a variety of reasons such as legacy and professional resistance, how can the diffusion of good practice be managed?

Frequent reorganizations will also promote a lack of corporate memory, thereby militating against policy learning. This problem can operate at all levels from the top of the policy-making hierarchy down to the service delivery level.

Public (and end-user) resistance to change

There is an assumed general resistance of the public to reorganization and changes in the way public services are delivered. Thus, the public, or elements of it, may also be risk averse. “They know what they have, but not what they will get.” Various factors may operate here such as age, ethnic background, personal wealth, access to ICT, etc.

It is assumed that the public forms the typical end-user, although these may be



represented by various lobby and interest groups. In some cases, perhaps where the mode of delivery is changed with no discernible change to the service or “product” from the public user’s perspective, the end-users may be the service deliverers themselves.

Absence of resources

This feature has been clearly identified within the general factors affecting public systems, in the health area particularly those associated with demographic changes and (chronic) disease conditions. Not only does it include a lack of financial support, either in a general context or specifically for the support of innovation, it can also include shortages in relevant skills or other support services required for the implementation of innovations.

Moreover, the general desire to improve the quality of health and other forms of public service provision often entails the need to expend additional resources – not all health innovation is aimed at economic efficiencies.

Technical barriers

Whilst the development of a new technology or technological application may serve as a strong driver or facilitator of process or organizational change, the absence of a technology which exhibits certain specifications may also hinder the development of a sought-for innovation. Thus, the application of new uses to existing equipment, for example, may push the technology to the limits of its capabilities and act as a driver for further technical innovation.

The role of public sector entrepreneurs

Irrespective of the organizational capacity for innovation, one of the most striking features common to most of the case studies was the key role played by the presence of highly skilled and committed “entrepreneurs” or champions, able to drive forward the innovation process. Such people were found to have played key roles both at the national and regional level in the case of NHS Direct, in the Salford specialist diabetes education team, the introduction of Digital Radiology in the Madrid Hospital and in the Swedish SABH process. In a broader context, the presence of a positive staff attitude towards new ways of operating was also found to be important in the Spanish case study.

The degree of success of such entrepreneurs and innovations was also found to be highly dependent on a number of organizational features. The NHS Direct local systems were themselves very open to innovative practices whilst the open remit of the NHS Direct sites encouraged problem solving and new, spin-off or complementary, initiatives and innovations; many instances were noted of new applications and linkages with complementary services.

In the Dutch case study it was found that the linkage of care programmes with the administrative system promoted the management of the new organization, offering improved ownership of patient care problems. There was also recognition of the importance of feedback mechanisms for monitoring the (intended and unintended) impacts of innovation at a variety of levels.

This element of self assessment and self introspection was also noted in the Irish case study: the project was preceded by a thorough baseline research study and by the use of focus groups; it was introduced on a test basis as a pilot (as was NHS Direct in the UK); there was a strong element of evaluation (as in several other case studies); and the use of team meetings was seen as a positive learning experience.

In Sweden, the SABH process was found to heavily rely on developing both a teamwork approach and in having staff able to work independently. There was also an extensive pre-project planning phase. Lastly, it was noted that in the Salford diabetes education project, a high degree of organizational learning had been exhibited by the relevant Primary Care Trusts.

While the above indicates that mechanisms such as appraisal, dialogue and evaluation are all key components for organizational learning, a willingness to experiment and try new approaches was also seen to be a useful attribute towards the success of the innovations studied.

From Publin Report No. D19, *Innovation in the health sector – case study analysis*, by Paul Cunningham

Drivers and facilitators for innovation in the public sector

A number of counters to the barriers noted above may also be discerned. These may be categorised as drivers for (i.e. pressures for innovation) and facilitators (i.e. factors which aid the uptake and dissemination of innovation) in the public system. Again, these may operate either at the national level, in the broad environment of the innovation or may be specifically linked to the innovation itself.

Problem-oriented drivers

It is clear that many innovations in the public sector are introduced in response to one or more specific problems. Typical underlying causes, as noted above,

include demographic factors, ageing population, fragmentation of families, lifestyle health and social problems, etc.

Thus, innovation processes may be required to deal with new specific problems (i.e. the rapid increase in child obesity), or with generic problems (such as the need to reduce in-patient resident times as a means to free up hospital beds), or to speed up the processing of health care and other public access administrative tasks.

Non-problem oriented improvement

Innovations may also be introduced because, rather than dealing with a specific problem, they represent an improvement on the former situation. For example, doing things faster or more efficiently is generally a broad goal but does not necessarily represent a specific problem in itself. Similarly, a new medical technique may confer improved quality of life for patients but may not offer any further advantages.

Political push

Strategic change in the public sector frequently requires a strong, top-down, political will coupled with the political recognition that change requires the allocation of substantial resources. This may be ideologically based or in response to critical events and pressures.

It may also include the adoption of belief systems and concepts – thus, in several countries successive political ideologies have sought to find free-market solutions mainly to ameliorate the enormous financial burden imposed by a “free” (at point of delivery) public service and also, indirectly, to provide incentives for improved service delivery.

At the delivery level, political goals may be reflected through the imposition of performance targets (which may facilitate innovation although with the danger that, as with most indicators, they can distort the behaviour of actors within the system in unanticipated and possibly undesirable ways). The use of performance targets is particularly prevalent in the health and education arenas.

Growth of a culture of review

A range of assessment practices have developed over the years in the public sector (especially in the health system), ranging from evidence based guidance, health technology assessment, and clinical audit through to broader scale review activities.

The development of these techniques could, at least in theory, alleviate the problems associated both with assessing the potential impacts of innovations and with promoting a culture of organizational learning, hence this feature may represent both a barrier to and a facilitator of innovation.

Support mechanisms for innovation

This can represent the allocation of appropriate resources (finance and other forms of support) to promote innovation and its implementation. Allied to the allocation of resources is the provision of actual structures and systems designed

to promote, stimulate or disseminate innovation (e.g. staff suggestion boxes, staff fora, stakeholder feedback mechanisms, networking activities, competence building, encouragement of alternative thinking, etc.).

These may operate either from the top-down or from the bottom-up. Both mechanisms may also monitor external sources, such as practice in other public service systems either domestically or abroad for transferable examples of innovations.

Capacity for innovation

Staff in the public sector, especially those concerned with health and education, are often characterised by their high levels of professional expertise, exhibiting a high level for creativity and problem solving, thus providing an environment in which innovation should both be generated and accepted. This is frequently demonstrated by the presence of entrepreneurs or “innovation champions” who drive forward the process of innovation and its implementation and diffusion.

Moreover, medical and health professionals are generally driven by a strong desire to improve the well-being and quality of life of the patients in their care, which may further prompt the search for new solutions and approaches. There is no reason to believe that other parts of the public sector lack such entrepreneurs.

The Publin case studies also show that this kind of entrepreneurship can be found at the highest – political – level. Many innovations in public services are often championed by and even originated by politicians. Moreover, such visionary politicians are more likely to be able to overcome resistance in the civil service.

There has been a great deal of argument to the effect that politicians are risk-averse. However, some of public sector managers interviewed by Publin tend to believe that some politicians are prone to promote very radical changes in public services. They see this as a chance to make their mark, and the more innovative the reform is the more glory. Moreover, if they fail they can move over to another field.

Competitive drivers

The use of performance targets to derive “league tables” (for example, of hospitals, schools and universities) can encourage the use of innovative approaches in order to force up performance ratings.

However, the use of such targets, indicators and league tables often distorts operational behaviours, sometimes with unintended and deleterious consequences (such as the refusal of UK General Practitioners to operate accessible appointments systems in order to drive down waiting lists). Therefore, this is one example of a driver which may force innovation to operate in non-optimal ways.

Technological factors

It is clear that technological innovation can be a strong determinant or driver for subsequent innovation. The introduction or availability of new technology (for example, telemedicine or advanced data storage and handling capabilities, etc.) may provide an opportunity for another form of innovation (process,

organizational, delivery, system interaction, etc.) to take place or to be implemented.

NGOs and private companies

Non-governmental or third sector organizations do influence innovation in the public sector. They are often agile and flexible, and they seem to have a type of creativity and climate for entrepreneurship which is not possible in public organizations. They have often networks to dedicated people and local chapters which represent potentially powerful resources of human capital and creativity.

Moreover, NGOs (as proved in transition countries) may have access to additional financial resources and in this way be crucial in the research, evaluation or piloting of the innovation. New practices developed by institutions run by NGOs are often adapted by publicly owned institutions.

Private companies also influence the innovative capabilities of public organizations, partly by delivering technology, goods and services and by being service providers in public welfare schemes. Again, new practices in companies may be adapted in the public sector.

Since the 1980s there has been a strong political movement towards using private sector practices as model for public sector innovation. This has led to various forms of “privatization”. This is not such a clear cut concept as it might seem. There are for instance different types of privatization:

- Outsourcing to private companies and NGOs
- Giving public institutions more independence
- Turning public institutions into state owned companies
- Selling state owned companies

It should be noted that the borderline between the public, private and civil sectors varies enormously in Europe, and has always done so: The Church runs schools in Ireland, Germany uses private insurance companies for social insurance and in Norway state owned petroleum companies work side by side with private ones.

Lessons learned from the case studies

From the case studies, it has been possible to identify a number of factors, or shared characteristics, that, at least partially, may contribute to the initiation, development and implementation of innovations in the social service sector.

It should be stressed that while all the examples studied were successful (although not all were continued) the pathway to implementation was not always smooth. Thus, the following lessons are not a recipe for successful innovation but only indicators of potential contributory factors. They may also be interpreted as a set of broad policy recommendations.

The Publin Case Studies

- Development of a patient-focused home-help service (Ireland)
- Development and implementation of clinical pathways in the psychiatric hospital Vijverdal (The Netherlands)
- The adoption of Digital Radiology technology and Main Ambulatory Surgery processes (Spain)
- Hospital-Managed Advanced Care of Children in their Homes (Sweden)
- Patient-Oriented Education Systems for Diabetes (UK)
- NHS Direct – a nurse-operated medical telephone helpline service (UK)
- Pensions Retirements Savings Account (Ireland)
- Regional Resource Centres of Special Education (Israel)
- Innovation in Services for Elderly (Lithuania)
- Innovation in Home Based Services for Elderly (Norway)
- Residential Care for Elderly (Slovakia)

The reports from the case studies can be downloaded from the Publin web site (www.step.no/publin)

Pluralism is important

Pluralism in different approaches to improving service provision to the client groups (for example, the elderly or children with special needs) is important and should be encouraged. As seen in the case studies from Norway, Slovakia, Lithuania, and Israel the pluralism in terms of many different service providing organizations (NGOs, stakeholders' associations, etc.) has generated many different models and “experiments” for service provision.

Similarly, autonomy given to the municipalities and service providing organizations for the implementation of the national Action Plan (Norway, Slovakia) or fulfilment of national goals leads to the creation of an innovative environment. Although this is not a result of design, the situation is beneficial in terms of public debates and political awareness – and ultimately, for policy learning

Openness to ideas

There was a marked tendency for innovating organisations or for key personnel to demonstrate openness to ideas and a willingness to think “outside of the box”. This was found to be equally important in the development of novel solutions to problems, or in the identification of solutions to previously unrecognised problems or issues.

It was also an important factor in the acceptance of new ideas and new operational practices, both from the perspective of management and from the perspective of those expected to deliver or utilise the innovation.

Seizing opportunities

In some cases it was clear that it was important to seize opportunities in order to implement change and to gain the acceptance of new ideas. Such opportunities

could relate to the availability of resources, the need to respond to enforced change or new circumstances, and the timing of political or organisational events.

The coalescence of two or more factors might also be seen as an opportunity, such as in the Irish home help innovation where the availability of funding and a new agreement on working practices assisted in the development of the new process.

The role of entrepreneurs

The role of “champions” or entrepreneurs was clearly significant. The presence of individuals with sufficient vision and determination to push the innovation process was a characteristic shared by all of the case studies. Entrepreneurs are clearly important in development of innovations in public services.

Although entrepreneurs always are emerging, in the public domain (such as service provision and care for the elderly) the challenge is to leverage their creativity and channel their energy into activities that give them a sense of meaning. If possible, policy should be able to recognize these persons and bestow them with resources – and responsibilities.

Teamwork and independent thinking

As noted above, champions were important, but also required support. Many of the innovations relied, at one level or another on positive attitudes towards teamwork and independent thinking in order to take forward the innovation concept through a process of development to fruition.

In some cases, innovations required an entirely new approach, thus the supporting team also had to be fully committed to the idea and able to deliver it in what were often novel, rapidly changing circumstances. It is also beneficial to co-opt staff members and create “agents of change” to overcome potential resistance from the (professional) staff.

NGOs and the civil society

NGOs and the civil society they represent are very important for a number of reasons: being agile and flexible, they seem to have a type of creativity and climate for entrepreneurship which is not possible in public organizations.

Although one may possibly claim that these are not representative, they nevertheless represent interests that are committed to public causes. In this, they have networks to dedicated people and local chapters which represent potentially powerful resources of human capital and creativity.



Also, NGOs (as proved in transition countries) may have access to additional financial resources and in this way be crucial in the research, evaluation or piloting of the innovation. In Norway, some of the private charitable funds (old family fortunes) function as “venture capital” for development projects in NGOs. This model – venture capital logic – is very interesting and public money should be used in a similar manner. In a policy perspective, the significance of civil society should be recognized and given opportunities for development.

The engagement of stakeholders

The engagement of stakeholders and extensive and ongoing consultative and participatory process were key factors in initiating, sustaining and implementing innovations. In many cases, a range of stakeholders had to be convinced of the utility of the proposed innovations and resistance (to change procedures, to provide resources, to engage in practices with a higher perceived risk, etc.) had to be overcome. Once innovations had been put in place, it was essential to ensure all stakeholders still shared the same vision, that expectations were being met and that the lessons learned were being disseminated quickly (see below).

Reflexivity

Innovating organisations need a high degree of reflexivity – essentially an ability to demonstrate organisational learning. In concrete terms this behaviour was evidenced through practices such as *ex ante* appraisal, assessment and ongoing monitoring processes and evaluation of the outcomes and impacts, often within very short timeframes. In some cases these processes were carried out directly by the ‘project team’ itself whilst in others they were a feature of the broader innovation environment. Reflection and appraisal could occur at all levels.

Coupled with such reflexivity, a high degree of responsiveness – an ability to react quickly to the outcomes of the review process – is also important: there is little point in monitoring if it does not prompt reaction.

Demonstration of utility

Linked to the above point it seems, from some of the case study evidence, that the demonstration of the utility of implemented innovations is an important factor in terms of developing further support either for the innovation itself or for the implementing team or organisation. In cases where the innovation was problem-oriented, this is less critical as the success becomes self evident.

Generating recognition and support

Again linked to the previous two points is the need to generate recognition and support for innovation, both for the innovating organisation itself but also more widely across the social services system. This was the remit of the Norwegian case study where the challenge was to construct arenas or institutions for sharing knowledge and learning, e.g. some mechanism for demonstrating “best practice” (or “worst practice”). These should be action oriented, i.e. demonstrate to actors what kind of measures, approaches or techniques that are efficient, etc. A number of the case studies mentioned the need to provide incentives for innovation, particularly in terms of persuading various stakeholders to adopt new practices.

Retention of momentum

The retention of momentum is another important factor. Of particular relevance is the need for organisations and systems to exhibit flexibility and work actively on the identification of further opportunities which may assist their particular innovations or which may benefit from it. To some extent, these features are linked to a culture of organisational learning and exploit the complex nature of innovation.

The Publin interviews

The partners were asked to do interviews with civil servants, beyond what was required as part of their case studies. The responses were used for a trans-national mapping of attitudes and practices. For a detailed analysis of these cross-country questions, see Report D17, *Report on the Publin surveys*.



Analysis of the international managers and front-line in-depth interviews shows that innovation is an ever-present phenomenon in the public sector. Even if some of the interviewees were not familiar with the term "innovation", they used synonymous words to describe the phenomenon, and there was no question in their minds about the need for innovation and its existence in the public sector.

According to our respondents managers are the primary initiators of innovation, followed by employees, other organizational personnel and professionals, government and politicians, end-users and external organizations.

While the majority of innovations in the public sector are top-down and policy-driven, this material shows that interviewees generally see the organization's management or political parties rather than external organizations or the EU as the initiators of new approaches.

In their role as innovators, managers and department heads are believed to be the ones who create, plan, and promote the innovation. Employees are viewed as the ones who provide the service: they bring ideas, argue, report problems, and implement the innovation. The end-users respond to the changes, give feedback and complain.

(It should be noted that in the case studies the Publin researchers found that non-managers may also function as innovators and entrepreneurs).

Innovation would not occur without facilitating and hindering forces. According to interviewee responses, facilitators of innovation consist of human and organizational forces. Human facilitators are both internal and external and consist of organizational forces that include the leadership and management of innovation; cultures that are open to change, supportive personnel and proper funding. External facilitators include the EU and other outside organizations, the legislature, politicians and national initiatives. Organizational facilitators are progressive orientation, climate that supports innovation and supportive organizational learning.

Obstacles to innovation are predominantly perceived as internal to the organization. Interviewees perceive barriers to innovation as deriving from public service's leadership and management (i.e., lack of leadership, budget cuts and poor allocation of budget or funds). Additional obstacles are the traditional regulations and work routines, employee and end-users' resistance, internal and external politics and poor learning environments

Organizational learning and policy learning emerged as an integral part of innovation, and these factors are reflected through the infrastructures that facilitate organizational learning, networking and cooperation with other organizations, and the development of competences and networking. Internal and external organizational networking emerged as important for the success of innovations.

There was broad agreement among the respondents as to the importance of the measurement criteria of innovation success. These ranged from routine measures to a lack of overall criteria. Quantitative scientific measures and qualitative measures are used to evaluate innovation.

Quantitative measures often consist of observed criteria such as number of people served, duration of hospitalization, medical malpractice, percentage of clients who are referred or complete the service, etc. Qualitative measures consist of measures such as general notions of client satisfaction and the reasons for it, managers' evaluations, and performance progress. Some of the measures, however, rely on "gut feelings" rather than on scientific methods.

Generally, however, the small number of responses might indicate that interviewees nevertheless seemed somewhat uncomfortable with this question, especially those who were unaware of clear methods of measuring innovation. Interviewees' limited response to this question might indicate a difficulty in identifying measurement criteria or the lack of the needed assessment. As reported by the respondents, difficulties with measurement criteria include information that is not linked to primary processes of innovation, scarcity of measurement tools, lack of time or resources, or difficulty in accessing clients' or other sensitive data.

The importance that the respondents placed on the need of innovation measurement, combined with the need of clear indicators might suggest that this area calls for some additional attention.

Innovations yield different types of outcomes: expected and unexpected, yet, positive, negative and combined- (positive and negative, jointly) outcomes, with the latter referring for example, to positive outcomes that could become negative if not dealt with productively.

Expected consequences refer to the intended outcomes that follow innovation, and are mostly positive. They emerge in regard of the improvement of the service provision and performance, management and administration, professionalism and work conditions. More specifically, examples of positive consequences of innovation in this study are service improvement, equitable allocation of funds, increase of quality of care, safety, economy, information transfer, efficient use of resources and productivity, reduced risks, flexibility for patients and professionalism

Unexpected consequences and implications of innovation refer to the outcomes of innovation that are unintended. Unexpected consequences of innovation were reported both positively and negatively, and emerged in the areas of service provision, performance reputation, administration, networking and support.

Examples of positive consequences are success in service provision speed (i.e., faster improvement than expected), performance and reputation (i.e., the innovation led to an increase in the number of surgeries); administrative changes (i.e., the clinic became a more attractive place in which to work at); additional resources and income increase. Further examples of positive unexpected outcomes refer to professionals becoming more visible; the variety of solutions that emerged, the identification of inefficiencies of the “old system”; an impetus for further innovation, and increase in learning.

Examples of negative unexpected consequences are heavier and busier workloads (i.e. paperwork), employees’ difficulty in performing the new job, end-users’ and employees’ resistance to innovation, increased administration and employee turnover, negative competition, time pressure and employees’ risk of losing competence.

Some consequences emerged as both positive and negative consecutively, such as when shifting along time depending on the development of these consequences.

The primary beneficiaries of innovation according to the interviewees are the end-users (“clients”); however, practitioners and employees also benefit from innovation.

In sum, the answers given by the interviewees indicate that innovation is ubiquitous in the public sector. It is aimed at improving the provision of service, involves a variety of stakeholders, is linked to organizational learning, and benefits end users, practitioners and managers.

Given that our respondents are involved in public sector activities, one might expect them to have a more positive view of public sector innovation than experts coming from outside the public system. The surveys presented below do to a certain extent confirm such an analysis. Nevertheless, the fact that the respondents

have a clear idea of innovation, and that they claim that such innovation takes place in their organisations is significant. First of all it indicates that such learning and behavioural change takes place in this part of society. Secondly it demonstrates that managers and employees think about such processes and what one can do to make them more efficient.

The following recommendations to innovators are taken from the interviews. They are listed in descending order - from the most frequent to the least:

1. One should develop quality leadership that creates the right climate for change (Sweden), “walk the talk” (the Netherlands) and institute “cultural change” (UK, Slovenia, Israel, Norway).
2. Managers should involve employees and get their support and commitment (Sweden, Ireland, the Netherlands, UK), encourage personnel to take initiatives (Sweden), make people feel “it’s their project” (the Netherlands), provide feedback (Ireland), “buy in” a full range of stakeholders for commitment (Ireland) and encourage cultural change (UK).
3. One should develop inter and intra- organizational networking, coordination and cooperation at all levels (Lithuania, Norway, Spain, Israel).
4. Public sector organisations should plan ahead, assess the situation and evaluate (Lithuania, Israel, UK) while remembering the goal of improving

the provision of services (Lithuania, the Netherlands); “Innovation must be based on evidence...” (a) “studying future demands”, and (b) “developing creative



service/delivery solutions could yield substantial savings in the mid to longer-term.” (UK)

5. One should be open and creative, think “outside of the box”, listen to new people, use research, admit mistakes, and take risks (Ireland, Lithuania, Israel, UK).

One general recommendation found in the interviews was that managers must take all aspects and consequences of innovation into consideration when they plan an innovation, and never “rest on their laurels”.

Results from the Publin surveys

Work Package 3 of the Publin project also two surveys, to help the researchers get a better understanding of innovation practices that are underused today, and that may be used to encourage greater collaboration between the government and its operative-administrative branches, its citizens, and the business and private sectors.

Publin distributed two questionnaires, one to managers and employees in public sector organizations and one to so-called “end users”.

The “end users” were represented by members of organizations representing the interests of end users vis-à-vis public authorities (mostly NGOs), as it was felt that these persons would have a better knowledge of how public organizations are functioning.

In the Publin survey report (Report D17, *Report on the Publin surveys*) Eran Vigoda-Gadot, Aviv Shoham, Ayalla Ruvio and Nitza Schwabsky point out that organizations in which innovativeness is valued are more likely to implement or adopt innovations. Based on existing literature, they identify five components of innovativeness that have been incorporated into the theoretical model. This model also included antecedents of innovativeness and expected outcomes of organizational innovativeness.

The theoretical model underlying the Publin survey research project includes the following antecedents of innovativeness:

- Market Orientation (including Information Generation, Information Dissemination, and Responsiveness)
- Team Spirit
- Internal Politics
- Connectedness
- Centralization

These constructs were expected to impact Organization Innovativeness, conceptualized as a five-component construct that includes

- Openness,
- Risk Taking,
- Future Orientation,

- Creativity, and
- Pro-activeness.

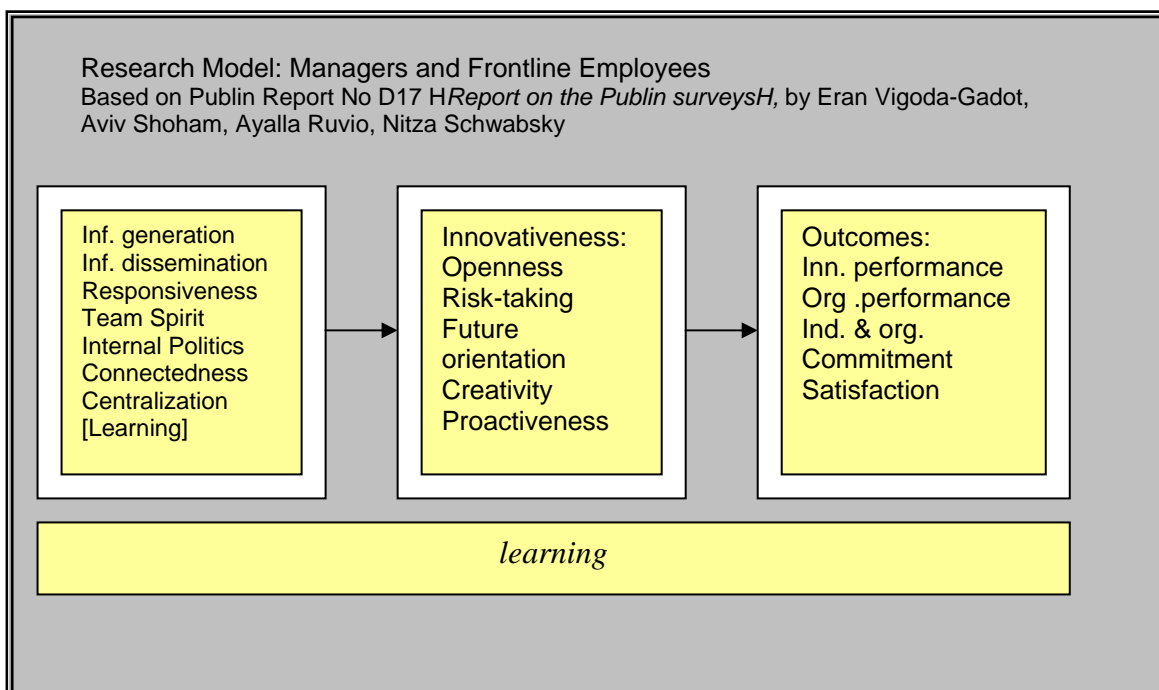
The Publin researchers distinguished between two types of outcomes of innovativeness – an individual level of outcomes and an organizational level of outcomes.

At the individual, behavioural level, Organization Innovativeness was expected to have an impact on

- Commitment and
- Work Satisfaction.

At the organizational level, they expected Innovativeness to have an impact on

- Innovation Performance (benchmarked against Plans, Leaders’ Expectations, and Users’ Expectations),
- Organizational Performance (benchmarked against Plans, Leaders’ Expectations, and Users’ Expectations), and
- Organizational Learning (a six-dimensional concept).



The data from the manager’s survey (i.e. responses to the questionnaire distributed among public sector employees) provided strong support for the theoretical model, both when assessed at the combined (multi-sample) level, as well as when assessed for each country separately (with a few minor exceptions and differences).

Specifically, most of the antecedents of innovativeness, in isolation, had correlations with the five components of innovativeness. Similarly, the five dimensions of innovativeness affected all outcome variables.

The end-users model was developed to explain public sector performance using a series of attitudinal and perceptual variables representing users' views of public sector innovation. The researchers expected the perception of the public sector as innovative to lead to higher levels of trust in public sector organizations and increased satisfaction from such organizations among citizens. Satisfaction from public institutions, a positive image of public service organizations, and trust in them are all vital in a democratic society (Chanley, Rudolph & Rahn, 2000).

Antecedents to perceived innovativeness of the public sector included

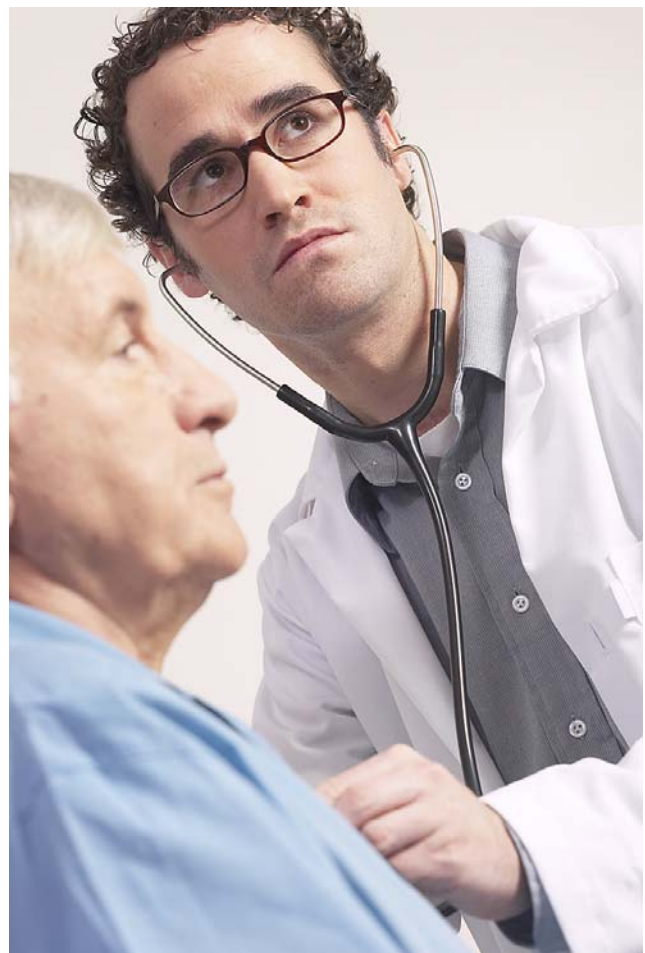
- Connectedness,
- Employees' Professionalism,
- Ethics and Morality,
- Internal Politics,
- Promoters of Innovation,
- Public Sector Leadership/Vision, and
- Responsiveness.

A key point to note is that the data in this area reflected the perceptions of the participants. A two-dimensional approach was used to measure innovativeness (Innovation and Innovativeness). The three outcomes (referred to as consequences in the results) were:

- Image,
- Satisfaction with Provided Services, and
- Trust in Institutions.

Findings indicated that end-users *do not* consider the public sector highly innovative. Relationships within this second study (end-users) were for the most part weaker than for the first study (managerial/frontline employees). It should be noted, however, that this was not true for all the variables and that in some of the countries, moderate to strong relationships were found in certain cases.

According to the survey report, there are numerous practical implications arising from the two studies. First and foremost, given its positive and strong impact on Organizational and Innovativeness Performance, public sector organizations should encourage and build



organization-level Innovativeness.

Although all components of Innovativeness contributed to Performance and should be emphasized to some extent, some components of innovativeness are more crucial than others and deserve special attention from top management. However, given limited resources, of the five, Creativity should be singled out, as it seems to have the strongest impact on measures of Performance. In contrast, Risk-Taking can be de-emphasized, as it had the weakest impact on Performance.

Since Innovativeness contributed to Performance, how can we encourage it in public sector organizations? Both Internal Politics and, to a lesser extent, Centralization reduce organizational innovativeness, according to this study. Thus, both should be managed to reduce their pervasiveness in organizations seeking to increase their Innovativeness. Market Orientation (Information Generation, Information Dissemination, and Responsiveness), Team Spirit, and Connectedness all seem to contribute to Organizational Innovativeness. Consequently, public sector organizations should consider ways to enhance these antecedents.

These general recommendations based on the Publin surveys are, as one can see, very similar to the lessons learned from the Publin case studies (p. 39).

Policy recommendations

Based on the research and the discussions in the Publin consortium, the following tentative policy recommendations are made. It should be remembered that it is impossible to develop objective, totally independent, science based policy recommendations, as such recommendations must always be made on the basis of the experience and competences of the people giving them. This experience and these competences will always be limited in one way or the other. Hence policy making will always be to make decisions based on insufficient data, which just underlines the need for continuous learning.

Yes, there is need for more research (which is what researchers are obliged to say), but there is also need for more reciprocal learning between policy makers and between policy makers and researchers. What we have learned from Publin is that it is among the civil servants and the policy makers we find the true experts on public sector innovation, not among researchers.

Capacity for innovation

One of the most important conclusions to draw from the Publin research is that public institutions and public employees do innovate. Whether they innovate less or more than do the private sector is hard to say, but they do develop “new ways of doing things” and they do adapt technologies and competences developed elsewhere. It is also clear that learning is essential for this capacity to innovate.

Furthermore, in general the level of education found among civil servants is not lower than the one found in the private sectors (in some countries it’s higher). Education is in itself no guarantee for innovative abilities, but a longer education *may* enlarge the “life world” or the frame of reference of the individual, making

it more likely that he or she is able to think outside the box or know where to find the relevant information and expertise needed to solve specific problems.

Moreover, in the present debate it is easily forgotten that the public sector contributes with innovation that is of use for companies and the civil society. This is obvious when we think of universities and other public research institutions, but also applies to activities taking place within institutions for defence, security, health, transport and so on.

At the moment neither policy makers nor researchers know much about the effect such innovation has on the economy or the innovative capabilities of society as a whole. However, the possibility of this effect alone should make people hesitate before costs related to learning in the public sector are reduced to “expenses”, and are not considered as “investments” as well.

Learning and networking

There is a need to develop in house competences needed to find, understand and make use of competences and technologies developed elsewhere

Organizations should realize the need for developing conscious strategies for organisational learning. Learning is too important to be left to the individual employee alone. This means, for instance, that there should be plans for lifelong learning, including courses, conference participation, the acquisition of reading material, networking with other public institutions, firms, NGOs etc.

One may also develop strategies for hiring people with the needed competences and networks, including professional managers.

Public institutions will normally benefit from developing inter- and intra-organizational networking, coordination and cooperation at all levels.

They should encourage a high degree of reflexivity. Employees should discuss the overall objectives of their activities, i.e. objectives for welfare and the quality of life of citizens, and try to think outside the box that is their own unit or institution. Only in this perspective is it possible to judge the effects of changes in one part in the public sector for another. Moreover, keeping these overreaching objectives in mind may make it easier to cooperate with other institutions.

Managers must combat silo mentalities and turf wars based on prejudices. This can for instance be done by encouraging staff mobility between institutions and units in order to avoid the tendency of managers hiring “clones” of themselves (i.e. people having the same educational background, experience and beliefs). Not all Ministry of Industry civil servants need to be economists.



Entrepreneurship

The Publin respondents repeatedly come back to the need for public sector champions or entrepreneurs, i.e. persons with the competences and the personalities needed to implement change.

Managers should encourage entrepreneurs with sufficient vision and determination to push innovation processes through, for instance by giving them funding, responsibility and sufficient leeway.

Public employers should also take this perspective into consideration when hiring regular employees as well as managers. One way of stimulating change is to avoid hiring “clones” of the present staff.

It is, of course, hard to give general recommendation regarding entrepreneurship among politicians, as they are selected and elected by their parties and the electorate. They are not selected on the basis of public policies. Nevertheless, there is one important lesson to be learned from Publin for visionary and entrepreneurial politicians. A little knowledge of the social and cultural basis underpinning the civil service and the surrounding stakeholder organisations – including the rules of the game – may get you a long way into turning this sector into an efficient tool for your reforms.

It also helps to know who are the most likely entrepreneurs among the senior civil servants and who are most likely to set up barriers against innovation (the “Sir Humphreys”). If the political entrepreneurial activity turns out to be successful, the result is often seen in the form of political plans. A lack of detail in such plans is often beneficial, as it gives civil servants and employees further down in the hierarchy more leeway, ownership and hence a stronger motivation for getting emotionally involved.

Combating institutional lock-in

To avoid mental and historical lock-ins one must develop quality leadership that creates the right climate for change. This may, for instance entail creating and encouraging “agents of change” to overcome potential resistance from the staff. These should preferably be existing employees with high credibility among staff members, as this may give the existing employees a feeling of ownership towards the innovation at hand. However, it may also be useful to hire creative entrepreneurs and managers capable of thinking outside the box.

On the policy level policy makers should reach for a good balance between “competent bureaucrats” and “creative policy entrepreneurs”, as any well functioning organisation will need both types of personalities. Moreover, policy makers – being they politicians or civil servants – should engage stakeholders and NGOs, as their input, corrections and support may help a reform succeed.

Sometimes strong resistance at the service level may make a top down push necessary. Reorganization and reform may weaken the innovative capabilities of institutions, as existing competence networks are lost. On the other hand, sometimes a reorganisation is exactly what the doctor orders against lock-in and stagnancy.

In general giving public institutions more freedom and responsibility as regards the use of their own resources will help, as they can become more responsive to local conditions and needs. With greater freedom come greater responsibility and a need to control that the funding is used according to the objectives. This means that there is a need for evaluation and measures. In this context it is important to avoid incentives structures that lead the institutions to focus on the indicators, rather than the overall objective of helping the end users. In other words: if one wants to give public institutions more leeway, one cannot take that freedom away again by implementing a too rigid system of indicators and financial rewards.

Convince the stakeholders!

The Publin interviewees recommend that public employees should be open and creative, that they should think “outside of the box”, listen to new people, use research, admit mistakes, and take risks. However, this is easier said than done.

It seems from the Publin research that one of the main strategies for overcoming risk aversion is to convince the stakeholders, and engage them in consultative and participatory processes. In many of the case studies, a range of stakeholders had to be convinced of the utility of the proposed innovations and resistance had to be overcome.

It also helps to demonstrate the utility of implemented innovations, for instance through pilot projects and by referring to “good practice” from other organizations or countries.

Many people are conservative by nature and change may seem threatening. It may help to present innovation as a natural continuation of current practices, again giving employees a feeling of ownership towards the new practices.

Still, enthusiastic reformers should also keep in mind that risk aversion can be based on perfectly sensible reasons. The employees may be right. This innovation or this reform may actually undermine the institution's capability of performing its given objectives. To give an example: a new, not thoroughly tested medicine or technology may actually be life threatening to the clients or the patients. This only underlines how important it is to develop efficient evaluation practices involving all stakeholders.

As regards the unclear outcomes, it is important that both policy makers, professionals and the public understand that there is risk involved in most types of innovation. Doing things in a new way is entering into unknown territory, and you may fail. But it is often equally risky not to do something about it. After all, the world around us is constantly changing, leaving us facing new challenges requiring new methods and new technologies. Reforms fail, but hopefully you learn from them.

It is therefore important that policy makers and managers clearly communicate the fact that some types of failure have to be accepted, and that there is a difference between mismanagement and the will to take sensible risks. Above all, one should avoid a blame culture, where the fact that one has not reached the stated objectives is used in various power struggles.

Again, one may reduce risk by making use of phased pilots accompanied by evaluations and by establishing strong feedback practices and strong consultative arrangements. Moreover, one may develop contingency plans, taking possible failures into considerations.

One should also keep in mind that failure in reaching the stated objectives does not necessarily mean that the implementation of an innovation has been without merit. There is learning involved and new practices may have led to other benefits not foreseen. These perspectives must also be part of any evaluation.

Professional and public resistance

The best way of overcoming professional and public resistance seems to be to involve the professional groups and organisations actively. And again, it helps to demonstrate the benefits of an innovation by presenting "good practice" from other institutions, regions or countries or by running a pilot scheme.

Consumer or user empowerment may be another way to go, allowing them to choose service providers and thus encouraging more flexibility on the professional side.

Sometimes entrepreneurs just have to fight for it. In that case it helps getting allies higher up in the public hierarchy.

By involving professional groups and NGOs, policy makers may also win the PR game, and thus convince the public at large of the benefits of an innovation. It is, of course, also possible to implement information campaigns.

Pace and scale of change

Many public administrations, for a variety of political and policy reasons (such as the introduction of New Public Management approaches), have over recent years been subject to a large number of often radical changes, and the systems becomes “innovation-fatigued”.

In this respect managers and policy makers will have to make use of their common sense and consider the pros and cons of the implementation of change very carefully. One should at least avoid “innovations for the sake of innovation” or for pure political window dressing. Sometimes new practices are not based on a thorough analysis of needs and possibilities, but plainly on the policy makers need to be seen as someone that is “doing something about the problem”.

Publin respondents recommend that managers and policy makers involve employees and get their support and commitment, encourage personnel to take initiative, make people feel “it’s their project”, provide feedback, and “buy in” a full range of stakeholders for commitment and cultural change.

New Public Management

A significant body of literature exists on NPM. Discussions concerning NPM are typified by some or all of the following characteristics:

“Private sector styles of management principles: a move away from bureaucracy-style to greater flexibility and new techniques.

Competition in public sector: rivalry is the key to lower costs and better standards. Use of public tendering procedures and term contracts.

Disaggregate units: break up formerly monolithic units and create manageable units where production and provision interests are separated. Efficiency advantages of use of contract or franchise arrangements inside and outside the public sector.

Hands-on professional management: active, visible, discretionary control of organizations from named persons at the top. Accountability requires clear assignment of responsibility for action, not diffusion of power.

Explicit standards and measures of performance: definition of goals, targets and indicators of success, preferably expressed in quantitative terms. Accountability requires clear statement of goals, efficiency requires “hard look” at objectives.

Output controls: need to stress results rather than procedures. Break-up of centralized bureaucracy-wide personnel management, resource allocation and rewards linked to measured performance.

Discipline and parsimony: need to check resource demands of public sector and do more with less. Cutting direct costs, raising labour discipline, resting union demands.”

Taken from Hood, 1991.

Resources

We have learned from innovation in the health sector that there will never be “enough” resources in a sector a whole. New medical breakthroughs in this area may lead to treatments that are more expensive and that lead to people living longer, meaning that they will require even more care than before. Given that the welfare of our citizens is the overall objective, rather than economic efficiency; this is something we have to live with.

This means that policy makers, in the same way as doctors, will have to make some hard choices as regards when and where to put in the resources. It is impossible to give general advice as to how to do this. Again any such decisions must be based on common sense and on evaluative processes involving experts and stakeholders.

It should be kept in mind, however, that investments in innovation at one time or in one part of the system may lead to savings later within the organization or elsewhere in society. E.g. improved health may lead to reduced absence from work. Hence one should not read “innovation” to mean “modernisation” or “increased efficiency” in one institution or in one part of the public sector only. This means that managers and policy makers must be able to think beyond their own part of the public budget or beyond this year’s budget. One way of doing this is to allow for long term budgeting (2 to 5 years) and to coordinate innovation efforts between ministries and organizations more efficiently.

However, one should also keep in mind the “Sir Humphrey effect”²⁵, i.e. the tendency of civil servants to measure their success through increases in their budgets. This may definitely lead to waste and misallocations of public funding. As has been seen in some of the Publin case studies budget reductions may lead to innovation and increased efficiency.

Technical barriers and drivers

Organisational learning is essential for overcoming technical barriers to innovation. Employees need to know enough about the technological possibilities and limits for innovation in their area of responsibility and they need to know the market, i.e. which firms can deliver the necessary technology at a high quality and a fair price.

Public institutions should network with research institutions and technology firms and employ people that can find, understand and make use of relevant technology. If the employees do not know this, they need to access to the necessary expertise, which again underlines the need for networks and collaboration.

²⁵ Sir Humphrey’s law is stated as follows in the BBC series “*Yes, Minister*”: “[T]o measure success in [...]the Civil Service [...], we measure success by the size of our staff and our budget. By definition a big department is more successful than a small one ... [T]his simple proposition is the basis of our whole system”.

Political push

Political push may be an important facilitator for innovation in the public sector. This applies to large reforms as well as goals reflected through the imposition of performance targets.

Policy makers and politicians must be aware of the need for new world views and concepts. Rhetoric can actually often be more than empty phrases, as it can contribute to the rallying of support for necessary changes. By changing common conceptions and “prejudices” politicians and public opinion makers can lay the ground for both economic and social reform. This proves again the importance of stakeholder involvement.

Innovation in the public sector may grow out of entrepreneurship “on the ground”. However, innovation may also be the result of political top-down initiatives, and sometimes that is exactly what is needed to overcome conservatism and risk aversion on the service level.

Support mechanisms for innovation

As mentioned above there is a need for structures and systems designed to promote, stimulate or disseminate innovation in the public sector and between the sectors.

In-house public institutions may make use of staff suggestion boxes, staff fora, stakeholder feedback mechanisms, networking activities, competence building, encouragement of alternative thinking, etc.

At the policy level there is a need for innovation schemes and instruments, research programmes, institutions for networking and knowledge absorption, new courses at schools and universities, and new public or private think tanks.

On the policy level one may establish innovation or modernisation agencies – or even ministries of public renewal. Not only can such organizations help develop strategies for public innovation. They also make people aware of the need for such innovation through their sheer existence.

Policy makers may also establish policy measures for learning and innovation in the public sector, including measures stimulating collaboration and competence diffusion as well as more traditional research programmes. There already exist different types of public programmes for learning and innovation in the private sector, all over Europe, and policy makers may adopt some of these models for innovation in the public sector. Furthermore, given that public innovation often is based on cooperation between public, private and civil institutions, policy instruments that support such collaboration may benefit public innovation greatly.

Different types of instruments for innovation in the public sector

- Traditional research programs, i.e. university, institute or company based research focusing on solving a problem facing public sector institutions (e.g. the cure for cancer or new administrative systems)
- Research programmes encouraging interaction between public organisations and public and private institutions for research. Hence: public institutions may be given additional funding for developing relevant competence clusters by commissioning technology development, research and analysis from other parties. Such activities can also include increasing opportunities for benchmarking and for the dissemination of experiences.
- Social research programs for mapping and analysing innovation processes in the public sector to give input to the knowledge base for public sector innovation policies.
- Public procurement, i.e. strategies for buying technologies and services from the private and third sectors institutions that can be used in the public sector. Note that such programmes may equally well be used to encourage innovation in the private sector.
- Programmes for increasing the absorptive capacity of public institutions. Such programmes may include funding of courses, conference participation, network building, the development of strategies for learning and innovation, organisational learning and change, sabbaticals, guest workers from other public institutions or research organisations.
- Programmes to stimulate interaction and cooperation between public institutions, firms and non-governmental organisations.
- Programmes for international learning and innovation for the public sector (cp. the ERANET and INNONET initiatives within the EU framework).
- The establishment of forums for policy learning in the area of public innovation. These may be established on the political level, with a membership consisting of ministers, vice ministers and political advisors. In addition policy experts and stakeholders may be invited. Similar forums may be established for civil servants.

Similarly, the establishment of fora for innovation in the public sector for civil servants, relevant companies and NGOs may contribute to the development of more broad based policies of innovation in the public sector. This can be done on a sector by sector basis, but there is also need for more broad based policy strategies that take the need for interaction between different policy areas into consideration. Such a broad based policy for public innovation should be seen in relation with the current efforts of developing so-called third generation systemic innovation policies in Europe, i.e. innovation policy strategies that bring in all ministries and agencies that directly or indirectly influence the innovative capabilities of firms or organizations.

Competitive drivers

Yes, it is possible to use indicators as competitive drivers. However, it is important to remember that the overall goal is not to reduce the number of nights spent in a hospital, but to bring the patients back to normal and improve their quality of life. Hence, institutions must not be measured through the use of quantitative evaluation alone. If you reward a university for the number of papers published in A journals, papers is what you will get and not necessarily more research of relevance to public needs.



This means that one should avoid New Public Management schemes in their more extreme forms. They have a tendency to focus too much on a set of indicators developed for the needs of present day society and do not give enough room for public organizations to change or meet the unexpected.

The Publin coordinator for the Manchester Metropolitan University, Paul Windrum, has argued

that “lean and mean organizations” have no incentive or resources for innovation.²⁶ If the main focus is on savings and reaching fixed quantitative goals there is a risk that the institution will end up in a lock-in to suboptimal solutions with no innovation and experimentation at local level, beyond the change of behaviour needed to reach those particular objectives.

One should definitely avoid incentive structures that do not reward idealistic commitment to the welfare of the clients. At a presentation at the Publin/University College Cork conference in Cork²⁷ the Irish Publin coordinator Séamus Ó Tuama underlined the importance of real human values in a public innovation policy:

The greatest innovatory task in public policy is to define innovation in terms of real human values, not just in an ever-rising menu of services. It is about engaging citizens in a meaningful process by which they can play a role in both society and state. (...) This is not about stripping citizens down to customers or even stakeholders. Innovation needs to be measured not just in terms of a binary code of delivery and value for money, but also in the very old fashioned notions of Bentham and Marx [i.e. that government is essentially about the good life]. It is not just about questionnaires and quality reviews. It requires a deeper qualitative analysis and openness to spontaneous concern and genuine needs of citizens. A critical aspect of this is respect for individuals, even prior to their citizenships.

²⁶ Presentation at the Publin Brussels workshop December 2006

[Hhttp://www.step.no/publin/workshop.html](http://www.step.no/publin/workshop.html)H

²⁷ [Hhttp://www.ucc.ie/academic/govern/publin/Program.html](http://www.ucc.ie/academic/govern/publin/Program.html)H

Again it is important to keep the overall objective of public innovation in mind. This is increased welfare and quality of life of the citizens. Innovation, savings and increased efficiency are instruments used to reach this objective, not important goals in themselves.

NGOs and private companies generate innovation

It is important to encourage pluralism as regards different approaches to improving service provision to client groups and in terms of allowing many different service providing organizations (NGOs, stakeholders' associations, etc.), as they may generate different models and different experiences.

Even if the public sector remains in control of public services, the Publin research shows that such pluralism is of use, also for publicly owned institutions, as they may be inspired by and adapt innovations developed by others. Hence public institutions should involve NGOs and private companies in public innovation processes, study their innovative practices and adapt the best and most relevant of them when relevant.

The public sector may also outsource services to NGOs and private companies when relevant, without making a religion of the idea that private companies always are more efficient and innovative. They are often not. In some areas there are democratic, cultural and economic reasons for keeping activities on public hands (for instance as regards defence, equal access to education etc.). Moreover, in some areas privatization may lead to private monopolies, which are not necessarily better than public ones. Privatization may lead to underinvestment in shared infrastructure. One should also take national, cultural and social variation into consideration. There is no best practice, only good practice!

The idea of giving public institutions more freedom to act on their own, and thus become more like private companies has some merit. By giving managers of public institutions more freedom and responsibility they may be able to implement reforms and organisational changes that would otherwise have been impossible. By doing this one may also avoid detailed top-down governance that stifles innovation and entrepreneurship. However, for this to work it is important that this increased freedom is not undermined by too rigid control regimes and incentive structures for funding.

It is also important to keep in mind that there are reasons for public institutions being public and not private. One might discuss what services should be left to the private sector and what services should be provided by public institutions, and there are indeed great differences between European countries as regards the division of labour in this area. Still, if there are legitimate welfare reasons for keeping some services in public hands, in order to – for instance – secure social security, equality and justice, then the unique nature of these institutions should be kept in mind.

To give one example: If a public institutions has monopoly on providing services in one area, then the regular incentive structures used in the private sector – i.e. competition – will not work. There will be no competition, and other ways of encouraging innovation will have to be found. Nor does it necessarily help to

relabel the users of these services “customers” and give them more power over the selection of services.

As Paul Windrum and Pascale de Berranger point out in the Publin case study of patient-oriented education systems for diabetes in the UK²⁸ decisions between which brand of cornflakes to purchase, and the long-term impact of such decisions, are very different to the lifestyle changes required in order for patients to improve their diabetes health:

The scale of commitment required by the user is also vastly different. It is far harder to become an empowered, independent learner and to fundamentally change one’s lifestyle than it is to go out and purchase a packet of cornflakes, or a new car, or a package summer holiday. Herein lies a major conundrum for those pushing patient-orientated diabetes education. Diabetes sufferers are one of the hardest audiences to change. They tend to be older people, and their condition is linked to a history of poor diet and exercise. It is these bad habits which need to be broken. Yet they are of an age where it is very difficult to learn new tricks. Are they now suddenly going to change? Like smokers, they diabetes 2 sufferers know their behaviour is bad for their health. But they may be extremely loathe to change their existing lifestyle, and the difficulties faced in doing so (even if committed) are enormous.

The attempt to use consumer rhetoric, while simultaneously seeking to shift the onus of responsibility from the provider to the client, is fraught with its own dangers. Diabetes patients could turn around and, using the consumer analogy, suggest that the responsibility is on the NHS to ‘make them well’. After all, enormous sums of money, raised through their taxes, are paid into the NHS. In return, they could argue, they expect a high quality service from someone else. In other words, the consumer analogy can be used to shift responsibility back to the provider.

The point here is not to say that the empowerment of users will not and cannot work. Linking funding of a public institutions to user satisfaction by for instance giving those public universities that attract more students more money, may lead to positive innovation. The universities may for example increase their efforts towards providing better student support and educational facilities. The point here is rather to point out that innovation and better service provision will not follow *automatically* from increased competition and a consumer oriented model. There is no magic bullet, and each policy strategy will have to be based on an evaluation of the nature and needs of each particular part of the public sector.

Policy learning

There is a tendency among some policy makers responsible for innovation, research and knowledge policies to neglect their own learning and innovation activities. Although they do actively learn by their day-to-day activities, there is often a lack of strategies for learning and innovation in directorates and ministries.

²⁸ Publin report D 12-2.

Policy institutions should make active use of workshops, sabbaticals, courses and other forms of training. There should be exchanges of employees for limited periods of time, so that policy makers (including both civil servants and politicians) may learn to know other institutions and their cultures more intimately. Furthermore, there should be implemented more radical recruitment policies, in order to avoid the clone problem (leaders employing people sharing their same belief system or educational background only) and in order to get a more even distribution as regards age, gender and educational background.

Institutions should consider making policy learning an obligatory part of work descriptions and employment contracts, and institutions should identify the resources that are to be allotted to such learning.

Both informal networks and high level forums lead to learning and cooperation. However, informal networks are often vulnerable (linked to a few persons only) and high level forums often lack the time needed for more in depth learning processes. One way of improving such communication is to establish ad hoc or permanent medium to low level working groups given concrete tasks of producing policy analysis and recommendations.

Institutions should make active use of international organisations like the EU, OECD and the UN as learning arenas. Moreover, senior managers should invite junior civil servants along on some meetings and conferences, giving them access to the same networks.

Innovation policy organisations making use of institutions for policy research and analysis should require unbiased and critical recommendations. However, research institutions and consultancies should not be understood as “report factories” that produce policy advice on a totally independent and objective basis. Such researchers and analysts cannot develop a proper understanding of policy development without a close interaction with policy makers. Policy makers are experts in their own fields, and researchers will have to learn from them.

The role of the European Union

The EU seems to play a very important role as a facilitator for innovation, especially on the policy level and as regards large scale political reform. This applies in particular to the ex-communist countries, but has also an effect on the old member countries. If European countries are to develop more broad based, “third generation”, innovation policies as mentioned above, there will be a need for a closer European cooperation in this area. This means also a more active role of the Commission.

At the moment much of the “European innovation policy” in this area is focused on science and technology in the narrow sense and not on innovation in the broad sense as defined in Publin. Moreover, there is a tendency to reduce innovation to “modernization”, meaning “doing the same for less.” The Commission should consider developing a broad based innovation policy for the public sector, maybe starting with establishing learning and mapping networks for public innovation in

general (in addition to the present sector oriented initiatives). Models for such exercises already exists, for instance in the form of the EU Trend Chart on Innovation for innovation for the private sector.

The development of macro indicators for innovation and productivity in the public sector

The Commission has also an important role to play in the development of macro indicators, through Eurostat and in collaboration with the OECD:

Publin has revealed a serious lack of innovation and productivity measurements for the public sector. While we do have some ways of measuring innovation in the private sector, for instance through the Community Innovation Survey, there are no similar and systematic programmes for measuring innovation in public institutions. Hence it is very hard to get a grip on the scope of public innovation, and let alone compare it to innovation in the private sector.

As Johan Hauknes points out in “Productivity measurement in education, social services and public management”, an appendix to this report (p. 65), it is also very hard to measure the *productivity* of the public sector, even with the use of National Accounts. There are three categories of problems:

- The measurement of volume of output, which is particularly a problem for services.
- The valuation of output, i.e. the generation of relevant price indices. Non-market transactions, and particularly transactions within public systems, are a key problem.
- The treatment of heterogeneity at the detailed level, in particular where the heterogeneity changes rapidly over time.



The commonly heard argument – generally based on National Accounts data – is that the productivity levels of public organisations operating in non-market environments are lower than comparable market-based systems of provision. The problem is that this argument is invariably based on the use of national, imputed data where the productivity measurement is based on estimates, not real measurements. The traditional approach is to use input factors as a proxy for input.

We do not know whether the public sector is more or less innovative and productive than the private. Moreover, we do not know whether the welfare systems developed over the last century are too large to be sustainable. If we are to answer that

question, we are essentially left with several questions:

- All else equal, are there differences in the level of productivity of market-based and non-market based production?
- Similarly, what are the differences in the potential for productivity improvements in these two contexts?
- What is the impact of public innovation on innovation and productivity in the rest of society, the private sector included?

In facing these and related problems we see five key challenges that face the promotion of pertinent frameworks conducive to relevant analysis of the organization, performance and effects of public services and other activities within the public sphere of our economies:

- Development of extensive and appropriate measures of innovation activities, performance and characteristics at the micro-level is essential. A key part of this is the development of suitable collection methodologies. An apt framework for this would be to see this in the context of the OECD/EUROSTAT Oslo Manual, recently released in its third revision.
- Documentation of present ESA²⁹ methodologies for estimating production in public sectors and the underlying data sources. Policy analysis must consider explicitly the impact of these methodologies on the content and conclusions of specific analyses.
- A further development of supplementary or alternative methodologies on valuation and volume oriented output measures should be developed.
- The combination of flexible and well-documented sectoral performance measures, i.a. within the National accounts-framework, and the development of appropriate activity and performance statistics is paramount to understand the impacts of and social returns to micro-level innovation activities and initiatives.
- The combination of micro-level activity data, standardized aggregate performance data and measures of innovation activities is required to analyse the relative importance and complementarities of structural reforms of public activities, micro-level adaptation to these and independently initiated processes of micro-based innovation.

²⁹ ESA European System of Accounts
<http://forum.europa.eu.int/irc/dsis/nfaccount/info/data/esa95/en/een00000.htm>

Appendix: Productivity measurements in education, social services and public management

By Johan Hauknes

Comparing productivity using National Accounts

Analysis of productivity developments is an essential tool for understanding the contribution of any socio-economic activity to our economies' overall economic performance. This applies as well to market-based, as to non-market provision of economic goods, to public as well as privately organized supply.



The importance of measures of economic performance – based on National Accounts systems, in particular product measures as domestic or national products, the derived income measures and their components – in socio-economic analysis and debates can only be grasped with the understanding that GDP (Gross Domestic Product), NNI (Net National Income), etc. are seen as high quality measures of key aspects of the performance and income generation process (and hence of economic welfare distribution) of our economies.

Utilizing the National Accounts framework (ESA 95 and SNA 93 give detailed documentation of the present standard for the construction and structure of National Accounts), furthermore ensures the use of data based on well-structured recommendations and standards to allow the best possible trans-national and trans-sectoral comparisons.

At the component level these measures allow us to analyze the differential contributions of various sectors to the process generally known as economic growth. This process reflects ongoing changes in the allocation of economic resources across industrial, production sectors – such as the reallocation of

economic activity from manufacturing to services during the last decades – as well as across institutional sectors – from government or municipal non-market provision to private, for profit market supply or provision by PNP³⁰ organizations.

Broadly speaking production sectors describe the activities of the agents in the sector, while institutional sectors provide information on some gross governance features. As the National Accounts (NA) in principle provide monetary data for inputs and outputs, the framework allows us to calculate productivity growth of any sector of the economy, with required corrections for any changes in the structure of both outputs and inputs.

Furthermore, with this, we may compare productivity performance between institutional and industrial sectors. NA-data are alone in providing the opportunity to compare between the performance of private, for-profit actors and provision through government organizations in production sector where both are active.

National accounts and measurability of production

The data requirements to make this program of analysis economically meaningful are large. For many sectors where the fulfilment of these requirements is difficult, if not outright impossible, statistical agencies have jointly and individually developed various estimation and imputing methods to allow for the construction of logically consistent national accounts.

However, this implies that for a number of sectors the published data for economic production and consumption have only a weak link to economic reality, particularly when it comes to detailed productivity analysis.

The main problems in fulfilling these data needs fall in three overlapping categories:

- The measurement of volume of output, which is particularly a problem for a range of service markets.
- The valuation of output, i.e. the generation of relevant price indices. Non-market transactions, and in particular transactions within public systems, is a key problem.
- The treatment of heterogeneity at the detailed level, in particular where the heterogeneity changes rapidly over time.

National Accounts data are often used as background for policy-related assessments of the potential for improving overall productivity performance. A particular area of interest here is the potential for improving productivity performance by changing the supply mechanism of key services from public, non-

³⁰ PNP = Private, Non-Profit, often described as the “third sector”, grouping together voluntary organizations, foundations etc. operating as private, viz. non-public, actors not having a profit-motive with their activities in the supply of services. Their operation may be organized within or outside a market framework. An example of a PNP organization operating within a market framework would be winning the contract to run a home for elderly people on a competitive bid. In National Accounts terminology the group of institutions are denoted as NPISH’s – non-profit institutions serving households.

market provision – as public health services – to market-based competition between private suppliers.

The commonly heard argument – generally based on National Accounts data – is that the productivity levels of public organizations operating in non-market environments are lower than comparable market-based systems of provision. And if this cannot be upheld, a market framework generates productivity-enhancing innovations, a generation that is not, or only weakly present, in public hierarchies³¹.

Both of these arguments cannot generally be upheld, invariably they are based on the use of national, imputed data where estimated data has exactly been added to compensate for the lack of real socio-economic data. In the end productivity analysis may end up being an analysis of the statistical estimation algorithms, or in the worst case, a comparison of these for some sectors with better grounded statistics for other, more “measurable” sectors.

In public debates a commonly heard argument is that the size of public sectors of European welfare states implies a severe drag on the productive potential of these economies. Furthermore, the allocation of large economic resources to public production directs these resources away from productive use and utilizes them instead in un-productive contexts.

A key premise behind the construction of national accounts data – as well as a key insight from economic theory – is that there are no *a priori* analytical grounds for preferring a market context to public provision. A Euro of value added (in several language contexts the concepts are captured by the rewording as “value” or “wealth” creation) in a market context is indistinguishable from a Euro added in a non-market context.

As noted above the confusion is often stretched even further to distinguish market based private industrial supply as “productive” (i.e. wealth producing) and non-market provision as “un-productive” (not producing “wealth”). In no way can such views be defended. Basically such arguments have their basis in a defunct economic theory of “wealth creation” – built into European economic theory by Adam Smith – that lost its relevance more than a century ago.

Underlying these arguments are concerns of whether the public sectors in general and the welfare systems developed over the last century in the European economies are too large to be sustainable. This is not the place to discuss this huge issue, but we note that from the productivity perspective logically we are essentially left with two simple questions:

- All else equal, are there differences in the level of productivity of market-based and non-market based production?

³¹ As the PUBLIN project has fully shown, innovation is a general feature also in public organizations. As to the productivity-enhancing effect of innovation in market contexts, this is false as a general statement. Socio-economic productivity enhancements are potential, aggregate effects of the total portfolio of innovation. It is neither a characteristic of the individual innovations, nor a logical implication of the micro-level phenomenon of innovation.

- Similarly, if any, what are the differences in the potential for productivity improvements in these two contexts?

From this perspective, the relevant policy questions are simple and pragmatic. The obvious policy objective is to choose the organization and governance of the provision of relevant services in a way that is potentially most efficient over time. This programme must be modified on two accounts; (1) some public sectors are clearly not amenable to market-based supply – perhaps most prominently public administration – and (2) the two systems of provision may have different consequences in terms of distribution – in particular attaining goals of universal distribution for key services (often denoted the universal service obligation)³².

Productivity in market and non-market sectors

Let us consider as an example where these data would have obvious policy relevance. In assessing the organization of supply of educational, health or other services, the key policy question is to organize the supply in a way that ensures the most efficient utilization of the economic resources, funded either through systems of public social security, through per service payments by the clients, or a combination of these. Ultimately considerations of the positive or negative welfare impacts of a transition between public provision and market-based supply of e.g. educational services should be grounded in some kind of long term productivity analysis.

Let us consider more closely what this implies. Economic productivity is basically defined as the ratio of the socio-economic, monetary value of all outputs provided and the similar value of the aggregate inputs used in generating these outputs:

$$\text{Productivity} = \frac{\text{Value of outputs}}{\text{Value of inputs}}$$

For this to be meaningful we have to have some comparative measure of the values of inputs and outputs. Let us make the simplifying assumption that inputs to the production in question are measured reasonably well. When these inputs mainly concern labour inputs and costs, investment and maintenance of buildings and other fixtures, and capital investments and intermediate consumption generally provided by private suppliers operating under some form of market competition, this is not the most restrictive assumption we can – or have to – make. In this the valuation may be usually be based on market prices for the relevant input categories³³. The first huge challenge we meet is thus to determine the value of outputs.

For the services in consideration here – as well as for a range of private services – this is a serious issue. For sectors that are difficult to measure in terms of volume of output – but where a monetary measure of total transactions are available – the

³² A realistic case would of course also have to consider (a) the costs of building up and maintaining an institutional framework for these systems of provision and (b) the socio-economic costs incurred in operating the two systems.

³³ There are some caveats to this, reflecting the question whether market prices are reasonable measures of socio-economic value of the products, but we need not consider these here.

traditional approach is to use input factors as a proxy for output. Typically in this respect is the use of labour inputs, implicitly assuming that output scales with the volume of labour inputs. Since we assume we may observe total transactions – and assuming that supply and demand balances, total transactions provide a measure for the value of outputs. Hence we may calculate the monetary productivity directly.

However, this measure is by itself of limited interest. In making comparisons of the same sector at different points in time, or in two different institutional contexts, we have to account for the fact that the differential are caused by two independent mechanisms. To see this, note that the value of outputs is basically defined as the product of the “physical” volume of services provided and the unit price of the basic service. Differences are generated in two ways; through changes in volume and through changes in price structures. In the sectors where “real” – or “technical” – output is unmeasured, the disentanglement of changes in price structures and volumes is the provided by calculating an index of “real” output by inputs – essentially assuming

$$\text{Volume of output} = k \cdot \text{Volume of Inputs}$$

The approach implies directly that the “technical” productivity is always set equal to the parameter k – and hence that the productivity is never changing. Every change in monetary productivity is ascribed to changes in the relevant price index by construction. In cases as this, this does not reflect any economic characteristics of the sector we consider, but simply reflects our choice of methodology to circumvent the output measurement problem in the sector in question.

The problem in sectors dominated by public provision is even more serious than this. Consider a sector that involves both private, for profit suppliers, public providers of services paid for by the clients³⁴ and public provision fully covered by public or social security transfers³⁵.

A strong assumption in many cases is to assume that the bundle of services provided across these supplier arrangements are qualitatively the same. A potential route in this case is to value output by the price (and demand) schedules facing the private suppliers – to use the “shadow prices” of the service bundles. In many European countries the share of production from these sub-sectors are small. This valuation implies an assumption that the price determination in a hypothetical market covering all production would essentially remain unaltered in a hypothetical situation with all production being market-based.

Alternatively, as is the case of most measurements of public production, outputs are estimated on the basis of total costs – or funding³⁶. Unless the estimation

³⁴ Or more generally providers of services where income has two components; clients’ per service payments and a public transfer or subsidy independent of the direct output.

³⁵ And thus essentially free for the consumer.

³⁶ For education, social services and the public service, a key data base of the NA data on production and gross products is the public expenditures – i.e. funding decisions – of governmental and municipal authorities for these services.

methodology explicitly integrates a time-dependent factor beyond the time evolution of input factors³⁷, such sectors will show no productivity enhancements.

In this case the problem will appear at the level of monetary productivity. Any changes in “technical” productivity will now reflect changes in the assumed ratio of output and input price indices – it will simply be the negative of the change in the assumed relative pricing of output and input. In particular if for simplicity we assume that labour is the only input, the relevant price structure for the input side is the relevant wage rate. If the price index for output is set to the consumer price index, the technical productivity growth of the sector will simply be the economy-wide change in purchasing power of the wage rate.

As noted above a further aspect aggravates these problems. The solution of the so-called index problem – the decomposition of monetary measures of output and input into price and volume changes, respectively – need to accommodate qualitative changes in the structure and characteristics of output. The approaches based on the methodologies outlined above essentially assume that qualitative changes do not happen, clearly a serious misrepresentation.

Productivity changes and the returns to innovation

For these and a series of other reasons, care should be used when comparing levels of productivity levels across sectors. Does this remain an issue if the focus is shifted from productivity *levels* to productivity *changes*? The relative importance of the various problematic factors may change, but, yes, as a whole the problems still remain.

Again, consider a simple example. The Publin project has demonstrated that at the micro-level innovation is ubiquitous also in public activities. The immediate question is then the same as is routinely posed for innovation in a market context. What is the impact on productivity performance and structural change of this innovation activity? Has it socio-economic beneficial effects in terms of improving the efficiency of the utilization of economic resources in the economy? Or to pose the same questions more directly: What are the socio-economic returns to this ubiquitous innovation activity?

The analytical notion is that the volume of innovation activity at an aggregate level should be related not to productivity levels, but to rates of change of these productivities. An increase in overall innovation activity would be expected to tend to increase the productivity *growth* rate.

Let us assume we had general innovation data for public sectors³⁸. We would then proceed to try to identify the sectoral impacts of these innovation data. In the extreme cases – which is in fact valid for several public activities – where outputs are estimated directly from inputs or costs of inputs, this immediately implies that the returns to innovation activity will either be zero, reflect the assumed valuation (assumptions on price) or simply reflect explicit time-dependent designs of the

³⁷ As is done in the case of certain market-based service sectors.

³⁸ For instance generated on the basis of an extended Oslo Manual, covering an extended concept of innovation – in both market and non-market sectors of the economy.

estimation methodologies. In sectors where output is partly measurable, partly immeasurable, sound innovation returns may appear to the extent they are reflected in the performance of the measurable part of the output. The parts of innovation impacts functionally affecting the immeasurable part of output would face the same problems.

Consider the example of hospitals. Health statistics provide a rich stratum of data on the performance of hospitals – on hospital beds, treatments, expected post-operative lifetime etc. The costs of running a hospital also include inputs to a large, immeasurable part of output, e.g. related to the interface between the patient and his or her family and the hospital organization. Innovation affecting hospital bed turnover, post-operative efficiency etc. may be readily captured, while innovation primarily affecting the quality of the patient-hospital will be difficult to account for.

Productivity improvements and structural change

Now these arguments suggest two further problems in estimating socio-economic returns to innovation activities. The first is related to the structural impact of innovation in any sector and the algorithms used to generate production data. Under the conditions considered here, this primarily relates to changes in the relative size of measurable and immeasurable functions and output. Secondly there is a well-established argument – known as the cost disease argument – by Baumol, developed the first time in 1967, and further developed in the later decades.

Depending on the methodology for estimation of the immeasurable part of output, a key ingredient in this is the assumption on the relative size of the measurable and immeasurable output.

It is easy to see that productivity changes have essentially two components for any sector. The first contribution is the productivity changes within all the different functions the sector comprises – hence, this is the contribution basically assuming the relative size of all functions to remain the same. The other contribution is coming from the changes in the relative size between the different functions. The latter contribution is thus basically reflecting structural change within the sector, treating the productivities of each individual function as constant. This immediately implies that in assessing returns to innovation the structural component will be entirely dependent on the algorithm chosen for estimating the relative size of the immeasurable output.

The basic point of the cost disease argument is simple. Assume we compare two sectors or activities with different potential for activity-specific productivity improvements. It may perhaps best be illustrated with the comparison of an activity A with a large potential for technology-based automation and a related labour-intensive activity B with strong dependence on the specificities of the individual interfaces between the provider and recipient of the associated services³⁹.

³⁹ In the service literatures such services are often described in terms of a “consumed while produced” characteristic.

As time goes by, the costs of generating a unit of output of activity B relative to the costs of generating a unit of output of A will escalate, in the end growing without bounds – output B will become relatively infinitely expensive to produce. In a hypothetical situation where there are reasonably well-behaved markets for both outputs and the allied price structure is used at any time as the basis for generating socio-economic accounts data, there will be an increasing indeterminacy of the size of B relative to A. More specifically, the relative sizes calculated in terms of output on the basis of *i*) price structures (“monetary size”) and *ii*) volume (“technical size”) will diverge. It is even easy to describe situations where relative “monetary” size increases, while the relative “technical” size decreases over time.

In the cases we consider here, there are seldom well-functioning markets for outputs A and B. The implications of the argument for welfare systems are nevertheless serious. Firstly it implies that to the extent that the welfare system includes both types of outputs, the cost component from activity B will increasingly dominate. Secondly, if the welfare system is relatively more dominated by B-type of activities than other parts of the economy, the monetary share of the welfare system in the overall economy will by necessity increase. Furthermore, to the extent that the decoupling of price and volume – i.e. the imposed solution of the index problem – does not capture fully the relative social valuation structures of the activities, the estimated technical share of the welfare system will also increase without bounds.

It is not difficult to see an immediate solution to remedying the cost disease problem. The solution incorporates in a direct way innovation, and furthermore, assuming the availability of activity data, generates positive productivity impacts. The solution is simply to either systematically reduce the volume of B-type of activities, or alternatively to reduce qualitative aspects – e.g by routinization or other means of decreasing the cost-driving “individualisation” or situation specificity, or by building cost-inducing barriers to the access of type B output. It is evident that institutional contexts where a cost-oriented focus is pre-eminent, whether through fiscal prudence or profit motives, will enhance incentives for such quality minimizing innovation activities.

However, as seen from this, a key ingredient of the identification of returns to innovation activities is the choice of valuation methodology. If the social “willingness to pay” for type B activities is sufficiently higher than the shadow price used for these estimations, the welfare impact (and the “real” productivity impact) will in fact be negative, in spite of the fact that the National Accounts based records suggests the opposite.

Some implications for the statistical basis of socio-economic innovation and productivity analysis

This situation is serious. It implies that in considering issues as diverse as reorganizing the governance structure of public services or estimating the social returns to innovation, a crucial analytical tool for preparing a sound understanding of the issue is denied us.

In facing these and related problems⁴⁰ we see five key challenges that face the promotion of pertinent frameworks conducive to relevant analysis of the organization, performance and effects of public services and other activities within the public sphere of our economies:

- Development of extensive and appropriate measures of innovation activities, performance and characteristics at the micro-level is essential. A key part of this is the development of suitable collection methodologies. An apt framework for this would be to see this in the context of the OECD/EUROSTAT Oslo Manual, recently released in its third revision.
- Documentation of present ESA methodologies for estimating production in public sectors and the underlying data sources. Policy analysis must consider explicitly the impact of these methodologies on the content and conclusions of specific analyses.
- A further development of supplementary or alternative methodologies on valuation and volume oriented output measures should be developed.
- The combination of flexible and well-documented sectoral performance measures, i.e. within the NA-framework, and the development of appropriate activity and performance statistics are paramount to understand the impacts of and social returns to micro-level innovation activities and initiatives.
- The combination of micro-level activity data, standardized aggregate performance data and measures of innovation activities is required to analyse the relative importance and complementarities of structural reforms of public activities, micro-level adaptation to these and independently initiated processes of micro-based innovation.

⁴⁰ A related problem not discussed here is the lack of sufficient activity and performance data at organizational level. An example of this kind of statistics is the structural statistics developed in Member States on the basis of Council Regulation 58/97, as amended in 410/98, cf. 2700/98 and 2701/98 concerning characteristics and data series. Though these definitions and characteristics are largely inappropriate for public organizations, due to the differences in the legal structures in the two sectors, similar kinds of integrated performance statistics could be envisaged for the public sector of the economies.

Litterature

Publin reports

The official versions of these reports were all published by NIFU STEP in Oslo in 2005. They can be downloaded from the Publin web site (www.step.no/publin).

D9 *On the differences between public and private sector innovation*

By Thomas Halvorsen, Johan Hauknes, Ian Miles and Rannveig Røste

D14 *The structure and size of the public sector in an enlarged Europe*

By Andrés Maroto and Luis Rubalcaba

D15 *Policy learning, what does it mean and how can we study it?*

By René Kemp and Rifka Weehuizen

D16 *Studies of innovation in the public sector, a theoretical framework*

By Rannveig Røste

D17 *Report on the Publin surveys*

By Eran Vigoda-Gadot, Aviv Shoham, Ayalla Ruvio, Nitza Schwabsky

D18 *Innovation in the social sector – case study analysis*

By Ludmila Malikova and Katarina Staroðová

D19 *Innovation in the health sector – case study analysis*

By Paul Cunningham

D20 *On innovation in the public sector*

By Per Koch and Johan Hauknes

National case studies from Publin

D12-1 Sweden: *Hospital-Managed Advanced Care of Children in their Homes*

By Lennart Norgren and Kristina Larsen

D12-2 UK: *Developing Patient-Oriented Education Systems for Diabetes*

By Paul Windrum and Pascale de Berranger

D12-3 UK: *NHS Direct, An Innovation in Social Trust*

By Paul Cunningham, Lawrence Green, Ian Miles and John Rigby

D12-4 Spain: *The Adoption of Technological and Organizational Innovations in a Traditional Public Hospital in Spain*

By Manuel García Goñi

D12-5 The Netherlands: *Process Innovation in Mental Health Care*

By Friso den Hertog, Rifka Weehuizen and Maarten Verkerk

D12-6 Ireland: *Innovation in the provision of home help services in the Southern Health Board area*

By Joan Buckley and Carol Linehan

D13-1 Slovakia: *Residential Care for Elderly in Slovakia*

By Katarina Staronová and Ludmila Malíková

D13-2 Ireland: *Pensions Retirement Savings Accounts*

By Dr. Mairéad Considine

D13-3 Israel: *Regional Resource Centres of Special Education*

By Nitza Schwabsky, Eran Vigoda-Gadot, Aviv Shoham and Ayalla Ruvio

D13-4 Lithuania: *Innovation in Services for the Elderly*

By Rita Bandzeviciene, Aiste Dirzyte, Vidminas Dauderis

D13-5 Norway: *Innovation in home based services for the elderly*

By Helge Godø, Rannveig Røste and Marianne Broch

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