

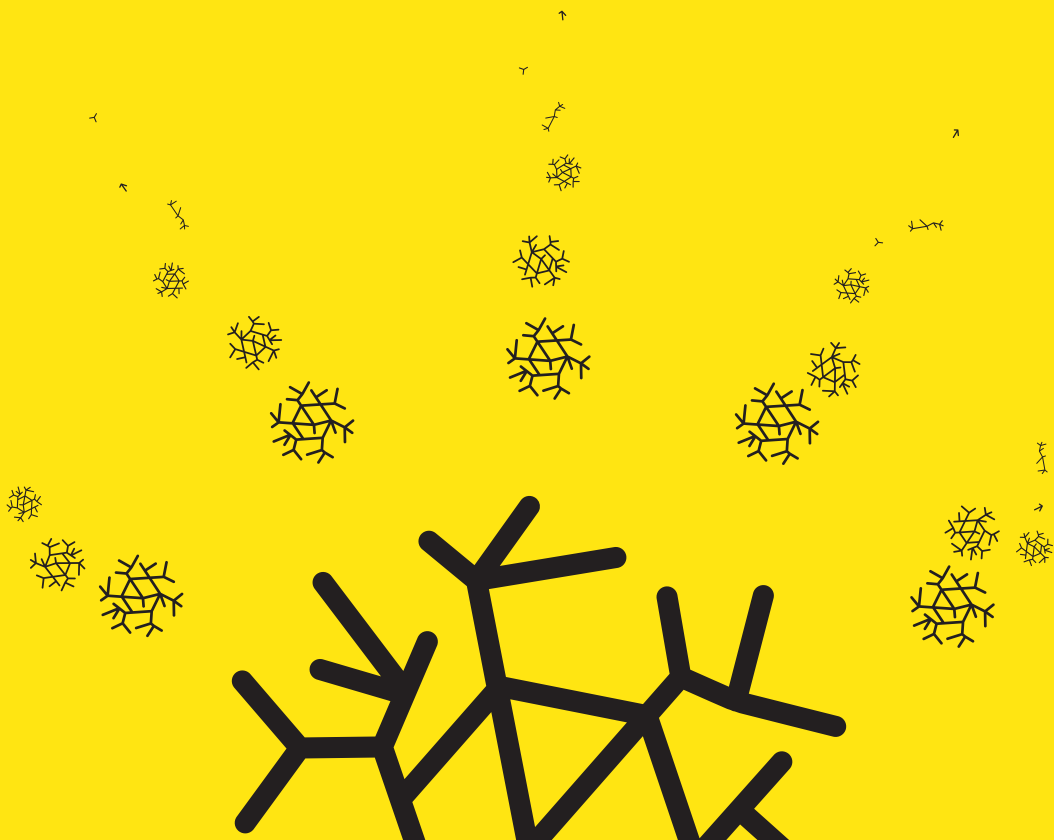
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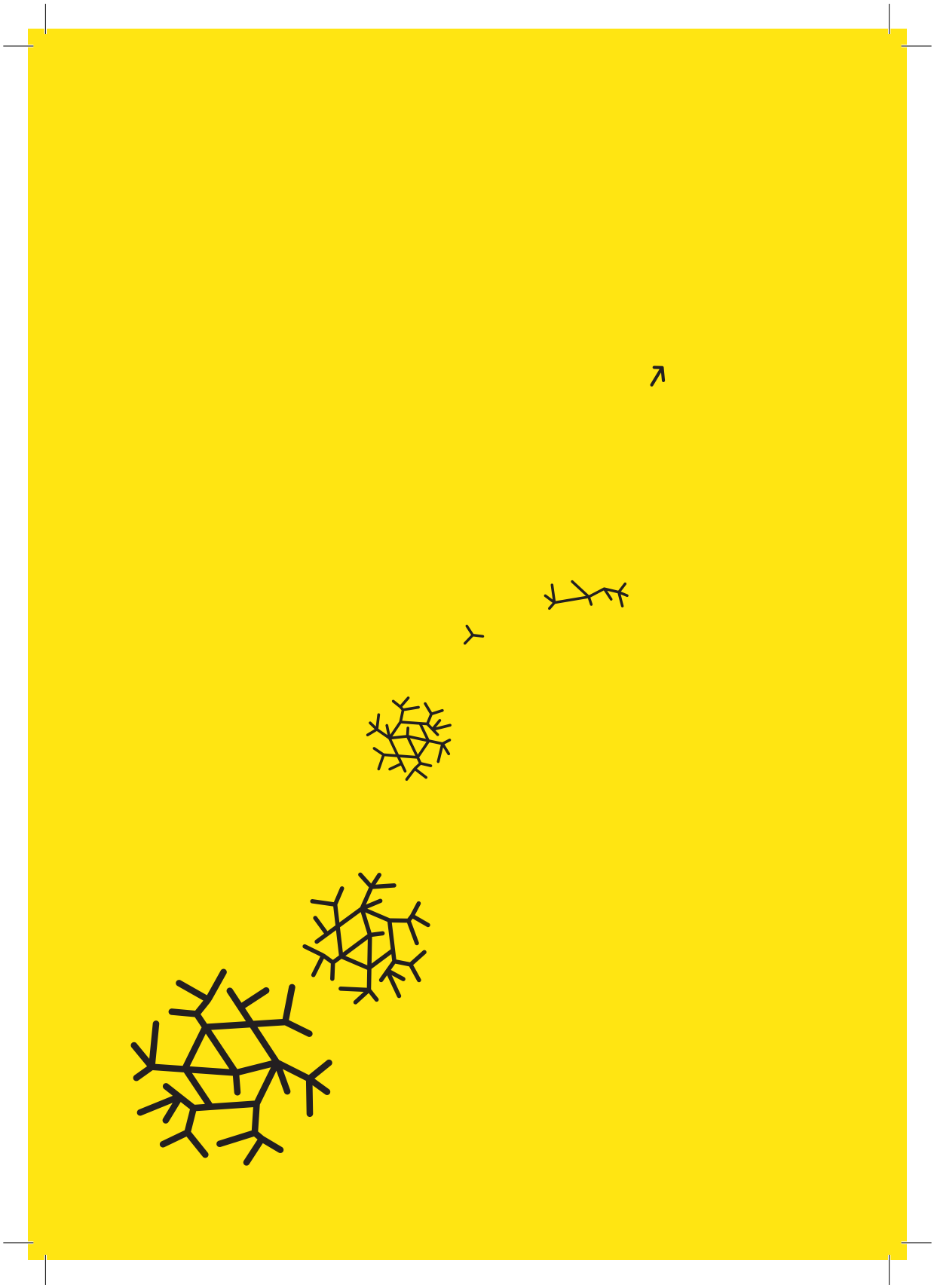
NESTA Making
Innovation
Flourish

Ready or not?

Taking innovation in the public sector seriously

By Geoff Mulgan





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NESTA is the National Endowment for Science, Technology and the Arts. Our aim is to transform the UK's capacity for innovation. We invest in early stage companies, inform innovation policy and encourage a culture that helps innovation to flourish.

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Taking innovation in the public sector seriously

According to conventional wisdom, public organisations cannot innovate. Bureaucracies lack the competitive spur that drives businesses to create new products and services. Their rules squeeze out anything creative or original. Their staff are penalised for mistakes but never rewarded for taking successful risks. So while business develops new chips, iPods, airplanes and wonder drugs, the slow and stagnant public sector acts as a drag on everyone else.

This account is commonplace. But it is at odds with the history of innovation. Two of the most profound innovations of the last 50 years were the Internet and the World Wide Web. Both came out of public organisations: DARPA in the first place, CERN in the second.¹ Looking further back, business was not particularly innovative for most of human history, at least until the late 19th century. Instead, the most important innovations in communications, materials or energy came from wealthy patrons, governments or from the military. The idea that businesses and markets are powerhouses of innovation, or ‘innovation machines’ to use William Baumol’s phrase, is a very recent one.²

Even today, the caricature of public agencies as stagnant enemies of creativity is disproven by the innovation of thousands of public servants around the world who have discovered novel ways of combating AIDS, promoting fitness,

educating, vaccinating vast populations or implementing new methods like intelligence-led policing or auctions for radio spectrum.

Yet there are good reasons to doubt the public sector’s ability to innovate. Innovators usually succeed despite, not because of, dominant structures and systems. Too many good ideas are frustrated, filed away or simply forgotten. Public services remain poor at learning from better models – even on their doorstep – and only a handful of governments have any roles, budgets or teams devoted to innovation in their main areas of activity: welfare, security, health or the environment.

Indeed, despite the rhetorical lip service paid to innovation, no government has anything remotely comparable to the armies of civil servants employed to count things, to inspect and to monitor or, for that matter, to support technological research and development (R&D).

Nor can any give coherent accounts of how they innovate. What, for example, is a reasonable proportion of public spending to devote to innovation? Is it around 3-4 per cent, which is generally thought to be the right proportion for a modern economy to invest in R&D, or the 20-30 per cent that is more typical for a biotechnology company? Under what conditions should support for innovation be stepped up – or scaled down? Should

innovation be the job of specialised units, or should it be everyone's job? What's a reasonable success rate to aim for in radical innovations: one in two, or one in ten? Should civil servants rely on politicians for new ideas – or vice versa?

Public innovation isn't always a good thing – and a world in which civil servants experimented continuously with traffic lights or taxes on pensions would be a nightmare. But the lack of seriousness about innovation is striking, and contrasts starkly with the world of science and technology. There, both the public and private sectors invest billions, and the difficult task of turning scientific insights into useful products was long ago taken away from lone inventors in garden sheds and put at the heart of great corporations and great public laboratories.³

It's no wonder that the world's public sectors are failing to innovate fast enough to cope with enormous challenges like an ageing population, climate change or migration. Yet there are some tentative signs that this may be changing. Some of the governments that are most competent at delivery are increasingly turning their attention to innovation.⁴

One pressure is rising public expectations. In the 21st century economy, the biggest sectors are no longer cars, steel, or even IT. In most advanced economies much the biggest sector is health. Education accounts for 5-10 per cent of GDP. Care, both for children and the elderly, is growing fast and already constitutes some 5 per cent in a few economies.⁵ These are all sectors in which government is a major

player, whether as provider, funder or regulator, and they are all sectors in which innovation happens in very different ways from the dominant industries of the last century.

Public innovation cannot be simply institutionalised or planned. But there are many things that governments can do to improve the chances of new ideas creating value for the public. They can do more to cultivate and scan the hinterlands from which new ideas will come; they can recruit proven innovators; they can deliberately design and test promising new ideas; they can provide markets for solutions and outcomes rather than inputs; and they can create protected spaces where radical ideas can evolve.

Over the last 30 years, governments have learned a lot about how to be more efficient, and about how to take customers more seriously. But now they need to learn a new set of skills – how to innovate and serve the public, not only by being competent in the present, but also by being ready for the future.

Public sector innovation means new ideas that work at creating public value

In the public sector, as in other fields, innovation can mean many different things. It can mean new ways of organising things (like Public Private Partnerships), new ways of rewarding people (like performance-related pay) or new ways of communicating (like ministerial blogs). Distinctions are sometimes made between policy innovations, service innovations and innovations in other fields like democracy (e-voting, citizens' juries) or international affairs (prepayments for new vaccines or the International Criminal Court). Some innovations are so radical that they warrant being seen as systemic (like the creation of a national health service, or the move to a low carbon economy).

The simplest definition is that public sector innovation is about new ideas that work at creating public value. The ideas have to be at least in part new (rather than improvements); they have to be taken up (rather than just being good ideas); and they have to be useful. By this definition, innovation overlaps with, but is different from, creativity and entrepreneurship.

Seen through this lens, governments and public agencies around the world are constantly innovating new ways of organising social security or healthcare, online portals and smart cards, public health programmes and imaginative incentives to cut carbon emissions.

Some of the more prominent recent examples in the UK would include NHS Direct and Learndirect; Drug Courts and Police Community Support Officers; online tax transactions and restorative justice; cognitive behavioural therapy for prisoners and Sure Start; Connexions and criminal assets recovery; congestion charges and Children's Commissioners.

Alongside new organisations and programmes, the public sector has also innovated what Bart Nooteboom calls new 'scripts'.⁶ An example from the private sector was the rise of fast food retailing, which created a new script for having a meal. Where the traditional restaurant script was: choose, be served, eat, then pay, the self-service/fast food script is: choose, pay, carry food to table, eat, clear up. New scripts are emerging right across the public sector, in areas like recycling, personalised learning in schools and self-managed healthcare – and are likely to be critical to future productivity gains in public services.

⁶ **Ready or not?** Taking innovation in the public sector seriously

So how does innovation happen in government?

In the past, public innovation has been patchy, uncertain and slow. It took more than a century after the invention of the telephone before governments in countries like the UK started developing call centres to handle customer enquiries, to deal with concerns about health, or to provide general points of access to government (like New York's 311 service).

Successful innovations: the Open University and NHS Direct

But there have been exceptions – and some cases where public service innovations evolved well ahead of the private sector. A good example was when the UK's Labour Government created a radically new kind of university in the late 1960s. Where all existing universities were based in a physical place, this one would be virtual and would make full use of television and the telephone. Where all existing universities aimed to teach people who had just left school, this one would be open to people of any age.

Most people in existing universities scoffed at the idea. There would be no demand; it wouldn't work; standards would be too low. Yet the Government went ahead and today the Open University (OU) is the UK's largest provider of higher education, and an acknowledged world leader in distance education (dozens of OU-inspired organisations now operate globally,

from China and India to Africa). Harold Wilson, who as Prime Minister oversaw its creation, described it as his proudest achievement. In a survey in 2006 it also scored the highest marks of any UK higher education institution in terms of student satisfaction.⁷ It has massively expanded participation in higher education through bringing in new students; adult, not necessarily pre-qualified, part-time students. It has made full use of new communications technologies as they came along, from satellites to the web, as well as new ways of using time, including summer schools, and almost every part of its model has subsequently been copied by the private sector.

Thirty years later, another government introduced another radical innovation that was equally opposed by vested interests. This was a phone- and web-based service which the public could call on for diagnoses, even at 3am. NHS Direct combined three existing elements in a new way: the telephone, nurses, and computers with diagnostic software. Within a few years it was receiving many millions of calls each year (two million people use the service each month) and evaluations showed that its diagnoses were as reliable as doctors meeting patients face-to-face.

Both of these examples started off outside government. The OU was first floated in a speech by Michael Young

in 1958, then put into practice through a small new organisation, the National Extension College, later taken up by the Labour Party and created as a new public organisation in 1969. Healthline, the precursor to NHS Direct, was also set up on a small scale (also by Michael Young) in the 1980s with some help from BT. Neither was inherently new; rather both were hybrids, combining existing things in new ways. Both became part of the public sector but had to be built up outside existing structures. Both, too, benefited from good luck and powerful patrons, the minister Jennie Lee in the case of the Open University, and the Chief Medical Officer, Sir Kenneth Calman, in the case of NHS Direct.

In science there are well-established channels for taking ideas from basic research through prototypes to products. These are rarely as straightforward as they seem, and more recent work on scientific innovation often emphasises the loops and detours that happen along the way. In the public sector, however, the road from idea to reality is less predictable.

Political innovators

All ideas at some point have to pass through the two groups of gatekeepers who control power and money in the public sector. The first group are politicians. Politicians and political activists look for new ideas to gain an edge over their rivals or to keep their party in power. Once in power they then back them with laws or spending programmes.

Some politicians can be very open. Faced by the mass unemployment of the 1930s Franklin Delano Roosevelt said that he would try anything. "If it fails," he said, "admit it frankly and try another. But above all, try something."

Some political leaders are natural innovators: Jaime Lerner, the mayor of the Brazilian city of Curitiba in the 1970s and early 1980s (and later state governor for Parana), is an outstanding example. He completely refashioned his city's transport system using dedicated lanes for buses; rebuilt parks, libraries and learning and experimented with lateral solutions, such as paying slum children who brought rubbish out of the slums with vouchers for transport. He was also adept at what he called 'urban acupuncture' using small scale symbolic projects to unleash creative energies.⁸

Antanas Mockus, the mayor of Bogota, is a remarkable example from this decade. Mockus has used theatre and spectacle to get results. He sometimes wears a Superman costume, and hired over 400 mime artists to control traffic by mocking bad drivers and illegal pedestrians. He launched a 'Night for Women' when the city's men were asked to stay at home and look after the children (and most did) and even asked the public to pay an extra 10 per cent in voluntary taxes (again, to the surprise of many, 63,000 did).⁹

In Canada, the small state of Saskatchewan was consistently innovative thanks to a succession of creative leaders from the 1940s to the 1970s. Allan Blakeney's administration in the 1970s,

for example, ran a series of demonstration projects on the risks faced by children, ranging from a comprehensive school health programme, prenatal nutrition and postnatal counselling.¹⁰ Some worked and some didn't, but they provided a wider menu of experience and ideas and many were later taken up at national level.

In the UK, Ken Livingstone stands out as a politician who has consistently championed innovations, pioneering radical models of equal opportunity, appropriate technology and social inclusion in the 1980s, and congestion charging and green urban development in the 2000s.

Of course, political innovations are not always desirable: Mao Zedong was an extraordinary innovator, but many of his ideas wreaked havoc. Few dictators have the patience to test and experiment before imposing their will on everyone else. But innovative political leaders who are willing to experiment help to make government vital and alive – energising the society around them.

Bureaucratic innovators

The other channel for innovations is the bureaucracy: officials can promote innovations a fair distance, without much involvement on the part of politicians (and sometimes 'innovation by subterfuge' can be a good way of promoting disruptive innovations). The controversial 'broken windows' policing reforms of Bill Bratton, New York's Commissioner of Police, are a good recent example.¹¹ In the same city Ellen Schall,

Commissioner in the Department of Juvenile Justice in the 1980s, transformed her department into a pioneer of new ideas (and has subsequently reflected insightfully on her experiences).¹²

Here in the UK, few civil servants reach the top as a reward for their innovations, though there is a long history of innovative public servants, from Edwin Chadwick to Geoffrey Holland, and some have continued to succeed as policy entrepreneurs, usually from a few rungs down in the hierarchy. Sure Start was originally developed by a Treasury official, Norman Glass, and the Literacy Hour project by Michael Barber. Meanwhile local government has thrown up a string of innovative leaders – like Barry Quirk in Lewisham, Howard Bernstein in Manchester or Bob Kerlake in Sheffield. In countries like Singapore it's common for officials to become well-known as innovators; Tan Chin Nam, for example, has been a consistent innovator over several decades across many fields from economic development and education to the arts.

Alongside these relatively high profile names, there are thousands of less visible innovators. One of the few quantitative studies of public innovation, by the Canadian academic Sanford Borins, suggested that most public innovations are initiated by middle management or front line staff (he also suggested that most are internally driven rather than initiated in response to crisis or political pressure).¹³ The work of these everyday innovators tends to be hidden from view, except when awards push them

to prominence (and many countries, including the USA, South Africa, Denmark and Brazil have introduced official awards for public innovators).¹⁴

The public sector hinterland

All innovations must at some point gain political or bureaucratic support. But they can get there through many different routes. Together, these form the 'hinterland' of the public sector – territory at one remove from the formal structures of accountability and control, where risks and imagination are easier, and where the future is most likely to take shape.

Decentralised systems provide one set of channels – laboratories for new ideas. In the UK, local government pioneered many of the ideas that took shape in the welfare state, as well as later innovations in contracting out, choice-based lettings or integrated children's services. (Indeed, in one possible future the Department for Communities and Local Government (CLG) would become a more deliberate channel and champion for local innovations to the rest of Whitehall). In the USA, 'welfare to work' ideas were taken from Minnesota and Massachusetts to Washington. In Canada, business service centres (and a clutch of e-government innovations) were pioneered in New Brunswick and then copied at the federal level. In Australia, compulsory seat belts were pioneered in Victoria, and subsequently copied all over the world.

Business has provided many of the recent reforms around customer service, such as the use of contact centres and

customer relationship management tools. For obvious reasons of self-interest, business has also actively promoted ideas like privatisation or Public Private Partnerships.

Universities were where Aaron Beck and his colleagues first developed the cognitive behavioural therapy used extensively in prisons and health services; while the radio spectrum auctions which have generated such wealth for some governments were developed by Ken Binmore and others working on game theory.

Civil society is a common source, from the growth of social housing to the neighbourhood warden schemes in the 1980s and 1990s that eventually persuaded the police to create a new category of Community Support Officer.¹⁵

A common complaint from voluntary organisations, however, is that when they develop successful innovations these are simply copied by government: not only are the originators not compensated, they also risk being put out of business by competition from much better financed public agencies. An example of a more equal relationship was the Dundee Families Project set up in the 1990s to work with families who had become homeless, or risked becoming homeless, because of their antisocial behaviour. The project, set up as a partnership between Dundee City Council and the children's charity NCH, proved unusually successful and, after some early difficulties, is now being replicated more widely by NCH with encouragement from the Home Office.

A parallel example from a very different context is the Clean India project, launched by an NGO, Development Alternatives, in 1996, which mobilises school children to monitor and measure the state of the environment. The programme has now spread to 78 towns and cities across India, and manages a clever mix of partnership and pressure on local authorities.¹⁶

Other groups, too, are increasingly offering insights and possible innovations. The design world has started to engage

with public services through international networks like EMUDE (Emerging User Demands for Sustainable Solutions), big events like 'Design of the Times' in north-east England, public bodies like the Design Council and private companies like Livework. Technologists have become engaged through groups like mySociety.org. Organisations like NESTA and the Young Foundation are collaborating to identify and develop social innovations – for example, with the Health Innovation Accelerator.¹⁷

Table 1: Routes for public innovation

| Where | Who, how and why | What |
|------------------|--|--|
| Politics | Promoted by politicians seeking votes, activists, think tanks | Constitutional reform, choice in healthcare, parental leave |
| Bureaucracy | Promoted by civil servants seeking power or recognition, helped by external stakeholders | Sure Start, e-government |
| Decentralisation | Demonstrated by local or regional authorities seeking public approval | Congestion charging, integrated care for the elderly, choice-based lettings |
| Business | Promoted by businesses seeking profit and helped by procurement arrangements | Private Finance Initiatives and Public Private Partnerships, contact centres |
| Academia | Promoted by entrepreneurial academics seeking recognition for new knowledge | Cognitive behavioural therapy, auctions for radio spectrum |
| NGOs | Promoted through examples, campaigning, motivated by growth or recognition | Hospices, healthy living centres, summer universities |

Institutionalising innovation

Some governments have recently made tentative steps to institutionalise innovation and to formalise these routes.¹⁸

Denmark's Ministry of Finance set up a unit to promote new ideas – like plans to create a single account for financial transactions with citizens. The Economics and Business Affairs Ministry has restructured itself to be based much more on projects than functions, and has established its own internal consultancy, Mindlab, to promote creativity. In Finland, the main technology agency, SITRA, has turned its attention to public innovation.¹⁹

In the USA, Minnesota had an innovation unit for a time, and at the federal level the US State Department had a Center for Administrative Innovation (at least until recently). In New York, the state and city partnered to support the Center for Court Innovation which helps develop, test out and appraise new approaches, such as specific courts for drug offences and domestic violence.

Singapore has promoted innovations through its 'Enterprise Challenge' programme, run through the Prime Minister's office, which has funded some 68 proposals. Examples include a 'virtual policing centre' for non-urgent enquiries to be routed through to the Singapore Police Force, and teleconferencing for prison inmates to interact with their relatives. It claims these could achieve savings 10 times greater than their costs.²⁰

The UK has never had equivalent champions for innovation in the public sector.²¹ But it has nevertheless experimented with ways of opening up the bureaucracy. There have been experiments to liberate local managers to break national rules – including the short-lived Education and Health Action Zones, and the now well-established Employment Zones. The 'Invest to Save Budget' provided a large pool of money to back promising innovations that crossed organisational boundaries.²² The Department for Education set up an innovation unit which has supported imaginative communities of practice, and the Department of Health has established an NHS Institute for Innovation and Improvement. Within individual agencies, too, smaller innovation funds have been widely used to give front line managers a chance to try out new ideas.

Why is innovation frustrated? The good reasons and the bad

In the light of these many examples of lively risk-taking, it would be easy to conclude that there is no shortage of innovation, and that any barriers are now being dismantled.

Unfortunately, all of the examples cited above remain small in scale, and institutionally fragile. In the UK, the health and education zones were closed down at the first opportunity and never won backing from senior officials. The budgets – unlike Singapore’s – are tiny, certainly by comparison with public spending, or by comparison with technological R&D.

Moreover, the basic argument for innovation hasn’t yet been engaged with, let alone won, in the great majority of OECD governments. Part of the reason is that there has been little serious analysis of when innovation is a good thing – and when it is not.

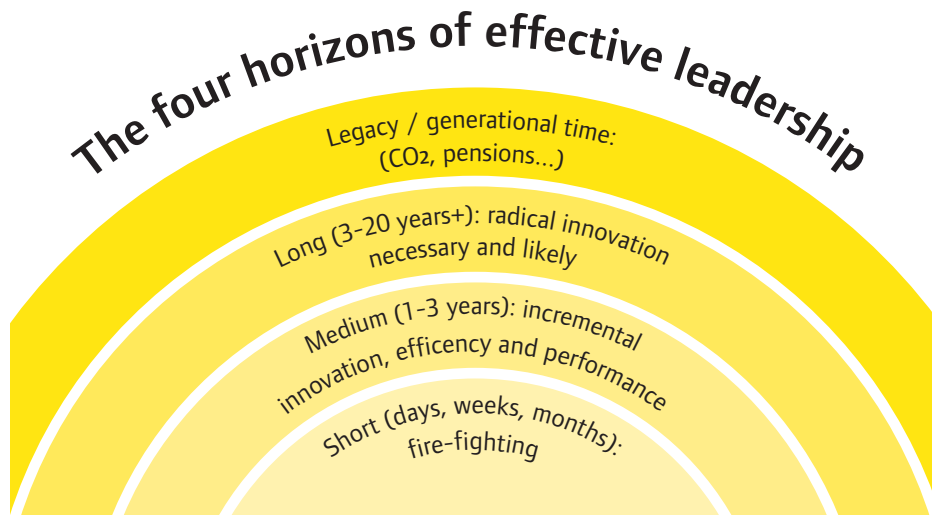
Innovating appropriately – the right amount in the right place at the right time

Public organisations with short time-horizons are highly resistant to innovation. Governments with very small majorities, ministers and officials with short job tenures, and organisational cultures focused on tomorrow’s news coverage, are more likely to echo Groucho Marx’s famous question: “What’s posterity ever done for me?”²³

By contrast, competent and responsible organisations that are ready for the future manage to focus simultaneously on at least four different horizons of decision-making (Figure 1):

- The short-term horizon of immediate problems, including the pressures of media and politics, and crises like strikes or IT crashes, that may require innovative tactics.
- The medium-term horizon of existing policies and programmes, where implementation is usually the paramount concern, alongside some incremental innovation.
- The longer-term horizon where new policies and strategic innovations become ever more critical to survival and success.
- The ‘generational horizon’ of issues like pensions and climate change where governments have to look 50 years into the future and where very radical innovation is likely to be essential.

Figure 1: Innovation matters across all four horizons of effective leadership



Some organisations live in an eternal present. But for all others, innovation is simply part of the job – a critical dimension (albeit one that is often neglected) of competent leadership, even in organisations that appear to be doing very well.

Good reasons to avoid bad innovation

There are some very good reasons why public sectors shouldn't innovate more. Few would welcome a public sector that experimented with traffic light colours or nuclear power safety arrangements. There is a lower tolerance for risk where people's lives are involved, and much of the public sector delivers far more essential services than the private sector. It is also reasonable for the public to want

their public realm to remain legible and coherent. A world in which every primary school and post office was restructured and rebranded every year would be a nightmare.

Within civil services it's common to hear two further arguments against taking innovation seriously, both of which have more than a grain of truth. One is the traditional conservative argument that all methods and institutions, which are old, tried and tested, should be preferred to ones that are new. In its purest form this argument is unsustainable, since every method, from police on the beat to the 'three Rs', and every existing institution, from the Bank of England to the NHS, began its life as a radical innovation. But in a milder form the argument is right:

even the best ideas benefit from being tested out, and adapted, in the real world.

A second, related, argument is that the public sector should be a stabilising force, a buffer against too much change. Ideas may rain in from ambitious politicians or hustling entrepreneurs – but bureaucrats should move slowly and take the long view. This argument also has some virtues and, in some countries, a good deal of public sector innovation and reform is driven through much too fast, in effect experimenting on the whole population rather than trying ideas out on a small scale, as is the norm in medicine or technology. Not surprisingly, experiments of this kind, ranging from the Poll Tax and the National Curriculum to the new NHS tariff system, turn out to have many unintended consequences and high costs. Worse, they leave managers and front-line staff associating innovation with ill-thought through top-down reforms rather than service-improving bottom-up creativity.

Bad reasons to avoid good innovation

Unfortunately these good arguments against bad innovation are often joined by much weaker arguments, as well as being amplified by structural features of the public sector that guarantee that few good ideas make the transition from imagination to reality.

No-one's job Very few Whitehall departments have a board member responsible for innovation (and the rare exceptions, like the Pensions Service or the Department of Communities and Local

Government, are recent appointments). A vast bureaucracy has grown up around performance management, inspection and audit (the annual costs of the regulators of local government alone are now over £600m).²⁴ Public innovation has no equivalent posts or budgets, unlike in business where innovation is central to many people's jobs and central to any process for setting budgets.

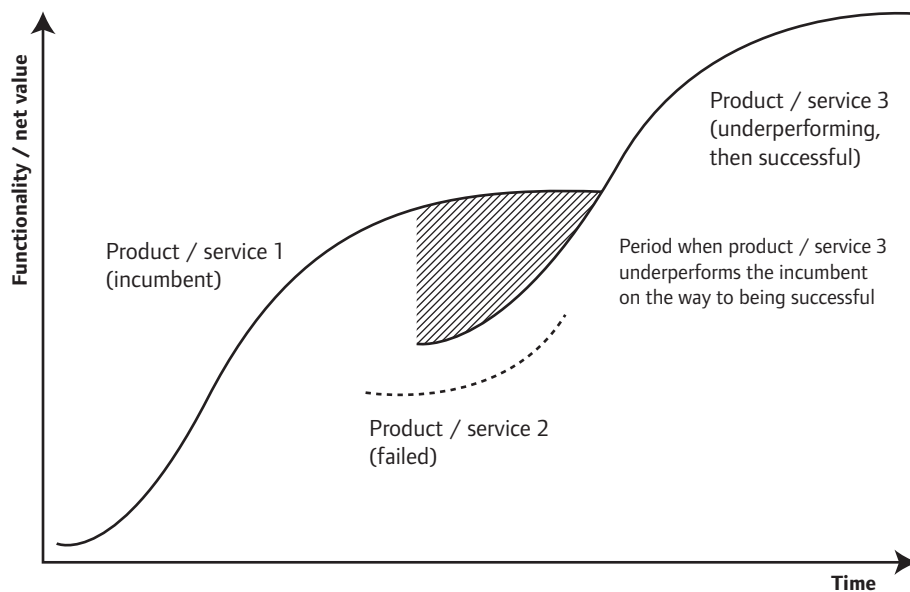
Risk aversion The environment in which government operates puts much more weight on discouraging risk-taking than rewarding it. The media will give as much weight to a small failure as a big one, to an operational failure as a strategic one; so does parliamentary scrutiny and audit. The Public Accounts Committees, Audit Commission and National Audit Office (NAO) have all reinforced a culture where experimentation is career threatening. All have attempted to address this criticism, with the NAO²⁵ recently publishing a report on, and the Audit Commission undertaking a study into, innovation in the public sector. Good performance management can help to encourage innovation and its dissemination, but it can also be its curse.

Too many rules Modern bureaucracies were designed to stop capricious and unpredictable actions. They do this by imposing rules: systematising, formalising, specifying how things should be done and ensuring uniformity. Not surprisingly, innovation is squeezed out; not surprisingly, too, the people attracted to working in big bureaucracies, whether corporate or public, tend to be less creative and less at home with risk.

Uncertain results The dilemma faced by public agencies was well summarised in an influential book by Clayton Christensen. It describes how successful firms or organisations with established products or services attempt to maintain and improve their position by a succession of new features, steadily improving the usefulness of their product.²⁶ Then a new technology comes along which has the potential to be much more effective. At first it probably won't be as useful as the mature old technology

(think, for example, of how much less convenient cars were than horses in the 1880s). So organisations face a twin challenge (Figure 2): on the one hand how to nurture the new technology when according to strict performance measures it's still not up to scratch; and on the other how to promote something new that will compete with what they already do. These problems face every innovative private company. But they are even more acute in the public sector because it is so much more visible and accountable.

Figure 2: Building the next successful product or service means working on it while it underperforms against existing offerings



High walls Public sectors tend to be organised in separate silos with high walls dividing departments, agencies, and professions, or linked services like primary and acute care in health, or secondary and tertiary education. The barriers that stand in the way of spreading tacit knowledge are even more of a problem than those that block formal knowledge. A high proportion of the potential innovations in the public sector, like one-stop shops or new ways of organising data, cut across organisational or professional boundaries. But because power and money are organised in silos, these are the innovations least likely to win support.

Unsuitable structures Monopolistic sectors tend not to be very innovative for the obvious reason that the monopolist has little incentive to invest profits in new products and services. In highly competitive markets with lots of small players there tends to be plenty of incremental innovation but relatively little radical or systemic innovation. More radical innovation happens most often in sectors that are more like oligopolies, dominated by a small number of big companies, surrounded by a penumbra of highly competitive smaller ones which occasionally break through with a new model. Sectors like computing, retailing, software, media and aerospace have some of these characteristics (albeit in very different forms, with much higher barriers to entry in fields like aerospace than software). The intensity of the competition provides the motive for innovation, but the scale of the major players provides the necessary resources, and capacity to radically reorganise how

production is done, in the way that, for example, big supermarkets like Tesco and Sainsbury have transformed the way they do their business. Moreover, the prospect that ideas will be bought up by the big players provides a strong incentive for venture capitalists to invest in the smaller ones, just as today every internet start-up prays to be bought up by Google.

Generally the public sector has a structure almost opposite to this: in most fields there is just one monopoly overseer in the form of the national department, and then a multiplicity of fairly small units – 25,000 schools or 10,700 GP practices,²⁷ none of which has the capital, or the capacity, to see through really radical innovations.

Six elements of an innovative public sector

So, innovation happens – but it happens as much by chance as by design and public innovators are usually marginalised. Nowhere does public innovation have the same focused attention that governments have given to other tasks, like raising taxes or bringing criminals to justice. The result is that many of the biggest problems facing governments are addressed haltingly, if at all: adjusting healthcare or housing to a much older population; helping the unemployed back into work; or making schooling fit for purpose. Old and ineffective programmes continue, while new ones have to struggle for small sums of money. Promising new ideas languish. No-one knows what price the public sector pays for this innovation gap, but as Finland's SITRA recently argued it must be a key factor dragging down public sector performance and productivity.²⁸

A few countries are tentatively putting in place a more sophisticated set of devices to promote innovation. As in science and technology, innovation in the public sector depends on aligning many different elements – demand, supply, creative people, money and recognition. In the field of scientific R&D, nations have successfully pursued radically different paths, with Taiwan, Israel and Ireland wholly different from the USA or Japan, Finland and France. Much the same is likely in the field of public innovation. But all of the systems are likely to contain some of the same elements.

1 Leadership and culture

Human beings are rational and without licence from the top, few people in hierarchical organisations will be willing to take risks. Political and official leaders can establish a culture in which innovation is seen as natural. In some cases the cultures then become embedded at least for a time. The Scandinavian governments, for example, have been successful innovators for several decades. In the US, studies of innovation at state level found that the three most consistently innovative states (California, Minnesota and Ohio) became more innovative over time, and the laggards more laggardly, suggesting that innovative cultures can be self-reinforcing.²⁹

That has been the experience in some cities that have sustained an innovative culture over long periods of time, like Barcelona, Helsinki and Amsterdam, or Phoenix, which won recognition in the 1990s for its embedded innovative culture.³⁰ These places tend to be earlier adopters of new ideas,³¹ as well as better at creating their own ideas.

Policies and behaviours matter in rewarding innovation. But so too do symbols. The Cheongyecheon project in Seoul, launched and completed by Mayor Lee Myung Bak in the middle of this decade, is a brilliant example. An old six km long river through the city centre, which had been covered with a two-tier motorway, was recovered

as a public space through an intensive process of planning, consultation and construction, and in 2005 won the Venice Biennale prize for architecture. The newly-recovered river looked spectacular and resonated with a city that has become a pioneer in software, games and popular culture, as well as in electronics and cars. Nothing could better symbolise a city that was willing to take risks and to see all problems as tractable.

2 Pulls and pushes

While leaders support the conditions for innovation, specific innovations start with pushes or pulls. The pushes may come from a political leadership that feels a need for new ideas. It can come from crisis; each year of the two world wars probably brought a decade's worth of administrative creativity. It may come from financial necessity: like the PFI models that first grew up at a time when the public sector was chronically overspent, or the 'Block Nurse' programmes,³² which provide home-based care for the elderly as an alternative to much more expensive institutional options.

Sometimes the push may come from technology. Innovation in business used to be understood as a pipeline from the laboratory to the shops, with new technologies pushed out onto a grateful public. Sometimes there is a similar push in the public sector. Many governments tried (without much success) to think up uses for the new technology of smart cards in the 1980s and 1990s, and the world is peppered with monorail systems of dubious utility.

But, increasingly, the drive to innovate is coming as much from pulls as pushes. In public services that may be a need that isn't being met – like the need for care, or jobs, or housing. It may be less obvious needs like the need for protection from abuse or discrimination. Such needs emerge in complex ways, sometimes thanks to campaigners. Sometimes civil society takes the initiative in meeting its own needs, establishing hospices to care for the terminally ill, setting up small-scale recycling services, and hoping that the state will follow later.³³ Either way, the best public innovators are good at empathy and good at listening to what it is that people really want or need. (Michael Young, for example, got many of his best ideas from random conversations on street corners, buses and even in cemeteries).

Users have never had much power in the UK's public services. But they have become more organised in recent years. Parents have set up childcare schemes, mutual support groups (like netmums)³⁴ or even new schools. Patients are increasingly organised around common diseases, like diabetes, heart disease or multiple sclerosis. Through programmes like the 'Expert Patients Programme',³⁵ or 'In Control',³⁶ users have increasingly been given the power to initiate innovations and shape services to meet their needs, rather than being offered what professionals think they should need. In the longer term, active, demanding and empowered users, sometimes in alliance with radical professionals, are likely to be critical in keeping public services agile and imaginative.

3 Creativity and recombination

If pulls and pushes create the pressure, creativity widens the range of available options.

As Mihaly Csikszentmihalyi suggested in relation to the arts, creativity can come from the alignment of creative people, a discipline, a field of critics, and knowledgeable consumers.³⁷ Some formal creativity methods, such as those developed by Edward de Bono and the consultancy What If? can help bureaucracies to think laterally and to see new patterns.³⁸ The evidence, on whether any of these work in enhancing creativity in a sustainable way, is patchy to say the least, but they may at least help to make cultures more open.³⁹

Seeing things in new ways can help. One way is to learn from the people most immersed in a problem: anyone seeking to find an answer to the management of chronic diseases or alienation amongst teenagers may do best by looking at how people are themselves solving their problems, and starting from the presumption that they are 'competent interpreters' of their own lives.⁴⁰ A related approach starts with the people who are solving their problems against the odds: the ex-prisoners who do not re-offend; the 18-year-olds without any qualifications who nevertheless find jobs. Other methods try to twin different fields: airport designers with hospital managers, online bankers with victim support. Others, still, encourage developers and designers to engage with the toughest, most extreme customers, or the ones

facing the most serious problems to force more lateral solutions.

In contrast to new technologies forcing innovation, innovative people can draw on new technologies to create new possibilities. Every maturing technology opens up scope for public innovations. Mass television opened up new possibilities for education in the 1950s, just as mass penetration of mobile phones opened up new possibilities for front line workers in the 2000s. Artificial intelligence, in all its forms, is now ripe for mining in public organisations (and is already being used with considerable success in family law in Australia).

Pulling together needs and possibilities can be encouraged by competition. The public sector's most striking innovation of the last century was arguably the moon landing in 1969, the culmination of John Kennedy's famous commitment in 1961. If there had been only one team – the usual public sector approach – it is almost certain that the creative solution of a spacecraft, from which a separate module was sent off to the moon's surface, would not have won out.

Every public service throws up many possible innovations, the brainchildren of police officers and nurses, aggrieved citizens and pressure groups. Most never get much beyond a conversation over a cup of tea. Some briefly find backers but then fade away when the barriers turn out to be insurmountable or the idea turns out not to be so good after all, too expensive, too dependent on a few individuals. One key to success is to

ensure that there is as wide as possible a range of choices to draw on. As Linus Pauling (who won Nobel prizes in chemistry and peace) observed, “The way to get good ideas is to get lots of ideas and throw the bad ones away.”⁴¹

4 Prototypes and pilots

Innovation depends on creativity, but creativity is a necessary - and not a sufficient - condition. The next stages of innovation require different structures and mental styles because few ideas emerge fully-formed. Instead they need to be tried out, tested, and adjusted in the light of experience. Tinkering and trial and error contribute to all kinds of innovation. In the social sector (and in some industrial design and software) this often happens through people trying out new ideas on a very small scale.

The public sector tends to demand rather more formality and organisation, and so this stage involves specifying what the idea is; turning it into a prototype; and then testing it out, either in a controlled environment or in the real world. Pilots are one way of doing this. A new model is specified in detail and then tested out in practice with measurements of baselines and results achieved, control groups to compare with and various methods of evaluation. Piloting is mainstream in medicine, and has been increasingly used in welfare, policing and education. However, piloting isn't always the best way to organise innovation: it may freeze a model too soon, when it should be evolving; it's usually slow, and certainly slower than political cycles.

As an alternative, governments have made more use of processes such as pathfinders and trials that embody learning-by-doing, allowing iteration rather than treating an innovation as an inviolable scientific experiment. In the case of the moon landing, for example, a carefully planned series of stages paved the way for Apollo 11. In very different policy fields new models have been tested out in a stepped way, initially covering for example 5 or 10 per cent of the country. Recent examples include the New Deal and Sure Start, the programme for under-5s. In both cases, the early adopters were closely watched and linked together to share experiences. Other recent examples include the emissions trading system (an unusually large-scale experiment) and experiments in hospital choice.

Some prototypes are essentially adaptations of successes elsewhere around the world. Few public sector tasks are unique to any one country, and a great deal of time and effort can be saved by attempting to learn from countries that are doing particularly well. ‘Welfare to work’ models developed in Scandinavia influenced the UK and Australia, which in turn have influenced the rest of continental Europe. A very different example is the successful community-based programme to cut heart disease pioneered in north Karelia, in Finland, in the early 1970s, which has subsequently been adapted all over the world, from China to the USA, with help from the World Health Organisation. It's rare for a model to be precisely copied: instead new prototypes draw on experience elsewhere

but adapt it to local cultural or political conditions.

The prototyping and piloting phase can be hard to manage. As with technology, early expectations often rise too far, only to be knocked back when things go wrong or projects are delayed. Anything genuinely innovative is almost certain not to go quite according to plan. It's vital to have some measures of success, but judgement and experience count for as much as the numbers: people who have seen the trials and tribulations of past innovations are much better placed to make judgements than generalist officials or ministers. After all, as Rosabeth Moss Kanter put it, everything looks like a failure in the middle.⁴²

This is also where the generally welcome mantra of 'evidence-based government' can be misleading. Pilots and prototypes rarely generate unambiguous evidence. There may be 'Hawthorne effects'⁴³ – the label given to changes in organisational behaviour that result not from the innovation or pilot itself, but from the fact that the innovative or piloting organisation (or relevant part of it) has been the subject of focus or attention. There may also be 'Ashenfelter dips',⁴⁴ named after the academic who showed that workers who entered training programmes had often experienced a fall in earnings beforehand. So when their earnings then went up they were in fact on a rebound that would have happened anyway (just as many of the patients who were subjected to leeches in the 19th century went on to make healthy recoveries). Equally, 'learning

curve' effects may lead evaluators to underestimate how well a model will work in the future.

A classic example of the pitfalls of evaluation is the experience of the High/Scope Perry pre-school programme and similar programmes launched in the USA in the 1960s. For 10 years or so, the evaluations of these programmes were generally negative. It was only later that it became clear that they could achieve impressive paybacks in terms of better education and lower crime.⁴⁵ The same may be happening to the UK's Sure Start whose first evaluation was equally ambiguous.⁴⁶

An even starker example is 'welfare to work'. One of the most influential policy evaluations ever done was a study of the Greater Avenues for Independence (GAIN) programme in California which used random assignment – ie choosing people at random to benefit from different policies and comparing them to a control group. The research showed that the offices that placed welfare recipients into jobs achieved better outcomes than those that put them into training.⁴⁷ The 'work first' message went on to have a very big influence on policy in both the US and the UK. Yet when researchers studied what had happened to people nine years later, it turned out that although the 'work first' group had initially done better, in the long run those who had gone into training ended up earning more.^{48 49}

So evaluation needs care, and certainly needs to be done differently for new and mature programmes. Nor should failure

always be seen as a disaster. Sometimes it can be instructive and make future success more likely.

5 Scaling and diffusion

If the pilot or prototype broadly works, the challenge then is to launch the innovation on a larger scale.

This is when selection has to be decisive: only a small proportion of ideas and pilots deserve to be replicated. Having decided that something is worth replicating, governments are well placed to scale up innovations. They have at their disposal the power and the money to spread ideas, good and bad. They can command people to do things (for example telling all schools to teach the national curriculum, or more recently the literacy hour in primary schools), at least where there is sufficient political will. They can provide generous incentives or use the stick of targets.

But many public innovations can't be spread in this way. There isn't enough political capital around to impose many new ideas, and there isn't enough money around to bribe people to adopt them. Instead, much public sector innovation depends on willing adopters – people who become convinced that their lives and work will be improved by doing things differently.

This is where the public sector often falls down. When someone builds a better mousetrap, the world doesn't automatically beat a path to their door. In fact, innovations are slow to spread,

partly because the incentives for adoption are weak. Few managers are taken to task for failing to keep up with best practice in their field. Local authorities, hospitals, police forces and social services teams can be remarkably ignorant of demonstrably superior practice even when it's happening on their doorstep. Most services simply lack a culture of rigorous learning and benchmarking – and, as with so much of what is being discussed here, it's rarely clear whose job it is to identify what works and to promote it.

Cultural and cognitive barriers also get in the way of diffusion. Even where strong networks have been put in place to promote diffusion the results have been disappointing. Different professions may simply have a different view of what counts as success. Innovations may threaten demarcation lines and power structures, particularly if they cut across organisational boundaries. When diffusion does happen successfully it's often because of effective champions; because of strong networks (including within the professions); plenty of handholding; and last but not least some financial inducements.⁵⁰

6 Sophisticated risk management

The final element of any innovation system is sophistication about risks. The most common justification for blocking innovation is that it's too risky – with political or media pressures usually identified as the chief culprits. Right from the start, even a small-scale pilot may be interpreted as a signal of where government wants to take policy. If it

fails, ministers will be called to account for wasted money. If lives are damaged, voters will justifiably be angry.

So any programme of innovation has to be smart about risks and how they should be managed. Generally it will be easier to take risks when there's a consensus that things aren't working (a 'burning platform' makes the status quo seem even more risky than trying something new). It will be easier if government is honest that it is experimenting with a range of options, rather than pretending that all will succeed. It will be easier where users have some choice (so that they can choose a radically different model of school, or doctor, rather than having it forced on them), and it will be easier where the innovation is managed by an organisation at one remove from the state, a business or NGO, so that if things go wrong they can take the blame. But the key is to be explicit about risks and how they should be managed.

Organising for innovation: exercising the innovation muscles and cultivating hinterlands

If these are some of the likely elements of an innovative system how should they be pulled together? John Kao has written that the most important characteristic of an innovative firm is that it has an explicit system of innovation which pervades the whole organisation, which is visible, known about, generates a stream of new ideas, and is seen as vital to creating new value.⁵¹ No public agencies have anything quite comparable.

For a country like the UK, there is no simple blueprint for achieving this goal. But an explicit system of innovation needs to balance innovation-friendly internal structures, processes and cultures with sufficient porousness and permeability to make the most of innovations that come from outside. In other words, public sectors need to exercise their own ‘innovation muscles’ and cultivate their hinterlands.

Pro-innovation governance Innovation needs to be recognised and supported by the people with power. That means ministers within each department with a remit to protect and nurture innovation, and board members responsible for providing the money and backing. It means paying attention to how the future is unfolding (for example, situating health innovations within the broader shift to greater self-management of long-term conditions, and the steady move away from a health service centred

around hospitals and acute illness).⁵² Any governance structure that does not regularly assure itself that there is a flow of potential new ideas, ranging from high-risk and high-impact to relatively low-risk and low-impact, isn’t doing its job.

Teams and networks dedicated to organising innovation Within departments and agencies there need to be teams with a specialised role to organise and advance innovation. These need to include people who scan the world and other sectors for promising ideas (and in some cases governments may be wise to prioritise effective following rather than original innovation – what Paul Geroski and Markides Constantinos called the ‘fast second’ strategy).⁵³

They need people to map current pilots and pathfinders, and assess which ones are worth building up; and to design new innovations, incubate them and then launch them. Experience suggests that these teams generally work best with a mix of skills, experience and contacts, combining civil servants, social entrepreneurs, designers and practitioners. That may be easiest to organise at arm’s length through units combining ‘insiderness’ and ‘outsiderness’ or through ‘skunk works’.⁵⁴ Some people need to be explicitly employed to act as brokers and intermediaries – making links between emerging ideas and changing

needs. A high proportion of teams and networks of this kind then need to be organised across organisational boundaries, reporting directly to central departments like the Cabinet Office or Treasury, or Chief Executives' departments in local authorities. These may be focused on problems (for example the rising incidence of Alzheimer's or gun crime) on groups (like migrants with poor English language skills) or places (like depressed seaside towns).

Processes that back innovation

It's vital that an organisation's main processes encourage and reward effective innovation, including audits and inspections. Any regular strategy or spending reviews should take stock of which policies are working, where new priorities are emerging, and which promising innovations, whether in the UK or abroad, should be adopted or adapted.

Investment for innovation Spending reviews can also provide the money for innovation. Within all public agencies money matters both to get things done and to signal what's important. Innovation needs money for research, trials, training and evaluation. There is no science of what budget allocations are right. But there are few circumstances where the figure should be less than 1-2 per cent of turnover, and in fields of relative failure – like offender management or congestion – the figures need to be higher. These can then be allocated through departments and through cross-cutting budgets. From there, money can be directed either to individual projects or, more fruitfully, to teams with

good track records and to intermediary organisations. It can be offered to local authorities to encourage them to play a more explicit role as laboratories for national policy,⁵⁵ to user groups to engage them in commissioning innovations, or to networks of collaborators.⁵⁶

HR policies to bring out the best from innovators

Teams for innovation are bound to benefit from including people who have proven track records of public innovation, but such people are often prickly, ill-suited to conventional careers and management structures. So alongside recruitment and development policies that don't squeeze out creative people, and training courses that acclimatise officials to innovative processes, pay arrangements also need to be designed to encourage risk-taking (for example with bonuses when ideas are taken up). New hybrid positions may also be needed – for example, keeping innovators on the civil service payroll so long as they can find willing departmental paymasters for at least half the year.

Options for flexible experimentation

The public sector needs a menu of methods for trying things out, including pilots and pathfinders, incubators and laboratories (and a flexible approach so that sometimes pilots can be ended early and half-formed ideas can be tried out in safe environments).

Support for the public sector's hinterland

The public sector needs to fertilise its hinterlands: shaping research council funding to support the development of new ideas from

universities (and the social equivalent of technology transfer); grants for voluntary organisations that encourage innovation (rather than only contracts for specified services); partnerships with local authorities; and support for ‘accelerators’ and exchanges that can bring new teams into existence.

Investment in diffusion For the public sector as a whole, diffusion and the adoption of innovations matters even more than invention. So far, the public sector hasn’t taken on the strong evidence on what kind of learning networks work in helping to diffuse innovations – including the importance of intense facilitation, efficient databases, knowledge management and personal communications, all combined with a shared sense of mission. There are also many other devices which can help diffusion, ranging from performance management systems, which put pressure on managers to keep up with best practice, through to prizes and honours to promote successful innovations, to training that straddles organisational boundaries.⁵⁷

Markets for outcomes Funding regimes that reward outcomes achieved, rather than rules adhered to, should create more space for innovators, particularly where there is a mixed economy with public agencies, private companies and NGOs competing with each other.

Spirit Finally, innovation depends on what can best be described as style: the imaginative flair of people like Antanas Mockus (see page 8) that tells people at an emotional level that innovation matters, and isn’t just a new box to tick.

Innovation from the inside out and outside in

The public sector is often poor at innovation from within, and poor at learning from outside. It contains many innovative people but isn't good at harnessing their talents and imagination. It too rarely cultivates a plurality of alternatives and too often imposes ill-conceived innovations on the whole country.

Governments and agencies around the world are now experimenting with putting this right. They are feeling their way to new structures, and new ways of organising money, people and knowledge. They are learning to innovate both from the inside out and from the outside in. They are being helped by a growing academic literature that's trying to map out just how different public innovation is from innovation in the private sector, as well as by insights from neighbouring fields such as social entrepreneurship, design and technology.

When public organisations take innovation seriously – and see it not as an optional add-on but rather as integral to good government – they don't just re-energise themselves. They also return to the underlying motivations of public service – which at their best are not only about doing good, but also about always striving to do better.

Appendix A: Public sector innovation checklist

A simple checklist for public agencies and departments seeking to improve their innovative capacity

| | | |
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| Assessing priority areas for innovation | What steps have been taken to determine the most important fields, issues, and problems for innovation? These include: fields of relative policy or delivery failure; areas where new technologies create opportunities; cross-cutting fields. | |
| Assigning and defining roles | Who has board and ministerial level responsibility for innovation? What units, teams or groups are there to organise innovation? Whose job is it to scan internationally for promising ideas; to scan domestically; and to learn from neighbouring fields? | |
| Budgets | How are broad and specific budgets to support innovation determined, and what methods are used to determine spending levels, metrics etc? | |
| Processes | What processes are used to promote innovation; take stock of successes and failures and determine which innovations should be scaled up (eg spending reviews, strategy reviews)? | |
| Shapers, incubators, accelerators | What mechanisms exist to develop promising ideas into workable prototypes, either through mixed in-house teams or arm's length bodies? | |

| | | |
|--------------------------------|---|--|
| Recruitment | What steps are taken to ensure recruitment and retention of creative, entrepreneurial people? | |
| Piloting and testing | What mix of pilots, pathfinders, ventures is used and why? | |
| User pull | How are users, consumers and citizens engaged in innovation – for example through networks, holding funds, etc? | |
| Testing and measurement | What methods are used to define and measure success? | |
| Leadership | What signals do political and official leaders provide to validate innovation? | |
| Culture shaping | What cultural measures exist to shape a pro-innovation culture (eg awards, heroes, stories, champions, pay-determination)? | |
| Networks | Which networks support innovation and ensure that successful innovations are nurtured? | |
| Risk management | What methods are used to manage risks, including appropriate risk/reward ratios, handling of political risk, financial risk, etc? | |

Appendix B: What's known about public sector innovation

There is a vast literature on technological and business innovation, but much less on innovation in the public sector. Amongst the major thinkers on innovation, Everett Rogers stands out as just about the only one to consistently include public sector examples in his work on diffusion.⁵⁸

There has, however, been a steady flow of academic studies looking at public innovation through a variety of different lenses. In the 1960s for example, researchers looked at the traits of innovative organisations that are more receptive to ideas – including Walker's and Gray's studies of diffusion of innovations in the USA; Mohr's work on policy innovation, and Etzioni's studies of bureaucracy and how change and innovation happen. One of the conclusions of Mohr's work was that larger governments were more likely to be innovative.

In the 1970s and 1980s some researchers turned to the psychological characteristics of innovation (for example, using Bandura's work on self-efficacy) and public service values and motivations (in the work of H George Frederickson and David Hart). There was also significant work to make sense of the overall patterns of public innovation (for example in the work of Altshuler and Behn).

During the current decade a network of researchers in Europe have tried to

understand some of the dynamics of public innovation, with particularly interesting work on health⁵⁹ and the rising importance of users in shaping the innovation process. Other frames for thinking about innovation have started to be used – including ecological perspectives. This literature has also been joined by the extensive, albeit inconclusive, literatures on creativity in organisations.

Recent work by Greenhalgh et al⁶⁰ has expanded on Rogers' work to outline the factors crucial to the development of an innovative organisational milieu. Canada has been a particular centre for study, helped in recent years by an Innovation Network and Innovation Journal supported by the Government, as well as several academic centres for the study of social innovation. Sanford Borins has undertaken one of the few significant surveys of innovation in the public sector,⁶¹ which indicated that most innovation: is initiated by front line staff and middle managers (50 per cent); is not a response to crisis (70 per cent); cuts across organisational boundaries (60 per cent); is motivated more by recognition and pride than financial reward.

In the UK, the field has become significantly richer in the 2000s. The Cabinet Office published a report on public sector innovation in 2003 which attempted to synthesise knowledge from across the world. In 2006-7 research

by the National Audit Office, Audit Commission and others has begun to examine the processes of innovation in both national and local government.⁶² Some of these research findings appear counter-intuitive. For example, the most innovative authorities aren't usually the most competent but rather those with the most need to innovate – in the second or third quartile of performance.⁶³ This is problematic for governments that have tended to direct funding for innovation to those perceived to be best, rather than promoting emerging practice. Nutley has studied evidence-based policy making in the UK, and probed the complexities of trying to base policy on piloted programmes and research.

Hartley and Bennington have looked in particular at how innovations spread. As much of the existing research makes clear, the degree to which organisations are willing to adopt innovative ideas is affected by how open the idea is to adaptation; the relevant metaphor being 'graft and grow' rather than 'cut and paste'.

Another strand of research has focused on places – including Landry's work on creative cities, and Hall's on innovative milieux,⁶⁴ both of which have been popularised by Richard Florida. The field is continuing to evolve – however, surprisingly, it has yet to generate a key text or a widely accepted set of concepts.

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Endnotes

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Geoff Mulgan

Geoff Mulgan is Director of the Young Foundation. Between 1997 and 2004 he had various roles in the UK government including director of the Government's Strategy Unit and head of policy in the Prime Minister's office. Before that he was the founder and director of the think tank Demos. He began his career in local government in London and has also been a reporter for BBC TV and radio and a columnist for national newspapers. He has lectured in over 30 countries and is a visiting professor at LSE, UCL and Melbourne University, and a visiting fellow at the Australia and New Zealand School of Government. From late 2006-8 he will be chairing a Carnegie Inquiry into the Future of Civil Society in the UK and Ireland. He has been involved in the design and launch of dozens of organisations – ranging from the first plans for what later became Learndirect to the establishment of the Social Exclusion Unit and Jobcentre Plus.

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1 Plough Place
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