





Gudrun Rudningen, Research Scientist, SINTEF Technology and Society



Aina Landsverk Hagen, Research Scientist, SINTEF Technology and Society

The Hidden Treasure – an innovative public sector

Social innovation in schools, nursing homes or the railways is the new Norwegian platform¹. Watch out for public services.

Mention the public sector to the man in the street and you can be sure that his immediate associations will not be with innovation. On the other hand, if you ask the same person for stories about how a primary school teacher, a nurse at the local nursing home or a railway ticket collector devised a new and improved way of doing the job, associations with creativity and innovation will much more readily spring to mind.

Social innovation² at a micro level creates considerable benefits for society. The people who daily perform invaluable public services to enable the population of Norway to live good, meaningful lives are assets for the future. Their innovativeness is a hitherto unexploited potential in the Norwegian public sector: in fact many would maintain that it is almost invisible, since it is not measurable in the same way as industrial innovation and is often drowned out by the noise of major reforms. Social innovation must be discovered, experienced, understood and communicated. It must be desired, consolidated and celebrated – and be associated with everyday work.

To be able to make use of their innovative potential, employees need freedom. *Freedom to* prioritise and *freedom from* over-management and paperwork burdens increase the individual's motivation and enhances creativity. Studies have shown that people are at their

most creative when they feel motivated by interest, contentment and challenges in their work itself, not by external "carrot-and-stick" motivating factors. Through strategic grounding at organisational level, innovation can be achieved at all levels in the line of command. Today, the innovative initiative of public sector employees is used to make resources adequate for the purpose. In our opinion, learning is not facilitated by alarming messages or studies of the average, but by the good examples and stories in which creativity and multidisciplinary collaboration have been successful. We focus on people's presence at work rather than on their absence due to illness. Why do so many people turn up for work each day in spite of a sore throat or a destructive conflict with the boss? The need for manpower in the public sector makes Norway completely dependent on developing knowledge of those work conditions which are important for keeping people in jobs.

Technology is interwoven in service provision, also in the public sector. Every day, people are in contact with technology, from the least advanced (notice-boards, beds) to the most complex (robotics). By collaborating with researchers, people who work with technology each day can participate in and drive the development of new social practices. We would therefore like to ask the public sector to challenge the research community³. Much of the research going

¹ The value of the workforce in Norway is estimated to be ten times as high as that of the country's oil and gas reserves.

² Social innovation is a process of collective creativity in which the members of a specific unit learn about, invent or introduce new concepts and initiatives in order to overcome social challenges.

³ Social innovation, despite being to a large extent already present in social systems, is so far an overlooked and underestimated phenomenon (Howaldt & Schwarz, "Social Innovation: Concepts, Research and International trends", 2010).

on in the public sector is restricted – in the sense that it is largely carried out in the form of evaluations of already implemented projects – and inaccessible, since very few people actually read thick research reports. It should become a requirement for researchers to be participants in all phases of innovative projects. The people who provide the services know what must be done and often have very good ideas about how, but they perhaps lack the expertise needed to make an idea immediately relevant for others.

Laughing all the way to school

Mistrust is often a poor foundation for collaboration and a hindrance when the objective is to develop an integrated educational process for skilled workers, something which is an express goal of the Norwegian "Knowledge Promotion" educational reform of 2006. So how can we ensure that practical and theoretical expertise work better together? In the *Vandreboke*⁴ (the Companion Book) project, implemented by several county administrations, students and apprentices, employers and teachers, county governors and examining boards met to discuss specific problem issues connected with education (Education and Development Teams). According to the participants, meeting in this way, getting to know each other and sharing experiences and know-how resulted in a higher degree of interaction between schools and employers, more integration in the educational process and better learning. Apprentices who participated in the *Vandreboke* project also achieved better results in their examinations than ordinary apprentices.

Challenges in schools: From failure to inclusion and collaboration

At present, far too many students fail to complete higher secondary education. This is a challenge, particularly in connection with vocational courses. At the same time, the labour market offers fewer jobs for people with no formal education. In efforts to reduce the drop-out rate in upper secondary schools, efficient transition possibilities and a more coherent educational process is extremely important. In order to realise this, it is essential to establish the right meeting places between different types of school, between schools and parents or guardians, and between schools and other bodies which also need to be involved in the work.

X-rays on the road

In future, specialist health services will be able to come to you, instead of you having to go to hospital. In Oslo, a collaborative project between Ullevål University Hospital and the municipal health service has made it possible for a mobile X-ray service unit to travel from one nursing home to another.⁵ The radiographer rolls the 95 kilogram equipment into the rooms of patients suffering from dementia to X-ray aching shoulders and broken ribs. The whole examination is over in a quarter of an hour. The benefits are two-fold: The nursing homes do not need to take senile patients out of their familiar circumstances to carry out examinations which subject them to considerable stress, and the staff are able to concentrate on other duties.

Challenges in health and care services: Inter-disciplinary interaction, pilot projects and company involvement

Experience from Norway and other countries shows that the development of new products and services in the health care sector have the best chance of success when that development takes

place in collaboration between the health sector, R&D institutions and domestic and international industry. Innovation also depends on municipalities and health services being informed about successful pilot projects and being able to make use of experience. There is a need for research, development and implementation of new products, services, treatment processes and organisational forms associated with a patient's entire medical history. Closer collaboration between a knowledge-intensive health sector and Norwegian companies with regard to the development and implementation of new innovative solutions, as well as an increase in Norwegian companies' involvement in the health care market, will enhance the quality and efficiency of the health service and increase the number of capable knowledge-based industry workplaces.

Two or three thousand in a flash

Every day thousands of people are transported on Norwegian railways. A major challenge for NSB is planning which trains are to be included in which shifts, where the crew shall change trains and from which depots employees shall man the trains. Until now such planning has been done manually. With complex regulations and an unknown number of possible combinations, preparation of a single day's personnel schedule can take several man-weeks. However, advanced mathematical optimisation methods developed by researchers mean that NSB is now beginning to experience a completely new world in the planning of daily schedules for its ticket-collectors and engine drivers. These tools make it possible for a planner to construct two or three thousand daily personnel schedules in a single day, and the plans are often better and more cost-effective for NSB and beneficial to both passengers and employees.

Challenges in public transport:

Efficiency, availability, safety and the environment

Norway has significant costs connected with distances and challenges linked to the low density and location of population centres, and at the same time we make considerable demands on accessibility in urban areas. Future innovations in public transport will take place in the fields of real-time information, dynamic decision support and active control of traffic and other operations. Technological tools which can compensate for perceptual and cognitive weaknesses will ensure that certain user groups do not become excluded from the services offered. Active systems which contribute to preventing accidents, and passive systems which reduce the consequences of any accidents, are necessary fields of innovation to achieve the objectives. Satisfying national and international obligations with regard to reduced greenhouse gas emissions calls for a high level of innovation directed towards environmentally friendly motor technology systems, fuel and operator support systems, along with social innovation which contributes proactively to influencing and if necessary transforming our expectations regarding standard of living and consumption.

Recommendations

How do we make room for innovation in the public sector?
We propose three specific approaches:

⁴ <http://www.vandreboke.no/>

⁵ <http://www.innomed.no/prosjekter/mobile-helsetjenester/>

1. Hands-on management

A large number of services are performed on the "front line" and this is where the potential for innovation is greatest. At the same time we must dare to give the front line responsibility for expertise and authority. In recent years the brutalisation of the public sector through the introduction of New Public Management has created a workforce which has to use their energy and resources to document their work and report deviations, instead of seeing new, creative solutions in their working day. Management in the public sector should make use of precisely that which is the sector's greatest strength: Professional and experience-based know-how and the idealistic attitude of being able to make a difference to people's lives. *We therefore recommend that managers in the public sector should once a month do a day's work among their own front line employees, and that management meetings should prioritise learning from actual success stories from the company's own front line.*

2. A time for innovation

Willingness to bring in resources from outside one's own organisation is essential if service providers are to reap the benefits of each other's innovation work. The greatest innovations often result from the combination of different know-how in new ways. This means that one must involve public sector enterprises and administrative bodies, research communities, private operators, citizens and participants, volunteers and organisations, and domestic and international communities. Inadequate control and predictability in the working day results in absence due to illness instead of effective time at work. At the same time the socio-economic potential associated with social innovation in the public sector is so significant

that it will be profitable for employees to devote time to it. *We therefore suggest that 20 per cent of working hours in the public sector be earmarked for social innovation work, preferably crossing the boundaries of specialist fields or sectors.*

3. Welfare technology

A familiar challenge in welfare technology is combining technological and social science research to create a good foundation for decision-making when ethical, technological and social benefit assessments must be performed simultaneously. In the field of public transport, investment is now taking place in intelligent transport systems making use of sensor technology and robotics, among other things. We need arenas for testing new technology which support the development and stimulation of new services, such as a *national laboratory for transport research in which one can use experience from the front line in real traffic situations in combination with supplementary studies under controlled conditions.*

Finally:

Social innovation has often been described as invisible because the effects of such innovation are immaterial, cannot easily be measured and are not reflected in economic figures. Such innovation is therefore difficult to describe and evaluate. Focusing on innovation and technology among employees may provide the longed-for improvement in status the public sector needs in order to provide valuable service in the future. The time has come to place demands on Norwegian researchers, now that the innovative nurse has stepped up to Norway's new platform.