National Audit Office

Innovation across central government

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL | HC 12 Session 2008-2009 | 26 March 2009

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Innovation across central government

A report by the Comptroller and Auditor General

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Tim Burr
Comptroller and Auditor General
National Audit Office

18 March 2009

The National Audit Office study team consisted of:

Hedley Ayres, Sandy Gordon, Graeme Howard, Hannah Marks, Scott McMillan, Polly Meeks and Andrew Ryan, under the direction of David Woodward

This report can be found on the National Audit Office web site at www.nao.org.uk

For further information about the National Audit Office please contact:

National Audit Office
Press Office
157-197 Buckingham Palace Road
Victoria
London
SW1W 9SP

Tel: 020 7798 7400

Email: enquiries@nao.gsi.gov.uk

CONTENTS

Photographs courtesy of United Kingdom Border Agency

SUMMARY

1 Innovation is important for bringing about improvements in quality and efficiency of public services and for responding to changing social and economic conditions. In the private sector, innovation is acknowledged to be a critical determinant of competitiveness, profitability and overall positioning. In the public sector, national challenges such as climate change and an ageing population call for fresh approaches and ideas, as does the pressure on the public sector to generate efficiency savings and improve customers' experiences of public services. Tightening public finances and pressure on financial resources increase the need for government to seize innovative ideas that can lead to greater efficiency and effectiveness, and develop them through to implementation.

2 Innovations that address these challenges can be incremental, continuous improvements – such as the more efficient organisation of HR services in a department – through to radical, more transformative changes – such as online tax returns and iris scanners at the national border. In the context of the public sector, it is widely accepted that innovation can mean ideas adopted from another organisation, sector or country as well as totally new ideas **(Box 1)**. While the aim of innovation is to change the administration or delivery of services for the better, the innovation process may involve some failure as new things are trialled and piloted.

BOX 1

The Government's definition of innovation

The White Paper *Innovation Nation* defines innovation as: "the successful exploitation of new ideas..." "New" in this context can be new to the sector or the organisation, taking an idea from one context and adapting it to another.

3 The innovation lifecycle depends on more than good ideas. There need to be clear drivers and incentives, strong implementation, and means for learning from success **(Figure 1)**.

4 In 2007, the government created the Department for Innovation, Universities and Skills (DIUS). As well as inheriting the science and innovation responsibilities held by the former Department for Trade and Industry, the new department became responsible for policy on public sector innovation. The White Paper, *Innovation Nation*, sets out the Department's strategies for increasing the innovativeness of the public sector and for coordinating existing initiatives on public sector innovation.

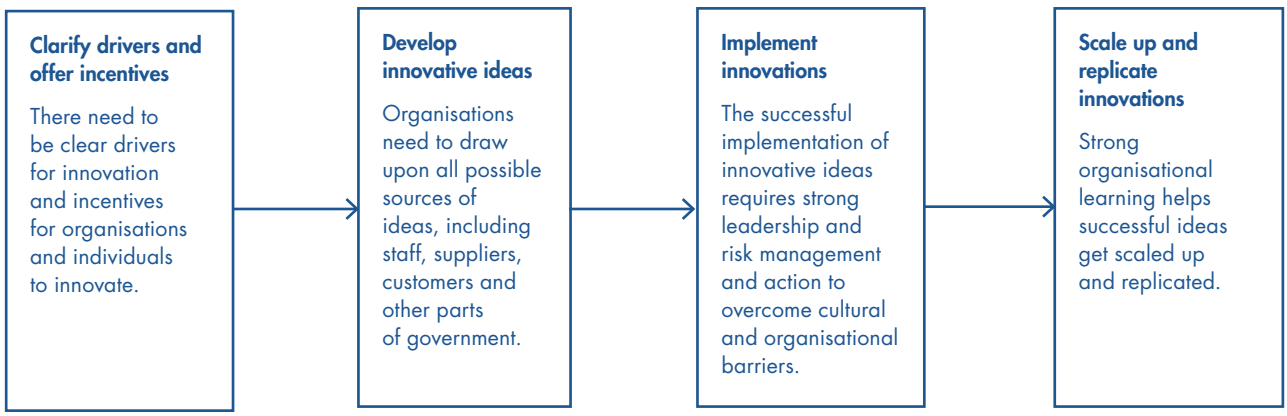
5 The Cabinet Office also has a continuing role to play in increasing innovation in central government. Its strategy for achieving "excellence and fairness in public services" sets out reforms designed to "unlock the creativity and ambition of public sector workers to innovate and drive up standards" as well as strengthening government's strategic leadership and empowering citizens.

6 Most innovation spending is not identified as such, but occurs as part of large business transformation programmes or initiatives to improve efficiency and effectiveness of service delivery. It is not possible therefore to state categorically how much central government spends on innovation, but we estimate that departments have allocated at least £3 billion to it in the form of innovation budgets. The government announced in *Innovation Nation* that it had set aside a further £2.5 billion of funding from 2008-09 to 2010-11 to support public sector innovation.

7 The National Audit Office last examined this subject in our 2006 report *Achieving innovation in central government organisations*, and found that there was scope for government to take a more systematic approach to developing innovations by improving costs and productivity data, creating incentives for individual managers, finding new ways of seeking ideas from the frontline, encouraging learning from others, and establishing more effective piloting processes. This report examines central government's subsequent progress in improving its innovative capabilities, in the light of the significant challenges requiring innovation and the creation of the new Department for Innovation, Universities and Skills.

8 To gather evidence for our examination, we conducted a survey of 27 government departments, agencies and non-departmental public bodies ('central government organisations'). As part of this survey, we asked them to submit examples of successful innovative projects which were currently under way, and we interviewed 15 people who were involved in the implementation of these projects. We held online discussions with 120 frontline public servants to obtain a more detailed picture of how innovation affects the delivery of public services at a working level and to

1 Implementing successful innovations depends upon clear drivers, strong incentives, good ideas, an absence of barriers to their implementation, and means for learning and replicating success



Source: National Audit Office

examine the barriers to further innovation. We also reviewed the literature on innovation in the public and private sectors and conducted interviews with policy officials in the Department for Innovation, Universities and Skills and a range of other stakeholders. Further details of our methodology are in Appendix One.

9 Part One of this report describes the innovation agenda, including government's track record of innovating and how this compares with the private sector. It describes some of the key challenges which require innovation in the public sector, as well as the responsibilities of DIUS, the Cabinet Office and other bodies for increasing the innovative capacity of government. Part Two presents 11 of the case examples of innovation that we examined in more detail and shows how innovation happens in government and what it can achieve. These are listed in **Box 2**. These cases illustrate the innovative approaches adopted by Departments and Agencies. They are at different stages of realising their potential and we have not formed a judgment on their likely success. Part Three examines the scope for further innovation in government, why not all opportunities to innovate are taken, and the action that DIUS, the Cabinet Office and other parts of government have taken to address these barriers.

Key findings

10 Since our 2006 report, the need for innovation has been emphasised more strongly by the centre of government. Our survey shows that central government organisations recognise the need for innovation and its increasing importance. They also consider that the amount of innovation they undertake has increased in the last five years. Many of the means for generating and capturing innovative ideas we recommended in 2006, such as innovation units, customer research and staff suggestions schemes, are in place in central government organisations. Appendix 2 summarises progress made to date against our 2006 recommendations.

BOX 2

Cases of innovation featured in this report

1 **The Department of Health: work to address the issue of stillbirth at Luton and Dunstable hospitals.** Luton PCT's analysis of recent stillbirths in its area showed a number of significant trends, and through engagement with local women they came up with a number of innovative changes to processes which were designed to reduce the number of stillbirths.

2 **The Ministry of Justice's Community Justice Programme.** The programme aims to tackle crime and anti social behaviour by bringing all the criminal justice agencies together to learn which crimes most concern local people, provide information to local people and encourage the community to develop solutions to the problems.

3 **The Cabinet Office's Show Us a Better Way competition.** A Cabinet Office taskforce ran a competition which encouraged individuals to submit innovative ideas as to how government could make its data available to citizens in a more useful way.

4 **The Environment Agency's Flood Warning Direct system.** This system uses new technology to enable registered users to be notified of flood warnings in their area via their preferred means, such as by text message or e-mail.

5 **The Higher Education Funding Council for England's Higher Education Innovation Fund (HEIF).** HEIF is a funding stream which encourages Universities to engage with the wider world in innovative ways. Universities are able to create their own plans for how they are to achieve this interaction.

6 **The Prison Service's procurement of prison mattresses.** The use of an innovative procurement process allowed the private sector to develop innovative solutions to the Prison Service's problem of the high cost of replacing prison mattresses.

7 **The Home Office's IRIS border control system.** IRIS is an innovation that results in registered passengers being processed more efficiently at UK airport borders. The solution is based on gates that scan individuals' irises, which means that they do not have to interact with Immigration Officers.

8 **The Department for Work and Pensions' Lean Programme.** The concept of lean processing was initially developed in the automotive industry as a means of eliminating waste from the production cycle. The DWP are using it to see how their processes could be improved and made more efficient

9 **The Environment Agency's Innovation 4 Efficiency team.** This team provides a link between the science and operations functions of the Agency to provide innovative solutions to operational issues. They assist with the piloting and implementation of projects, and direct the Agency's horizon scanning work into areas that would benefit operations most.

10 **The Pension Service's Pension Transformation Programme.** This programme is a process of complete business transformation in The Pension Service, covering everything that it does operationally, as well as some support services, in order to improve the service offered, and generate efficiencies.

11 **BERR's Business Support Simplification scheme.** BERR embarked on a large scale project that set out to make it easier for businesses to engage with government by reducing the number of available support schemes from around 3,000 to around 30.

Source: National Audit Office survey of central government organisations

11 Government organisations are developing innovations, from efficiency improvements such as introducing Lean processing, a technique for achieving efficiency and effectiveness improvements adapted from car manufacturing, service improvements developed at the frontline, such as the NHS productive ward programme[1] to new services to tackle strategic challenges, such as changing the way services are delivered to pensioners.

12 Common factors led to the success of the innovations in Box 2, including support from senior leaders, good management of risks and data to measure success. For instance, the Flood Warnings Direct system and the IRIS Border Control project could demonstrate measurable benefits early enough to allow robust decisions about rolling them out. Piloting and testing can provide this evidence and permit unsuccessful innovations to be stopped early. The Luton and Dunstable stillbirth project involved quick trials of ideas on a small scale, with the successful ones scaled up and those that were unsuccessful, halted.

13 Compared with leading commercial organisations, there is potential for departments to develop more innovation from suppliers and from service users. The majority of examples of innovation that central government organisations cited to us were based on ideas generated and developed within the organisation and often introduced by the senior management of the organisation.

14 The use of a commissioning process which specifies the required outcomes, but not the means used to achieve them, can be used to encourage more innovation from suppliers, such as was done in the Prison Service's disposable mattress procurement process. Understanding the experience of service users can identify service improvements such as in the Ministry of Justice's Community Justice programme, where the local community was involved in shaping services in their area, letting them prioritise issues and come up with solutions.

15 Our fieldwork with frontline staff showed there were barriers for public servants, who are inhibited from developing innovations through to implementation by risk-averse attitudes and perceptions that national performance measures, targets, budgets and national initiatives leave little room for innovation. They will also resist change that is imposed without a clear understanding of how it relates to the organisation's goals.

16 Confusion about the meaning and purpose of innovation among staff is a barrier to the generation of innovative ideas. For instance, staff told us there was scope for innovation to improve services, as well as to achieve cost savings, but needed to know that both were recognised as valid business objectives. Staff do not consider they have an incentive to voice innovative ideas and take on the risks associated with developing them.

17 Clearer messages from leaders about why innovation is needed and what they expect from staff would help overcome these barriers, but departments will also need to manage innovation more systematically. Only a few departments have strategies which show that they understand where they need innovation or how to encourage and support it, but those that do such as the Department of Health have a better understanding of the role of innovation within their priorities. **Box 3** summarises the key factors we consider make organisations well placed to develop innovations that improve quality and efficiency and respond to emerging challenges.

BOX 3

Critical success factors for innovation at a departmental level

Leaders have a good understanding about, and communicate, what innovation means in relation to the organisation's objectives, where innovation is needed, and what they expect staff to do.

Individual and organisational targets and objectives create **incentives** that focus leaders and staff throughout the organisation on continuous and radical improvement and which are outcome based (as opposed to prescribing how they do their jobs) so as to give flexibility in allowing for innovative responses.

Staff are given the **time and resources** to develop innovative ideas and available **funding** is used to support innovations being tested, piloted and rolled out where there are demonstrable benefits to be achieved.

The organisation responds to **customer feedback** and develops innovations with **suppliers**.

Innovations are delivered effectively. The critical success factors we identified from the case examples, including ensuring that risks are well managed, the signs of failure are quickly acted upon, and staff support is secured for changes in processes, are listed in Box 8.

Measures of success are in place for individual innovations and there are **mechanisms for learning lessons** from successful and failed projects.

There are systems in place for **disseminating what works**, to other parts of the organisation and other delivery bodies, and for **adopting innovative ideas developed elsewhere**. These are underpinned by budgets, senior management direction and incentives.

1 NAO Report. Helping Government Learn, HC 128, 2008-09.

VFM conclusion

18 The capacity of government to innovate substantially affects value for money. Innovation can improve value for money by: leading to better ways to meet government objectives; increasing departments' capability to meet future challenges; and generating efficiency improvements. To this end, the government has allocated at least £3 billion a year for innovation via departmental innovation budgets, and the government has earmarked a further £2.5 billion to support public sector innovation from 2008-09.

19 There are no measures yet in place to assess the impact of this expenditure. The examples in Box 2 show that the government is developing successful innovations. But departments are not currently maximising the opportunities to innovate and no central government organisation matches the model of success outlined in Box 3, although good progress is being made by several. The recommendations below set out what needs to be done to move towards this model.

Recommendations

a **The Department for Innovation, Universities and Skills currently has no means for measuring the impact of its policies or other central government initiatives on innovation.** Devising measures for the public sector is complex. Our survey work could be developed to measure departments' innovative capacity, while the biennial UK Innovation Survey of businesses uses measures of innovation activity, such as the introduction of significant product, service or process improvements. To measure progress in the shorter term, and as a stepping stone to a comprehensive measure, DIUS should develop these sources into a tool to track departmental innovation, including progress against all the recommendations below, with results to be reported in the Annual Innovation Report. Projects supported by departmental innovation budgets should have measures in place to determine that their benefits have been realised.

b **Confusion about the purpose of innovation prevents government organisations taking opportunities to innovate.** At a local level, organisations and managers do not see how innovation fits in with their other priorities. Innovative solutions should not be seen as competing with the objectives of achieving greater efficiency or a high standard of customer service; on the contrary, innovations such as those listed in Box 2 can help achieve these objectives.

- DIUS should agree with the Cabinet Office and Treasury what role innovation is expected to play in achieving overarching objectives such as those in Public Service Agreements, as well as greater efficiency, service transformation and public service reforms.
- The centre of government should then collectively articulate a clearer message across government including to NDPBs, agencies and local delivery bodies, that innovation can help departments achieve their own strategic objectives, and that frontline staff can be empowered to make improvements. This message could be supported by using the success factors in Box 3 to examine innovation explicitly in future capability review assessments.

c **Few central government organisations have considered strategically where they need innovation or how to encourage and support it.** Departments need to develop plans which set out their own priorities and the means by which innovation will be facilitated, including how they will use management information, horizon scanning and customer feedback to identify specific areas for innovation. The priorities for innovation vary between sectors which will therefore need specific approaches. Departments need to decide where their priorities lie, for instance increasing productivity, devising innovative solutions to new problems, or improving customer experience, and where they need to strengthen the support for innovation. Leaders should clearly communicate their plans to staff and suppliers throughout the delivery chains. DIUS should assist departments in developing these strategies and should highlight and spread good practice.

d **Most current innovation is generated and driven by senior management, and central government organisations need to do more to develop ideas from the frontline, users and suppliers.** Departments are prepared to learn and seek ideas from staff working at the frontline, suppliers and service users, but these sources are not being fully exploited. Our case examples illustrate good practice in gaining staff support for innovation, and innovation units such as the Environment Agency's Innovation 4 Efficiency team have succeeded in developing the ideas of front-line staff to fruition. There is less evidence on what works in creating incentives to innovate and overcoming barriers such as risk aversion, so experimentation backed up by robust metrics will be needed to measure success.

- Central government leaders should move beyond supporting individual cases of innovation to allowing and promoting innovation for continuous improvement. Where central government organisations have a portfolio of innovations at any one time, not all of which are expected to succeed, leaders need to make clear it is acceptable for a project to fail, providing that lessons are learned from it and that the failing project is quickly brought to a halt.
- Departments should experiment with different mechanisms to encourage frontline staff to play an active role in innovation, supporting the message from leaders by trialling incentives, including reward schemes, budgeting for outcomes and using innovation units to provide time, resources and expert support for the development of ideas.
- Departments should also encourage innovation from suppliers, by early engagement to find out what solutions suppliers have to offer to policy problems, and commissioning for outcomes rather than procuring predetermined products; from citizens, by explicitly involving them in service design, learning from customers' experience of services, and applying the Government Standard for Customer Service Excellence and measuring progress against it; and from other organisations, by encouraging greater openness and exchange of people and knowledge.
- DIUS and its delivery partners such as the National School of Government should demonstrate the benefits of innovation by drawing together and promoting successful practice in the above areas and support departments in adopting the best innovations.

e **Innovative projects have had to overcome structural and cultural barriers and need access to support and expertise to succeed.** Some departments have innovation units or similar support, but awareness amongst staff of what they can offer is low. They should be used to select promising ideas which meet priorities, provide time and resources for developing those ideas, help with the development of business cases, put those responsible for implementation in touch with subject experts, and assist in piloting and testing. To increase awareness, departments need to promote positive examples, such as the Innovation 4 Efficiency team (Box 2), of how such means can support innovation. DIUS should support its delivery bodies such as NESTA, the Design Council, and the Sunningdale Institute (via their Whitehall Hub for Innovation) to identify and fill gaps in provision of support mechanisms across the public sector.

PART ONE

The innovation agenda

1.1 This report examines the capacity that central government departments and agencies have to innovate and what the centre of government – primarily the Department for Innovation, Universities and Skills and the Cabinet Office – is doing to support innovation across the public sector.

Defining innovation

1.2 There is no single definition of what counts as innovation. The Department for Innovation, Universities and Skills defines innovation in its White Paper, *Innovation Nation*, as "the successful exploitation of new ideas, which can mean new to a company, organisation, industry or sector" and states, "It applies to products, services, business processes and models, marketing and enabling technologies".[2] In the context of the public sector, it is widely accepted that innovation:

- can mean ideas adopted from another organisation, sector or country as well as totally new ideas;
- aims to change the administration or delivery of services for the better, but the innovation process may involve some failure as new things are trialled and piloted;
- can be incremental – relatively minor changes to existing services or processes which contribute to continuous improvement, such as the use of ICT to handle school finances – or radical, which may be new services and fundamental changes to the ways in which services are developed, such as online tax returns.[3]

1.3 Most respondents to our survey across central government organisations, and participants in the online discussion forums that we ran, agreed that innovation can mean ideas adopted from elsewhere as well as totally new ideas, but believed that innovation must add value. The majority of respondents to our survey agreed that innovation is problem solving, whilst the majority disagreed that innovation and creativity are the same thing. Over 90 per cent agreed that innovation can mean adopting successful practices from other organisations **Figure 2**.

Government innovation over the last decade

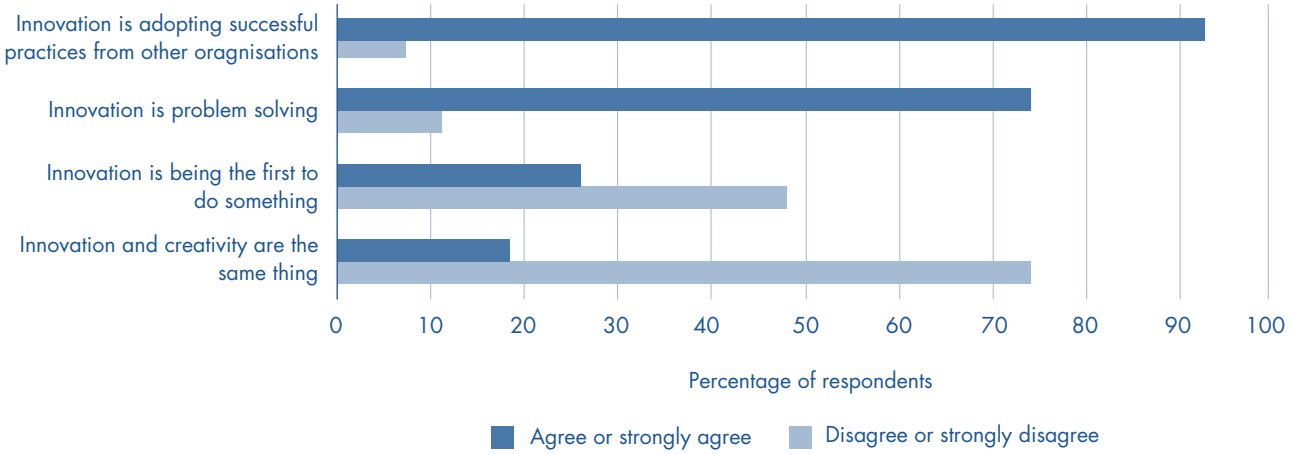
1.4 Britain has a long track record of public services innovation, from the creation of the National Health Service, the Open University and the BBC through to innovations in medical procedures like keyhole surgery, strategies for getting unemployed people back to work such as the *New Deal*, and electronic monitoring of offenders. There is considerable evidence of further government innovation over the last decade, in the way in which public services are delivered, as well as in the use of technology to improve services and the administration of back office functions. Examples include the following:

- NHS Direct was launched in 1998 to provide the public with fast and easy access to health advice and information over the telephone and internet, combining old elements of service delivery in new ways;
- Jobcentre Plus, rolled out between 2002 and 2006, brought together benefits and employment services to deliver a single, integrated service to employers and benefit claimants; and
- the Driver and Vehicle Licensing Agency, the Driving Standards Agency and the Vehicle and Operator Services Agency have made several key services (such as buying car tax, booking of driving tests and applications for provisional licences) available electronically, increasing availability and reducing turnaround times.

2 Department for Innovation, Universities and Skills. *Innovation Nation*, March 2008.
3 Mulgan and Albury. *Innovation in the public sector*, October 2003.

2 The interpretation of the term innovation

Percentage of surveyed central government organisations who agree or disagree with the following statements about the term "innovation"



Source: National Audit Office survey of 27 central government organisations

Why government needs to get better at innovating

1.5 The imperative for an innovative public sector is high, as government faces increasingly complex challenges. There are pressing social, demographic and environmental challenges that will demand the development of innovative products, business processes and ways of delivering services. Climate change will necessitate the development of new energy sources, more sustainable uses of resources and innovative policies to reduce carbon emissions. An ageing population will open up new markets, but it will also require innovation in public service delivery as the government's customer profile changes. Against the background of a global economic downturn and tightening public finances, increasing pressure on financial resources will demand innovative business processes and service delivery models, as organisations seek to become more efficient. Increasingly demanding customers will require more responsive and personalised services, which are user-friendly and which achieve standards comparable to those in the private sector. These factors will mean that government cannot simply do more of what it has always done, but that it will need to develop radical and new approaches and seize ideas within and outside organisations that can lead to greater efficiency and effectiveness.

1.6 The National Audit Office last examined central government innovation in 2006, and found that there was potential to improve the innovative capacity of organisations. Whilst there were numerous examples of innovation, the study found that the main focus of efforts had been on top-level policy change and there was scope for government to take a more systematic approach to developing innovations. In particular, the report concluded that central government organisations needed to improve their understanding about where the potential for innovation lies, increase the incentives for individuals to innovate, strengthen their ability to learn from one another and improve the pace at which innovations are implemented.

How government organisations compare with the private sector

1.7 Academic literature on innovation frequently portrays government organisations as being less innovative than the private sector.[4] Whilst in the private sector, innovation is acknowledged to be a critical determinant of competitiveness, profitability and overall positioning, the public sector is broadly characterised as being less driven to be innovative and slower to adopt and implement innovations. Three-quarters of respondents to our survey across central government organisations agreed that innovation is a greater challenge in the public sector than in the private sector. **Box 4 overleaf** sets out some of the main characteristics of private sector innovation and contrasts these with the public sector. It draws upon the 2007 UK Innovation Survey and our own findings in relation to the public sector.

4 E.g. Leadbetter, *Innovation from within*, 2002; Mulgan and Albury. *Innovation in the public sector*, 2003; Kamarck, *Government innovation around the world*, 2004.

BOX 4

The main characteristics of innovation in the private and public sectors

	Incentives
Private sector	Companies operate in a competitive environment, with clear, bottom-line criteria for success or failure, which provides pressure to innovate.
	Just over a third of respondents to the 2007 UK Innovation Survey were not innovation-active between 2004-2006, and half of these stated this was because there was no need to innovate due to market conditions.
	Successful innovations are translated into increased profitability, market share and brand strength.
	It is easier to provide individuals with a share of organisational incentives (such as increased profitability), for example, through increased pay and financial rewards.
Public sector	Although the government has taken steps to develop quasi-markets in some sectors, including education and health, competition between providers and organisations is not as intense as in the private sector. However, political scrutiny, media coverage, audit and public performance information provide stimuli for improving quality and efficiency.
	It is not always easy to quantify the benefits associated with particular innovations, because of the range of different forces affecting public services.
	It is harder to link organisational incentives (such as increased efficiency and better public service outcomes) with individual incentives. The Cabinet Office's development of civil servants' performance management framework is an attempt to make these links more explicit.
	Investment
Private sector	Private sector may be more inclined to invest in innovations which take a long time to generate benefits.
	Upfront costs are frequently considered to be a barrier to innovation.
	Different sectors invest different proportions of revenue in innovation, for example, bio-technology firms typically invest around 20-30 per cent in research and development, whilst 3-4 per cent is more generally thought to be the right proportion across the whole economy.[1]
Public sector	Political cycles of five years may reduce the likelihood of investment in those innovations which take a long time to generate benefits.
	Upfront costs are considered to be a barrier to innovation.
	It is not currently possible to quantify how much the public sector invests in innovation, but we estimate that at least £3 billion has been allocated to support its development (see paragraph 1.16).
	Risk appetite
Private sector	Risks are seen in terms of the possible impact on profitability and shareholder value.
	The consequences of failure are reduced profitability.
	The risk of not innovating is well understood.
	A pipeline of innovations at different stages of development may ensure that the company always has a steady supply of innovative projects, mitigating the risk of not innovating. The innovations may also have different degrees of risk, helping the company to manage its overall risk exposure.
Public sector	Risks are seen in terms of damage to an organisation's reputation, political embarrassment and failure to achieve a wide range of public policy objectives.
	The consequences of failure may mean the quality of public services and individuals' lives could be adversely affected.
	Innovation is not always seen as fundamental to the achievement of objectives and the risk of not innovating is less likely to be articulated.

BOX 4 CONTINUED

The main characteristics of innovation in the private and public sectors – *continued*

	Generation of ideas
Private sector	The private sector is acknowledged as being more adept at the systematic use of market research to identify customer needs and develop new products and services. Over a quarter of enterprises responding to the 2007 UK Innovation Survey rated clients or customers as a highly important source.
	The 2007 UK Innovation Survey shows that 10 per cent of all enterprises had co-operation agreements on innovation activities, with clients or customers and suppliers frequently being the partners in collaboration agreements.
Public sector	There are few examples of successful engagement between public sector bodies and their suppliers to generate innovation.
	Procurement practices may create a real or perceived barrier to engagement with the supply chain.
	Customer insight is not systematically used to identify potential areas for innovation or possible solutions.
	Delivery of innovations
Private sector	The 2007 UK Innovation Survey shows that 64 per cent of enterprises could be classed as innovation-active, and over a fifth (22 per cent) had introduced new or significantly improved goods or services between 2004 to 2006.
Public sector	Similar data are not currently available in the public sector, but all the central government organisations we surveyed were able to cite innovations either currently underway or already delivered.
	Barriers to innovation
Private sector	The 2007 UK Innovation Survey shows an overall fall in the perception of barriers to innovation.
	Cost factors were most commonly regarded as a significant barrier to innovation, including the direct resource costs of innovation activities, their perceived economic risk and the costs of acquiring finance.
Public sector	Frequently cited factors hindering innovation include the organisation's history of managing organisational or operational change, the workforce's attitude towards change, media coverage of innovative projects and the quality of the organisation's financial and performance information.
	Measuring the impact
Private sector	The impact of particular innovations on profitability is easier to isolate and measure.
Public sector	It is more difficult to establish causal links between innovations and wider benefits, which may be simultaneously affected by a range of factors.

Source: National Audit Office analysis of our survey across central government organisations, the 2007 UK Innovation Survey [2] *and academic literature*

NOTES

The 2007 UK Innovation Survey was conducted by the Department for Innovation, Universities and Skills. It forms the UK contribution to a Europe-wide Community Innovation Survey. The 2007 survey was sent to 28,000 UK enterprises with ten or more employees and achieved a 53 per cent response rate.

1 Mulgan, G (2007). *Ready or not? Taking innovation in the public sector seriously*. Published by NESTA.

2 Department for Innovation, Universities and Skills (2008). *First findings from the UK Innovation Survey 2007*. Economic and Labour Market Review, Vol. 2, No. 4, April 2008.

Responsibility for public sector innovation policy

1.8 Responsibility for increasing the innovativeness of central government is shared between those at the centre of government who set policy on public sector innovation and have responsibility for wider cross-government initiatives for improvement, and departments, agencies and non-departmental public bodies who are responsible for delivering innovations that improve their organisation's performance and efficiency.

1.9 Prior to the creation of DIUS in June 2007, a number of organisations and initiatives existed centrally to support innovation. The Department for Trade and Industry had a remit to promote innovation throughout the UK economy. Within its review of innovation policy, *Competing in the global economy: the innovation challenge*, the Department for Trade and Industry also set out the role that government needed to play in increasing innovation, with an emphasis on the government's role as a customer of goods and services.[5] At the same time, programmes such as the *Invest to Save Budget*, administered by the Treasury and the Cabinet Office, and the Cabinet Office's *Transformational Government* agenda sought to support innovative improvements to public services.

1.10 DIUS inherited the science and innovation responsibilities held by the former Department for Trade and Industry. In addition to developing policy on innovation in the wider British economy, DIUS is responsible for policy on public sector innovation. The White Paper, *Innovation Nation*, sets out DIUS's strategies for making "Britain the best country in the world to run an innovative business or public service" and for co-ordinating the existing initiatives on public sector innovation.[6] The five areas of focus for increasing the innovativeness of the public sector are set out in **Box 5**. Several organisations are responsible for delivering work streams to support this strategy **(Box 6)**.

1.11 There is overlap between the innovation agenda headed by DIUS and the wider public service reform agenda. The Prime Minister's Strategy Unit, part of the Cabinet Office, has a remit to improve the Government's capacity to address long term and cross cutting strategic issues and to promote innovation in policy development and the delivery of the Government's objectives. To this end, its 2008 report, *Excellence and fairness: Achieving world class public services*, sets out new reforms to improve public service outcomes and deliver more personalised approaches and better value for money. These include measures to: empower citizens, by further extending choice and strengthening accountability; unlock the creativity and ambition of public sector workers to innovate and drive up standards; and strengthen the strategic leadership provided by government.[7] DIUS is working closely with the Strategy Unit as innovation will be key to delivering personalised and efficient services. The Cabinet Office's 2005 Transformational Government Strategy sets out the government's strategy for modernising citizens' interactions with the government, through more joined-up, personalised services and information technology enabled business change.[8] The Treasury's Operational Efficiency Programme, reporting at Budget 2009, will also include an analysis of how best to facilitate front-line innovation. Furthermore, the competency framework for civil servants, developed by the sector skills council for the civil service, Government Skills, includes innovation as one of its components.

BOX 5

The five focal areas set out by DIUS in which cross-government work will be carried out to increase the innovativeness of the public sector

Creating the conditions for innovation by **aligning the major forces** of the public sector to be pro-innovative.

Leading for innovation by promoting **awareness at the highest levels** of the Civil Service of the importance of innovation and of the principal tools that help it flourish within the public sector.

Supporting and disseminating successful innovations that are already under way but which may go unnoticed.

Drawing on all sources of innovation by engaging users and front-line staff and looking at innovation systems in the third sector, private sector, Devolved Administrations and public sectors in other countries.

Realising the potential of innovation as an enabling force in **driving related policy initiatives** and change programmes such as the Transformational Government agenda and the work of the Sector Skills Council for Government (GovSkills).

Source: Department for Innovation, Universities and Skills. Innovation Nation, March 2008.

1.12 **Figure 3** sets out the relationship between different bodies' responsibilities for increasing the innovativeness of the public sector. To coordinate work on improving public sector innovation, DIUS has set up a steering group for its public sector innovation policy team, which includes representation from the Cabinet Office's Transformational Government team and the Strategy Unit; HM Treasury; the Young Foundation and the Institute for Government. Similarly, DIUS's Head of Innovation policy sits on the Delivery Council, which oversees the cross-government Service Transformation strategy.

5 Department for Trade and Industry. *Competing in the global economy: the innovation challenge*, December 2003.
6 Department for Innovation, Universities and Skills. *Innovation Nation*, March 2008.
7 Cabinet Office. *Excellence and fairness: Achieving world class public services*, August 2008.
8 Cabinet Office. *Transformational Government, Enabled by Technology*, November 2005.

BOX 6

The organisations responsible for delivering work streams to support public sector innovation

The Sunningdale Institute

The Sunningdale Institute is managed by the National School of Government, a non-ministerial government department. It brings together leading thinkers on management, organisational health and governance in order to provide practical advice on the issues and challenges facing the public sector.

The Sunningdale Institute is working with partners to create a **Whitehall Hub for Innovation**.

The intention of the Whitehall Hub for Innovation is to capture and disseminate learning about public sector innovation.

The Hub has been launched and has started to build networks of public managers with an interest in innovation. It is developing a leadership model for innovation and, with the Sunningdale Institute, is researching new models of governance for transforming government.

National Endowment for Science, Technology and the Arts (NESTA)

NESTA is a body sponsored by DIUS which aims to make the UK more innovative. It does this by investing in early-stage companies, carrying out policy research, and by delivering practical programmes that encourage innovation.

NESTA is primarily funded by the interest from a public endowment from the National Lottery.

NESTA is establishing a **Public Services Innovation Laboratory**, which it launched in March 2009. This Laboratory will aim to trial new methods for uncovering, stimulating, incubating and evaluating the most radical and compelling innovations in public services.

NESTA is also responsible for designing an **Innovation Index to measure the UK's performance** on innovation, including measuring the innovativeness of the public sector. This is planned for launch in 2010.

Design Council

The Design Council is co-sponsored by DIUS and the Department for Culture, Media and Sport, and funded in the main by grants from DIUS. It promotes the use of design throughout the UK's businesses and public services.

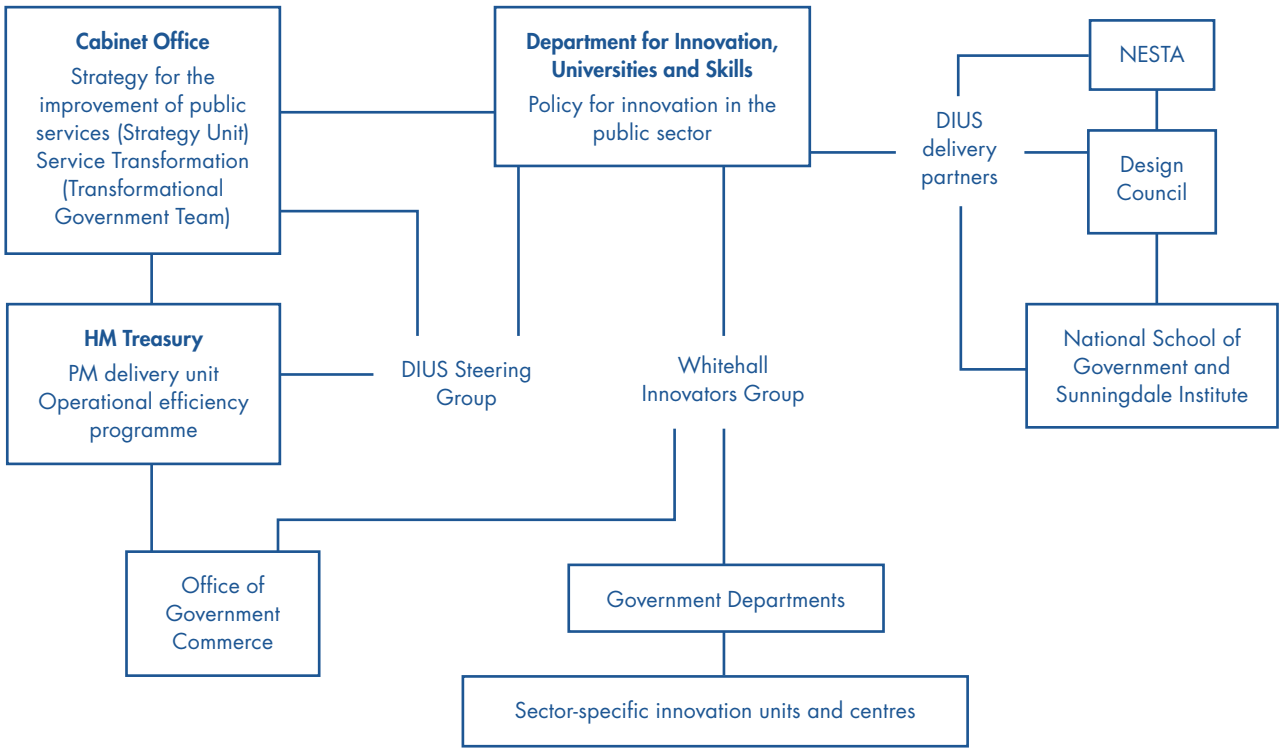
The Design Council is developing and trialling an innovation-enabling programme, **Public Services by Design**, along the lines of its existing programme used in the private sector (*Designing Demand*).

The programme will use mentoring and strategic design processes to help teams in public sector organisations understand their customers better and test ideas to manage innovation and risk.

The Design Council is currently developing the programme, with live projects to be rolled out in 2010.

Source: Department for Innovation, Universities and Skills. Innovation Nation, March 2008 and National Audit Office interviews with stakeholders.

3 The links between initiatives to promote innovation in the public sector



Source: National Audit Office analysis

1.13 There are other organisations which also have a central role to play in supporting public sector innovation. The Technology Strategy Board promotes within the public sector the adoption of technological innovations developed in the private sector, as well as funding innovative programmes and projects. The Innovation Unit was set up by the former Department for Education and Skills to support the development of new ideas in the education sector. Its services are now available to the whole of central government. DIUS's approach towards public sector innovation policy is also informed by the developments taking place within departments, such as the analysis being carried out by the Department of Health on how it can best support and enable innovation in the NHS, and health and social care more broadly, in order to drive forward the innovation agenda. DIUS has used the progress made by the Department of Health to develop its guidance on, in particular, the commissioning of services from public, private and third sector providers and the use of specialist innovation centres in the dissemination and adoption of successful innovations such as the Luton stillbirth project featured in this report (Case 1).

Responsibility for delivering innovation

1.14 Departments and agencies and the staff within them are ultimately responsible for spotting opportunities for innovation, generating ideas, engaging suppliers, customers and other sectors, testing and piloting projects and seeing them through to implementation.

1.15 Across the public sector, there are variations in future challenges and factors requiring innovation, the nature of delivery chains and relationships with suppliers and customers which will affect what innovation looks like in different sectors. **Box 7** contrasts the health, defence and environment sectors by way of illustration.

How much is spent on innovation

1.16 Most innovation spending is not identified as such, but occurs as part of large business transformation programmes. It is not possible, therefore, to state categorically how much central government spends on public sector innovation, but we estimate that at least £3 billion has been allocated to support and promote it. The Government has set aside over £2.5 billion in the period 2008-09 to 2010-11 and innovation budgets already exist in some central government organisations. The Ministry of Defence, for example, estimates that it invested at least £2.5 billion a year in innovation in the three years to 2005-06. The Department of Health is looking at an investment of a total of £120 million over the next two years specifically for innovation activity: £35 million in 2009-10 and a further £85 million in 2010-11. Eight other central government organisations told us they had budgets specifically allocated for innovative activity, and the combined estimates of these totalled £375 million in 2007-08.[9] Major projects with mainstream funding can be innovative, but it is not possible to quantify what proportion of the total cost is spent on innovation, for instance, how much of the £600 million cost of the pension transformation programme (Case 10) represents innovation.

BOX 7

Contrasts between the health, defence and environment sectors

	Challenges and factors requiring innovation
Health sector	The Department of Health's *High Quality Care for All: NHS next stage review final report* (June 2008), sets out a 10-year vision for the NHS. It concluded that the main challenge for the NHS had changed from increasing capacity to delivering high quality care throughout the service. The review sets out specific challenges requiring innovation, including rising expectations, increasing demand driven by demographic changes, and the changing nature of disease.
Defence sector	Defence has historically been underpinned by technological development and the need to anticipate threats. The Ministry of Defence's strategy for innovation describes how innovation will be needed to maintain the UK's battle winning military capability. Specifically, the UK needs to be able to respond quickly to new threats, especially now that global communication and the world-wide web allow potentially unrestricted proliferation of such threats.

9 The innovation budgets departments and agencies told us about were as follows: Department for Environment, Food and Rural Affairs: £130 million; Nuclear Decommissioning Authority: £100 million; Department for Business, Enterprise and Regulatory Reform: £57 million; HM Revenue and Customs: £25 million; Department for Communities and Local Government £21.7 million; Legal Services Commission: £18.8 million; Highways Agency: £13.8 million; and Environment Agency: £10 million.

BOX 7 CONTINUED

Contrasts between the health, defence and environment sectors – *continued*

	Challenges and factors requiring innovation – *continued*
Environment sector	Innovation is required to meet the growing challenge to reduce carbon emissions to slow the onset of climate change. Regulation, guidance and policy is needed to encourage individuals and businesses to be more aware of the environmental costs of their actions and demand more sustainable products and services.
	The Department for Environment, Food and Rural Affairs and its agencies also face challenges associated with animal health and new and long-standing diseases; farming, the security of food supply and biodiversity; and rural communities and disadvantaged groups.
	Nature of the sector's delivery chain(s)
Health sector	Health provision is typically split between primary and secondary care.
	There are complex delivery chains for several policy areas, such as adult social care and reducing obesity, involving multiple central government departments, local authorities and service providers.
Defence sector	The Defence sector is characterised by a smaller number of players within government, but a large number of supporting businesses and organisations in the private sector.
	The Armed Forces work jointly with other parts of government in policy areas such as drug trafficking, responding to emergencies, maritime and coastal protection and environmental management.
	The sector transcends national boundaries to collaborate with other nations, for example, working with the European Union, United Nations and NATO to build peace and stability.
Environment sector	Because environmental challenges transcend geographical, political and administrative boundaries, the Departments for Environment, Food and Rural Affairs, and Energy and Climate Change have to work effectively with partner organisations in the United Kingdom and abroad.
	Waste management, an important part of the environmental challenge, is the responsibility of local authorities, usually involving private contractors.
	These complexities require collaborative working and a joined-up approach.
	Role of industry and the private sector
Health sector	The NHS is increasingly working with the private healthcare sector, for example, by purchasing private treatments for NHS patients and setting up independent sector treatment centres.
	Pharmaceuticals and other bio- and medical-technology firms have a significant role to play in the development of drugs and equipment.
Defence sector	The Ministry of Defence's Innovation Strategy recognises the importance of its supply chain in meeting challenges in defence equipment and support.
	"Technology trees" developed for the Defence Technology Strategy show the value of innovation generated within all parts of the supply chain. These highlight the potential role for small and medium sized enterprises as niche suppliers of materials, products and services which lie outside the span of major prime contractors.
Environment sector	The private sector is crucial to the development of more environmentally friendly, sustainable resources and sources of energy.
	While the private sector will respond to the demand for more sustainable products and services, the government also seeks to stimulate the growth in green industries to ensure that sustainable solutions are available. As shown in paragraph 3.10, the Department for Environment, Food and Rural Affairs has established a fund with which to support the development of ways to meet these challenges.

BOX 7 CONTINUED

Contrasts between the health, defence and environment sectors – *continued*

	Role of frontline staff
Health sector	The UK health sector employs approximately two million people across a range of organisations within the public, independent and voluntary sectors.
	The National Health Service (NHS) itself directly employs some 1.3 million people, of which around 0.7 million are clinical staff working at the front line of delivery.
	Frontline staff have frequent contact with service users and are well placed to develop and implement ideas for improvement.
Defence sector	A greater emphasis is placed on developing ideas in conjunction with suppliers than from staff working at the operational frontline.
Environment sector	There are frontline workers in the farming, animal health, and environmental protection agencies, all of whom could be tapped for innovative ideas.
	As part of its internal change programme, Renew DEFRA, the Department has changed from a silo-based to a matrix-managed structure. This is intended to encourage more sharing of ideas.
	Role of customer insight
Health sector	There is significant potential for the large number of health service users to be exploited as a source of innovative ideas and a means for ensuring that proposed innovations are properly designed.
Defence sector	The defence sector does not have a distinct customer base in the same way as the health and welfare sectors do.
	The "customers" of defence innovations are frequently staff in the Armed Forces, making it important that proposed innovations are properly trialled and staff consulted.
Environment sector	The environment sector does not have a distinct customer base in the same way as the health and employment and welfare sectors do; rather all UK citizens are its customers and will all suffer or benefit from environmental degradation. It is therefore important that organisations working in this sector use public attitudes and behaviour to inform policy.
	What innovation looks like
Health sector	The NHS itself is often described as a transformative public service innovation. Since its creation in 1948 there have been numerous other innovations in treatments, the way services are delivered and the efficiency of back-office processes.
	The Royal Bolton Hospital is using "Lean" methods to transform how they deliver services and generate efficiencies. Achievements include significant reductions in the waiting times for blood test results, and a substantial saving on laundry costs.
	NHS Direct was launched in 1998 and provides the public with fast and easy access to health advice and information over the telephone and internet, combining old elements of service delivery in new ways.
Defence sector	Lightweight modular bar-armour made from aluminium alloy is an innovative solution to protect against Rocket Propelled Grenades without compromising operational effectiveness.
	The Thales Quantum Well Infrared Photo-detector (QWIP) camera is an innovative integration of components to produce a cost-effective and affordable Thermal Imaging system.
Environment sector	Carbon Reduction Commitment is a pioneering mandatory carbon emissions trading scheme involving 5,000 public and private bodies.
	The National Industry Symbiosis Programme works with businesses to deliver sustainable resource solutions – for example, by encouraging the waste products of one industrial process to be used as the raw materials in another.
	Flood Warnings Direct is a computerised system which enables people to register to receive notification of flood warnings via their preferred means (such as telephone, SMS, or email) (See Case 4).

Source: National Audit Office analysis of survey returns from the Department of Health, Ministry of Defence, Department for Environment, Food and Rural Affairs and the Environment Agency; interviews with policy officials in the Department of Health and Department for Environment, Food and Rural Affairs; strategies for reform and innovation in all three departments; and academic literature on the sectors.

PART TWO

Case examples of innovation in government

2.1 In this section of the report, we present 11 of the case examples of innovation that we examined in more detail, which show how innovation happens in government and what it can achieve. Our case examples of current innovations show:

- good performance and cost information can help identify where innovation is needed and would be beneficial;
- customer insight can be used to identify areas for innovation and possible solutions;
- technological innovations can be applied to service delivery to generate efficiency and service improvements;
- engaging with suppliers and delivery partners can help bring about innovation;
- innovation can be a means to greater organisational efficiency;
- taking a structured approach can help ideas from frontline staff flourish; and
- good project management, use of piloting and risk management disciplines are important to success.

Sources of innovation in government

2.2 The innovations considered to be successful tended to originate inside the organisation, and, as we found in our 2006 report, the innovation process was dominated by senior management. The three most frequently cited sources of the projects which surveyed bodies nominated as their best examples of innovation were all internal: senior management, policy teams and internal innovation teams **(Figure 4 overleaf)**. Of the nominated innovations, 60 per cent were intended to improve frontline service delivery, and about half had an efficiency element.

How government innovates

2.3 **Box 8** provides a summary of the main issues, which we identified from our case example interviews, that need to be addressed in order to deliver successful innovations. The case examples which follow illustrate the factors which have been important to successful innovations.

2.4 These case examples are not representative of all government initiatives. We have selected them as good examples of innovative approaches which have lessons for how innovation can be managed in government. The case examples are at different stages, with some not yet realising their full potential. Innovations will not always be successful and our intention was not to evaluate their likely success.

BOX 8

The main issues we identified from our case examples that need to be addressed to ensure the successful delivery of innovative projects

- Involving **service users, suppliers and citizens** in the development of innovation.
- Good **management information to** allow scope for innovation to be identified and make the case for adopting and rolling out an innovative approach.
- Openness to identifying **opportunities from outside the organisation**, including new technology, ideas tried elsewhere or opportunities for partnership.
- The role of **leaders** in endorsing the development of ideas.
- **Change management** and **project management skills** to ensure success. A key part of this is securing buy-in from staff throughout the organisation.
- Learning from **testing and piloting** when trying something new, and quickly identifying what is not working.
- A good understanding of **risks**, including risks of not innovating.

Source: National Audit Office analysis of innovation case examples

2.5 The case examples show a number of ways in which **citizens can be involved in improving services**. The Luton and Dunstable Hospitals' stillbirth project did so by making an effort to understand the experience of users in order to identify how services needed to change – such as the need to provide instant access to an interpreter at the hospital for pregnant women who did not speak English (Case 1). The Ministry of Justice's Community Justice programme involved the local community in shaping services in their area, letting them prioritise issues and come up with solutions (Case 2). The Cabinet Office ran a competition entitled "Show Us A Better Way," which sought ideas about how to improve the usefulness of government information from the public at large (Case 3).

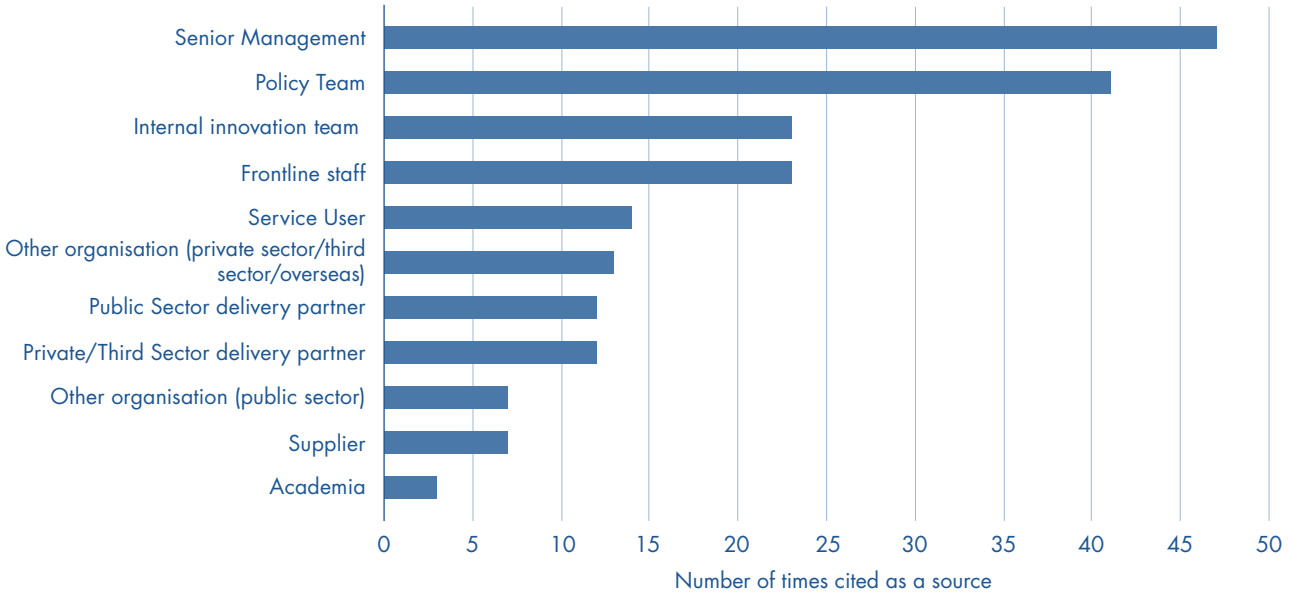
2.6 Using **suppliers or delivery partners** to produce innovation means getting them involved in the project before the solution is determined, for instance by the use of a commissioning process which specifies the required outcomes, but not the means used to achieve them. The Higher Education Funding Council for England's Higher Education Innovation Fund funds universities in an outcome-based way to encourage them to engage with businesses in innovative ways (Case 5). The Prison Service's disposable mattress procurement process shows how suppliers can be used in this way to come up with innovative solutions to problems of efficiency (Case 6).

2.7 The Luton and Dunstable stillbirth project (Case 1) and the Prison Service's disposable mattress procurement project (Case 6) also show how **good management information** can be used to identify that a problem exists (stillbirth rates in the case of the former, and the costs of disposing of mattresses in the latter) for which an innovation is needed, and make the case for an innovative solution. Departments recognise lack of good performance information as a barrier to innovation (**Figure 8,** Appendix 3).

2.8 Linked to this is the issue of having **robust information by which the benefits of an innovation can be measured**. A common factor in the success of case examples which had reached the stage of being implemented, such as the Environment Agency's Flood Warnings Direct system (Case 4), the Home Office's IRIS border control system (Case 7) and the Department for Work and Pensions' Lean Programme (Case 8) was that they specified and could demonstrate measurable benefits early enough to allow robust decisions about rolling them out.

4 Sources of innovative ideas

The number of times the following were nominated by surveyed central government organisations as a source of the individual innovative ideas they submitted to us.



Source: National Audit Office survey of 27 central government organisations

NOTE

Central government organisations were asked to classify the source of the idea for the innovations they nominated, and were able to choose up to three sources. A total of 98 projects are represented.

2.9 Use of **networks of experts and professionals within and between fields** can encourage the flow of ideas across large organisations. Awareness of overseas developments, particularly in the US, inspired the Community Justice programme (Case 2). Awareness of new technology allowed innovative improvements to service by the Environment Agency with its introduction of Flood Warnings Direct (Case 4), and by the Home Office through its new IRIS border control system (Case 7). The Environment Agency's Innovation 4 Efficiency initiative shows that improving the flow of information around the organisation can lead to innovation, for instance where staff know what needs to be improved but need support to develop solutions (Case 9).

2.10 **Senior level endorsement** was usually a critical success factor, especially for large scale change, such as The Pensions Service's Pension Transformation Programme, which seeks to transform all of the Service's operational processes and which requires support at the very highest levels (Case 10). Senior leaders could overcome common obstacles such as securing funding and buy-in throughout the organisation. Strong business cases, piloting, testing, or good data to demonstrate benefits were needed to get support for the innovation from decision-makers by demonstrating the case for change.

2.11 Nearly all successful innovations we examined had to secure **buy-in from staff or other stakeholders** and overcome resistance to change. Resistance to change is a significant barrier to the implementation of innovation (Figure 8, Appendix 3). Evidence from successful innovation projects demonstrates how important it is to get staff to buy in to the changes; the DWP's Lean Programme did so by getting ideas for improvement from staff (Case 8), while the benefits of the Environment Agency's Flood Warnings Direct system had to be demonstrated in front-line offices (Case 4) to secure buy-in. The key to the success of the Department for Business, Enterprise and Regulatory Reform's Business Simplification Scheme was working with stakeholders, who in this case were other central departments, local authorities and Regional Development Agencies (Case 11).

2.12 By definition, an innovation is a project for which an organisation has no tried and tested method or track record of success. **Piloting and testing** can identify the risks, allow lessons to be learnt and permit unsuccessful innovation to be stopped early. The Luton and Dunstable stillbirth project involved quick trials on a small scale of a number of ideas for how to decrease stillbirth rate. Those that were successful were scaled up, while those that were unsuccessful were halted, with a view to finding a way to make them work in the future (Case 1). The Ministry of Justice's Community Justice programme allowed people to pilot different ideas in response to their understanding of their own local areas (Case 2). The Pension Service's Pension Transformation Programme demonstrated the importance of the piloting process in a large programme. In this case, the programme was split into manageable "waves", with the methods of piloting being adjusted based on lessons learned from the preceding wave (Case 10).

2.13 Innovation does not mean neglecting **risk management**. Our case examinations showed that where innovation has been achieved, the risks are understood, including the risk of not innovating. The risk of not innovating with the Luton and Dunstable stillbirth project would have been a continuing high level of stillbirths (Case 1), while not innovating with the Flood Warnings Direct programme would have resulted in continuing risks to property and human life due to flooding (Case 4). Identifying and managing risks contributed to the successful delivery of the Pension Service's Pension Transformation Programme by ensuring that risks were escalated and addressed by those who were in the best position to do so (Case 10). The Home Office's IRIS project showed how pilots can be used to identify risks and ways to address them, such as the need to install additional equipment in case one set failed (Case 7).

Using data and feedback to identify where and how to innovate

Case 1 – The Department of Health: work to address the issue of stillbirth at Luton and Dunstable hospitals

Luton PCT identified through available national data that its stillbirth rate was higher than the national average and was increasing, while the national trend was stable. Its was involved in a multi-national initiative entitled Pursuing Perfection (involving hospitals in the UK, the US, Netherlands and Sweden) which required it to act to eradicate avoidable death, illness or pain.

It conducted an audit of the local acute trust's recent stillbirths, and put in place processes for reviewing all future ones, in order to assess whether anything could have been done to prevent them. The analysis showed a number of trends, relating to ethnicity, the size of stillborn babies, twins, and the time between a baby stopping moving and the mother attending hospital.

The PCT, having had previous experience of the difficulties associated with setting up new groups in order to obtain feedback from patients, sent its staff out to attend local groups (including those comprising members of the female Bangladeshi community) that were already well-attended. In these meetings, it was able to explore some of the findings further – the language barrier was found to be a key reason why mothers weren't contacting hospitals.

A number of innovative solutions were generated as a result of the analysis and feedback. One of the key changes was to give pregnant woman access via telephone to a link worker who could speak their language. It also introduced additional screening for twins and women with diabetes. The analysis also highlighted the link between the size of an unborn baby and the risk of stillbirth.

There were no requirements to produce business cases for these changes – they just piloted them on a small scale (for example, the link worker phone number was given to one case load of women), and assessed the results. Not everything worked; for example, they found that some of the midwives' assessments of baby size were too inaccurate. However it is still trying to establish whether targeted training of midwives could enable them to more accurately measure size.

The importance of being able to measure the results of their efforts was important. It reviewed all stillbirths to assess whether they were "avoidable" (via action that could have been taken by the hospital or by the patient) or "unavoidable". As the hospital collects more data on stillbirths, its analysis improves.

Despite initial doubts about whether clinicians would accept stillbirths being classed as "avoidable", the hospital found that people were extremely keen to make changes that could have an impact in this area. This was especially true of those who were at the front line, such as community midwives, who would often form an emotional bond with their patients.

The hospital feels that it is too early to draw any formal conclusions about the effects of these changes, but stillbirth rate, which was 9.5 per 1,000 births in 2004, was reduced to 7.2 by 2007. The number of stillbirths which were classed as avoidable reduced from 11 in 2004 to two in 2007.

In summary, the main lessons are:

- The availability and analysis of good management information is an important source of innovation.
- When seeking feedback from users, it may be more effective to tap into established groups rather than trying to create a new group.
- Where a number of changes are proposed, they can be tried out on a small scale, with successes quickly scaled up, and failures adapted where possible or quickly stopped.

Source: National Audit Office analysis

Involving local communities in order to generate innovation

Case 2 – The Ministry of Justice's Community Justice Programme

Community Justice aims to tackle anti social behaviour, such as vandalism and graffiti, and other crimes which affect people's quality of life. The Community Justice programme is coordinated by the Ministry of Justice, which brings all the criminal justice agencies together to learn which crimes most concern local people, provide information to local people and encourage the community to develop solutions to the problems. In particular it seeks to empower communities by making community safety the joint responsibility of local people and the criminal justice agencies.

There are a number of innovative aspects to this programme. Firstly, it is a good example of learning from successful projects from outside the UK. The UK government learned about this model of community justice following a trip in 2002 by the then Lord Chief Justice to the Red Hook Community Justice Centre in New York. The then Home Secretary also paid Red Hook a visit and decided to pilot a version of the programme in Liverpool and Salford before rolling it out to a further 11 locations.

Secondly, the programme itself is an example of users being involved in the delivery of public services. The local community creates and develops solutions to anti-social behaviour by, for example, identifying areas that require intervention and tasks for offenders on unpaid work orders.

The programme also applied a sensible approach to piloting and testing. Both the Liverpool and Salford pilots have been fully evaluated. While these evaluations have produced lessons that have been learnt and incorporated into subsequent community justice centres, the pilot centres are not used as rigid models to be copied elsewhere. One of the innovative features of the programme is that it involves the local community in each stage of its development, and it appreciates that different communities have different priorities and requirements.

The innovation required traditional legal processes to be changed. For example, judges' workloads were diversified by requiring them to deliver verdicts in community justice cases.

Several benefits have been realised from the pilots in Liverpool and Manchester. For example, moving anti-social behaviour cases from the Crown Court to Community Courts frees up time for more serious cases to be heard in the higher court. The programme has also encouraged multiple criminal justice agencies to work more closely together. This in turn has led to more efficient cross-agency working. The ultimate aim of the programme is to reduce re-offending. It is too early to say whether this has occurred and whether the Community Justice programme is a significant contributor.

Key lessons:

- Be aware of developments outside your organisation, the public sector and the United Kingdom; many programmes could potentially be applied in different environments.
- Involving citizens and service users means that services are more likely to be designed to meet their needs.
- A practical approach to piloting and testing means that valuable lessons can be learnt prior to the programme's wider roll-out; but be flexible and aware of regional variations.

Source: National Audit Office analysis

The harnessing of innovative ideas from citizens to improve the delivery of services

Case 3 – The Cabinet Office's Show Us a Better Way competition

Show Us a Better Way was a competition launched by a Cabinet Office taskforce which encouraged individuals to submit innovative ideas as to how government could make its data available to citizens in a more useful way.

In 2007, The Cabinet Office commissioned a report entitled *The Power of Information*, which set out the social and economic gains that could be achieved from better use of the data that government held, recognising amongst other things the problems caused by different pieces of information being held by different departments and not being shared.

To help tackle this, the Show Us a Better Way website and competition was launched in July 2008, asking the public to submit their ideas of how government could make better use of the information it holds in order to "improve health, education, justice or society at large". Winning entries would be given up to £20,000 to develop their ideas.

More than 450 entries were received. The winning entries were announced in November 2008, and after the Department of Communities and Local Government added further funding, shared a prize fund of £80,000. The overall winner was called Can I Recycle It? and would allow people to enter their postcode in to a website in order to find out which materials could and could not be recycled in their local area. The Taskforce plans to develop four other ideas, including a website which would link information on cycle lanes to a route planner with information on local road works and weather conditions, another which would plot the catchment areas of local schools on a map, and one which would show the location of the nearest postbox. It will give some development support to five further entries.

Problems still need to be resolved around the copyright status of Ordnance Survey data, which currently make it difficult for local authorities to make information available to the public about objects they own.

Key lessons:

- Users have a huge number of innovative suggestions for how services can be improved, and government needs to do more to tap into this resource.
- The barriers between government departments can be considerable – a programme which was designed to allow information to be shared across government has highlighted just how considerable these barriers can be. Networks which allow the flow of information between government departments are required in order to break down silos.

Source: National Audit Office analysis

The use of new technology to deliver a demonstrably better and more effective service

Case 4 – The Environment Agency's Flood Warning Direct system

The new Flood Warning Direct system works by linking a computerised map to a database of properties and registered user details. By drawing a polygon on the map, a flood warning can be created, and notification is automatically sent to registered users within the affected area via their preferred means.

Britain was hit by severe flooding in Autumn 2000, affecting 10,000 properties in over 700 locations, with total costs being in the region of £1 billion. The Environment Agency carried out an investigation into the circumstances which contributed to the scale of the damage, with the resultant report featuring recommendations for improvements to flood warnings, emergency planning and flood defences.

The Minister responsible at the time was keen on introducing a new seamless, integrated flood warning service that could deliver a better service. At the time there were 32 different systems operating across the country, and some were obsolete. The Agency considered that the risk of doing nothing was too great – a repeat of such flooding and low awareness of issued flood warnings would put people's lives at risk. It wanted to explore new technology to see if a better system could provide more people with warning of imminent flooding.

User feedback showed that the system would be most effective if it could deliver flood warnings in the way that best suited the individual user: by telephone, SMS message, fax, or e-mail. Business user cases set out what people wanted from the system, and the supplier was brought in at this early stage to help design the solution.

The Environment Agency made good use of available funding streams. As well as obtaining funding from HM Treasury's Invest To Save Budget, they identified early on that the innovation could have wider benefits to other bodies. The Met Office contributed funding, as severe weather warnings could be issued in the same way.

The Environment Agency told us that strong project management and the support of senior management throughout were important to the success of the project. The Chief Executive was the Senior Responsible Owner. The project manager would change depending on what skills were required at the various stages of the project.

User acceptance testing and parallel running ensured that the product delivered what it was supposed to. Involving users in testing helped secure their support – they could see at that stage the benefits it would ultimately deliver, and in particular the amount of time it would save them.

Successes to date include a reduction in the number of systems, an increase in the level of customer-facing resource in each office, a reduction in system downtime, growth to 300,000 registered users, a decrease in unit cost per customer, a reduction in the time it takes to issue a flood warning from 56 minutes to 11 minutes, and the success rate for ensuring people see a warning up to 75 per cent.

Key lessons:

- Being aware of new and emerging technology enhances an organisation's ability to improve the service it delivers.
- Where new technology is involved, it is good to get suppliers involved at an early stage in the process, when only the outcomes have been defined. They should be more aware of what can and cannot be achieved.
- Considering the transferability of an innovation can help overcome barriers relating to funding.
- Getting users involved in piloting and testing can be an effective way of securing their buy-in to an innovation.

Source: National Audit Office analysis

Using outcome-based funding to secure innovation through delivery partners

Case 5 – The Higher Education Funding Council for England's Higher Education Innovation Fund (HEIF)

HEIF is, after teaching and research, the Higher Education Funding Council for England's (Hefce's) third stream of University funding. It is intended to encourage Universities to engage with the wider world, and in particular with businesses, with a consequent benefit to the UK economy as a whole. Universities create their own plans for how they are to achieve this interaction, and Hefce measures the level of engagement that actually occurs through an annual survey.

HEIF was innovative in two ways. It was innovative in itself in that it was a new means of funding, one which was markedly different from the others and with a very different purpose. Secondly, it had the encouragement of innovation as a wider aim in itself, with many of the most innovative strategies being publicly commended by Hefce.

The idea came from a former Chief Executive who had a background in University research. The support of influential individuals in the CBI and DTI was important in securing funding. Funding was initially difficult, with this activity felt to be marginal for the DTI and DfES. Over the years the level of funding has grown from around £20 million to £150 million. Lessons have been learned from each round of funding (the latest round was the fourth), with the process being adapted as it goes along.

There was little resistance to this change from most universities, but some took more time – particularly if they had a bias towards non-business related subjects such as humanities. For this reason, universities were encouraged to work together and share ideas.

In the last round of funding, Hefce publicly commended several of the most innovative HEIF strategies. One was that of University College London, which included its Technology Innovation Forum, which brings together academics, established businesses, entrepreneurs and investors to discuss subjects such as the latest imaging technology, and its applications to sectors as diverse as medicine and film special effects. Another was Durham University's strategy, which featured its Phoenix project, in which it is working alongside the Regional Development Agency to empower local communities and support local regeneration projects.

Hefce have reported that the level of interaction which has taken place has increased significantly over the years that HEIF has existed. A major evaluation is now taking place to identify the effect that HEIF has had on the wider economy. It is difficult yet important to establish robust metrics of impact, and Hefce have enlisted the help of academic experts at Cambridge University.

Key lessons:

- By using outcome-based targets, delivery bodies can come up with innovative ways of achieving those targets.
- Clear, robust and persuasive metrics are required in order to ensure that an innovative project or policy is achieving its aims.
- Influential individuals both inside and outside the organisation can have an important effect on the likelihood of the adoption of an innovative idea.
- Successful innovations should be celebrated and shared widely.

Source: National Audit Office analysis

Using an outcome-based specification to procure innovative solutions from suppliers

Case 6 – The Prison Service's innovative procurement of prison mattresses

Instead of taking a standard approach to the procurement of what might have been seen as a routine item, the Prison Service's use of an innovative forward commitment procurement process allowed the private sector to develop innovative solutions to the problem of the high cost of the disposal of prison mattresses. It both specified the qualities the mattress should have, and tasked suppliers with finding a "Zero Waste" solution. Two possible solutions are currently shortlisted and undergoing trials.

The Prison Service spends around £2 million per annum on mattresses – about 60,000 are bought each year and 40-50,000 are disposed of each year; the majority of which go to landfill. The Prison Service recognised that this situation was not environmentally sustainable, and that there was potential for cost savings to be made.

Suppliers were responsible for developing end-to-end solutions. The Prison Service published a call for competition using a specification which outlined the main requirements of the mattress solution (for example, comfort and fire retardancy) and sought proposals that would reuse or repurpose the mattresses. This stage of the process was intended to test the market and to see what interest and potential solutions could be developed. The Prison Service also facilitated a "concept viability day" to allow companies covering various areas of the supply chain to get together and share ideas – an idea that is often used in the IT industry.

The procurement process itself was relatively time-consuming, with more time needed to engage the market. It took around 18 months as opposed to the Prison Service's standard 8-12 months. This extra time was considered more than justified given the results so far and the benefits that are expected.

Two solutions have been developed by different suppliers and both are being trialled. One of the key differences between the products is that there are different end uses for the materials used in the mattresses themselves. Proposed solutions have ranged from breaking down mattresses to make carpet underlay as part of a separate business to using the damaged mattresses to make fence panels and roof tiles, bringing about further sustainability.

The trial is looking at how well the solutions meet the requirements from a usability and sustainability perspective, as well as the logistics of getting the mattresses in and out of prisons. They will also aim to measure the potential savings that would arise from the extended life of the mattresses being developed. Whichever solution is finally chosen it is expected to reduce the requirement for landfill from the equivalent of over 30 double decker buses to virtually nil.

Key lessons:

- The use of outcome-based procurement techniques can encourage suppliers to come up with innovative solutions to problems.
- Early engagement of suppliers across the whole supply chain is vital to enable this process to be effective.
- It is important to plan to ensure sufficient time is available to undertake the necessary research and procurement exercise.
- Good management information can direct the search for innovation into areas with potential for cost savings.

Source: National Audit Office analysis

Using technology to deliver improvements to services

Case 7 – The Home Office's IRIS border control system

IRIS is a process and technological innovation that results in registered passengers being processed more efficiently at UK airport borders. The solution is based on gates that photograph individuals' irises and compare them with the record held on a database, which means that they do not have to interact with Border Force Officers.

The main driver was to improve customer experience, particularly for frequent fliers. The number of fliers who presented a risk to the UK (from illegal immigrants to terrorists) represented a minute proportion of the total number of fliers. Generating efficiencies was also a driver behind the programme. With this in mind, the project team aimed to modernise border processes that had essentially remained unchanged since 1826.

Suppliers were responsible for developing and delivering the technology. The technology (photographing an iris) was so new that there were not many suppliers at the time who could deliver the system. Some features were essential to the specification, such as passengers being able to pass through a gate without showing physical documentation, and compliance with the Disability Discrimination Act.

Resistance to change from frontline staff who feared that the technology would not work had to be managed carefully. Senior buy-in (including the Chief Executive of the UK Borders Agency and ministers) was significant in helping to overcome this resistance. Ministers lent visible support to the scheme at Manchester and Birmingham Airports, and there was less frontline staff resistance there.

Project champions were also used to help secure buy-in for the project. There was one per airport terminal, at a level senior enough to have an understanding of the benefits, but also a level close to and respected by the team. These were kept appraised of the development of the project. Regular meetings were held to work through any issues identified and to see whether there was commonality in them.

The programme was piloted at two terminals at Heathrow (T2 and T4). These were picked as they have different flows of traffic, different busy periods, different lighting and different ages of building. The pilot studies took place at times of peak pressure – if the system could cope with this it would work elsewhere. In hindsight, they perhaps would have chosen somewhere smaller and more receptive, such as Manchester. Also, they feel they should have put two gates in at each terminal rather than one, so that if one broke down, one would still function – helping to limit the risk of confidence being damaged. The views of staff and users were collated as part of the evaluation.

The IRIS project has now been installed at 10 sites (five terminals at Heathrow, two at Gatwick, Birmingham and two at Manchester). Efficiency savings have been made in reduction in Immigration Officers' time. Another benefit cited was that implementing IRIS gave the organisation a "real appetite" for innovation, with further recent innovative projects occurring since.

Key lessons:

- A department should be scanning the horizon for new developments in technology that could help them improve their service or make efficiency savings.
- Staff may be inherently afraid of new technology. The role of senior managers and product champions will be crucial in overcoming this and securing buy-in to the product.
- New technology should be piloted at times of peak pressure to ensure that it is robust enough to be able to cope in the toughest of circumstances.
- Experience of successfully implementing new technology increases an organisation's appetite and ability to do it again.

Source: National Audit Office analysis

Getting senior and frontline staff to buy in to techniques for increasing efficiency

Case 8 – The Department for Work and Pensions' Lean Programme

The concept of lean processing was initially developed in the automotive industry as a means of eliminating waste from the production cycle, thereby making it more efficient. It has since spread to other parts of the private sector, and has now been picked up by government departments in the UK, which are looking to see how their processes could be improved and made more efficient while focusing on the needs of the customer.

The Department visited several organisations who use lean processing, including HM Revenue & Customs, Rolls Royce and Unipart, and saw ways in which it could be applied to their processes to secure cash-releasing benefits, which enabled them to secure £37 million of departmental funding.

The Department brought in consultants who were specialists in Lean to help create the early momentum, but aims to become self-sufficient in Lean techniques by the end of the current contract with external suppliers. It is setting up its own academy, and encouraging its staff to achieve BTec accreditation in the subject, and considering wider accreditation of sites.

In implementing lean, recognised project and risk management techniques were used, but always with an eye to making the processes leaner wherever possible. If these processes were themselves inefficient, they would be challenged. Pathfinders and pilots were used to prove the project business case (the aim is to roll it out across the Department by 2011), with early work focussing on business areas where a big impact could be made. Lessons learned from early activity have been factored into the second tranche of implementation.

Senior management support for the project is critical. The permanent secretary has himself been a strong supporter of the project, particularly since the reporting of positive results shown by the first tranche of the project. The project team found that having his name on communications assisted with getting commitment to the project.

The project team has needed to overcome some resistance in some parts of the front line, as Lean was often associated with efficiency, and efficiency with job cuts. It has been open with people, and tried to communicate a broader view of the overall benefits of Lean – using open days among other things to demonstrate them. A fundamental part of the Lean process is to develop a culture where front-line staff are a source ideas for how processes could be improved , with the Lean project team providing the support necessary to assess which ideas had the most potential.

Results in the first tranche of pilots have exceeded the business case, with 15-30 per cent efficiency savings being made. The use of lean techniques is intended to make DWP more innovative in the future. As well as efficiency savings, it intends there to be a lasting legacy of continuous improvement. It has also visited other government departments to share some of the best practice they have picked up.

Key lessons:

- Innovation includes adopting ideas from other sectors. Departments need to be aware of new processes and technology that could have application to the public sector.
- Where a department does not have the skills required to implement an innovation, it should seek a supplier who does, but seek transfer of knowledge and skills.
- Project and risk management techniques need to be used in a way that is proportionate to the scale of the particular project.
- Good metrics are essential to measure the success of a pilot. Where success can be reliably established, it can enable a project to gain support and momentum.

Source: National Audit Office analysis

How an innovation unit can assist with the development of ideas from the frontline, and the flow of information around the organisation

Case 9 – The Environment Agency's Innovation 4 Efficiency team

The Innovation 4 Efficiency team provides a link between the science, technology and operations functions of the Agency to provide innovative solutions to operational issues. Their role is to pilot the use of new developments from the Science Team, to initiate research and development work based on the needs of the business and assist with the implementation of projects, so that research is turned into products used by the business.

A project entitled Sci2Ops was established during 2004 to assess the viability of having such a team, focused on delivering innovation, new techniques and science initiatives to the front line operational teams. The project was supported at a senior level within the Agency, and this contributed significantly to the credibility of the work being undertaken. The project arose as staff at all levels of the Agency began to recognise that the frontline staff were aware of problems which required solutions but not the technology that existed to solve them, and the science team were aware of new technologies, but not necessarily of their practical applications. One example of such a situation was that the Agency has to measure water quality in many locations 12 times a year, and it occurred to someone at the frontline that it would be more efficient to do it remotely – however, they did not know whether this was technologically feasible. The science team were set to work to find a solution.

The Agency believes it has lots of innovative people with lots of ideas. However, these individuals may not have had the time or skills required to develop their own ideas, and there was not enough sharing of knowledge and best practice, particularly across functional or geographic boundaries. The original Sci2Ops project focussed on the environmental monitoring activities of the Environment Agency. One example of how the Sci2Ops team utilised innovation and shared best practice is by recognising that a device used in one part of the organisation in sewers could have application elsewhere in monitoring flood water levels.

The Sci2Ops project was trialled in one operational area and proved highly effective in turning science and innovation into front line tools which showed clear benefits to the Agency. Having proven its value, the work of the Sci2Ops project was placed on a more permanent footing through the creation of the Innovation 4 Efficiency team to carry on the work of the project, but expanding the scope to cover all operational areas. The Innovation 4 Efficiency team now works with staff, identifies business needs, showcases potential innovative approaches and seeks to address operational problems through the use of innovative or technological solutions.

When the Innovation 4 Efficiency team gets an idea from frontline staff, it aims to get to an assessment of its potential rapidly so it can decide whether it is worth proceeding, and if it is not, it aims to discontinue it quickly. This means that it often uses a scaled down version of project management, proportionate to the innovation's size.

The Sci2Ops project and later Innovation 4 Efficiency work have established a fully governed process for getting ideas from anywhere in the organisation, developing them, appraising them and then implementing successful initiatives. It has also showed that it can identify possible solutions to short, medium and long term problems. The Agency considers that this work is contributing to a change in culture towards being an organisation that wants to improve, and which will use knowledge sharing to help achieve this.

Key lessons:

- An innovation unit has an important role in developing the ideas of frontline staff who may not have the time or skills to introduce new scientific or technological tools.
- An innovation unit can overcome hierarchical boundaries which impede the flow of knowledge and ideas around an organisation.
- Ideas should be quickly scaled up and trialled, and an organisation should not be afraid to cancel projects quickly if they show signs of failure.
- Support at a senior level for innovation, the rapid assessment of projects, and for overcoming hierarchical boundaries is extremely important.

Source: National Audit Office analysis

The importance of good project and risk management, including well-designed pilots and learning lessons

Case 10 – The Pension Service's Pension Transformation Programme

The Pension Service set up the Pensions Transformation Programme in January 2002 to meet Government objectives by transforming its business, organisation and supporting systems to provide improved services to customers and increase productivity. The Service employed consultancy partners to help turn this vision into a blueprint for the how the Service would operate in the future.

Given the size of the Programme, and bearing in mind lessons learned from other Departmental programmes, the Service's leadership decided to adopt a more manageable staged approach to implementation and delivery, moving away from a "big bang" deployment. This has enabled the Programme to learn lessons from each phase of implementation and factor these into the next.

It also found that a "one size fits all" approach was not the most suitable approach, as each office had their own issues (such as capacity), and not recognising this was making securing buy-in and implementing changes more difficult.

The Service believes that strong project management was a key to the programme's successes to date. The Senior Responsible Owner (SRO) ensured that careful and regular monitoring of the day to day operations was kept in view while the deputy SRO led on the management of the project. Risk management enabled issues to be escalated and dealt with by people in the best position to do so.

In 2008, The Pension Service merged with the Disability Carers Service to create the Pension, Disability and Carers Service. In September 2008 its new Chief Executive initiated a comprehensive review into how services will be delivered to customers in the newly merged Agency. A review of the Pensions Transformation Programme operating model as part of this has resulted in a change of direction, which would not have been possible without the staged deployment process.

The costs are currently forecast at £598 million with benefits likely to be considerably higher, having a positive net present value of £585 million.

Key lessons:

- Consideration of how live testing can be carried out in a pilot or pathfinder prior to wider implementation is important to ensure that business as usual is not affected.
- A staged programme approach allows learning to occur between each step, enabling any issues to be contained and resolved before wider roll-out.
- One size doesn't necessarily fit all in a diverse organisation, and dialogue is important to ensure that any innovation will fit in to a particular part of the organisation
- Good risk management should not be seen as a bureaucratic barrier, but as a tool which enables issues to be managed and escalated to the right areas of the programme/business.

Source: National Audit Office analysis

Involving stakeholders in a complex structure in order to deliver what end users want

Case 11 – BERR's Business Support Simplification scheme

BERR's Business Support Simplification Programme aims to considerably reduce the number of publicly funded support schemes, and to make the Business Link website the main channel through which business can find government support. It seeks to make it easier for companies and entrepreneurs to understand and access what support is available, to ensure that public money is spent where it has most impact and, by delivering efficiency savings, to ensure that more money is spent with business.

Before the programme began there were over 3,000 publicly funded business support schemes; research showed that business found this confusing. A simplified portfolio of 30 products was announced at Budget 2008, as part of the Solutions for Business package.

The Programme is innovative in terms of the ambition of what it set out to achieve; that is the scale of the reduction to the number of schemes. The number of partners who needed to be brought together to deliver this complex change programme was significant – key central departments and Regional Development Agencies (RDAs) led on the design of the new products and the RDAs are working with over 400 Local Authorities to deliver the programme in the regions. Agreement has also been achieved to establish a cross government performance monitoring framework for business support, with governance by all the partners, to ensure the portfolio remains responsive to business needs.

BERR had to learn and adapt in managing the programme. It had to ensure that the central team had the right mix of skills for the policy and implementation stages. With its partners, it adapted the governance structure to different stages of the programme, introducing RDA-led regional boards for the transition stage and a new business-led board to oversee Business Link strategy. It had to seek new ways to communicate with all its partners, including via an on-line collaboration space and dedicated relationship managers. Novel ways of presenting highly complex programme management information were required to ensure that the governance board were kept informed of risk. They also introduced demonstrator projects in order to engage Local Authorities in testing new products.

Key lessons:

- The scale of the project should not be a deterrent if the benefits outweigh the costs.
- Stakeholders can be involved at various stages of the innovation process – not just generating ideas, but helping with development, testing and evaluation too.
- Innovating in an area with a particularly complex delivery chain can be done, but it will require strong (and perhaps innovative) project management.
- Diversity of skills can enhance an organisation's ability to successfully implement a large scale innovation.

Source: National Audit Office analysis

PART THREE

Barriers to innovation and action to overcome them

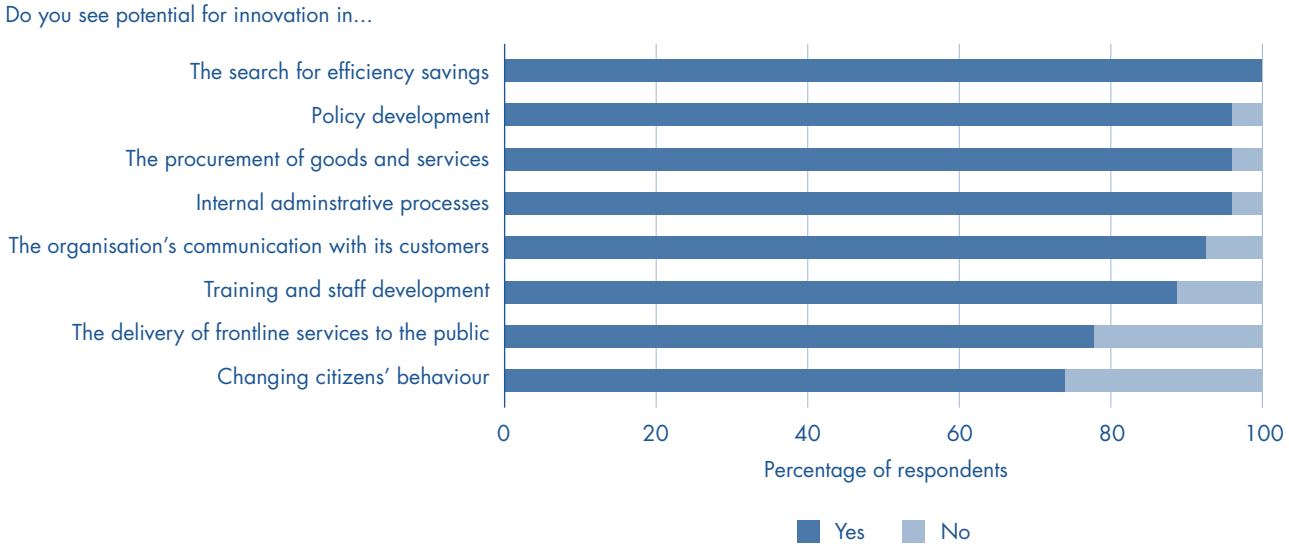
3.1 This part of the report examines the scope for further innovation in government, why not all the opportunities are being exploited, and the action that DIUS, the Cabinet Office and other parts of government have taken to address these barriers.

Recognition of the importance of innovation

3.2 All central government organisations responding to our survey recognised that innovation would be important in helping meet their future challenges, with over four-fifths considering innovation to be "very important" and the remainder considering it to be "quite important". Most participants considered that there was potential for all organisations to be innovative and that there was potential for innovation across a range of central government activities, from the delivery of services to the public and the development of policy to internal administrative processes **(Figure 5)**. Amongst staff, however, there was a wider range of views. While some considered it was vital to innovate to respond to the challenges of a changing society and to retain the credibility of public institutions, other participants in our online discussion forums considered that it was unnecessary, or saw little connection between innovation and their core job. Some believed cost-saving and administrative innovations were prioritised over those that improved conditions for service users. Appendix 4 (available at www.nao.org.uk), sets out these findings in more detail.

5 The range of areas with potential for innovation

The percentage of surveyed central government organisations who saw potential for innovation in their organisations in the following areas:

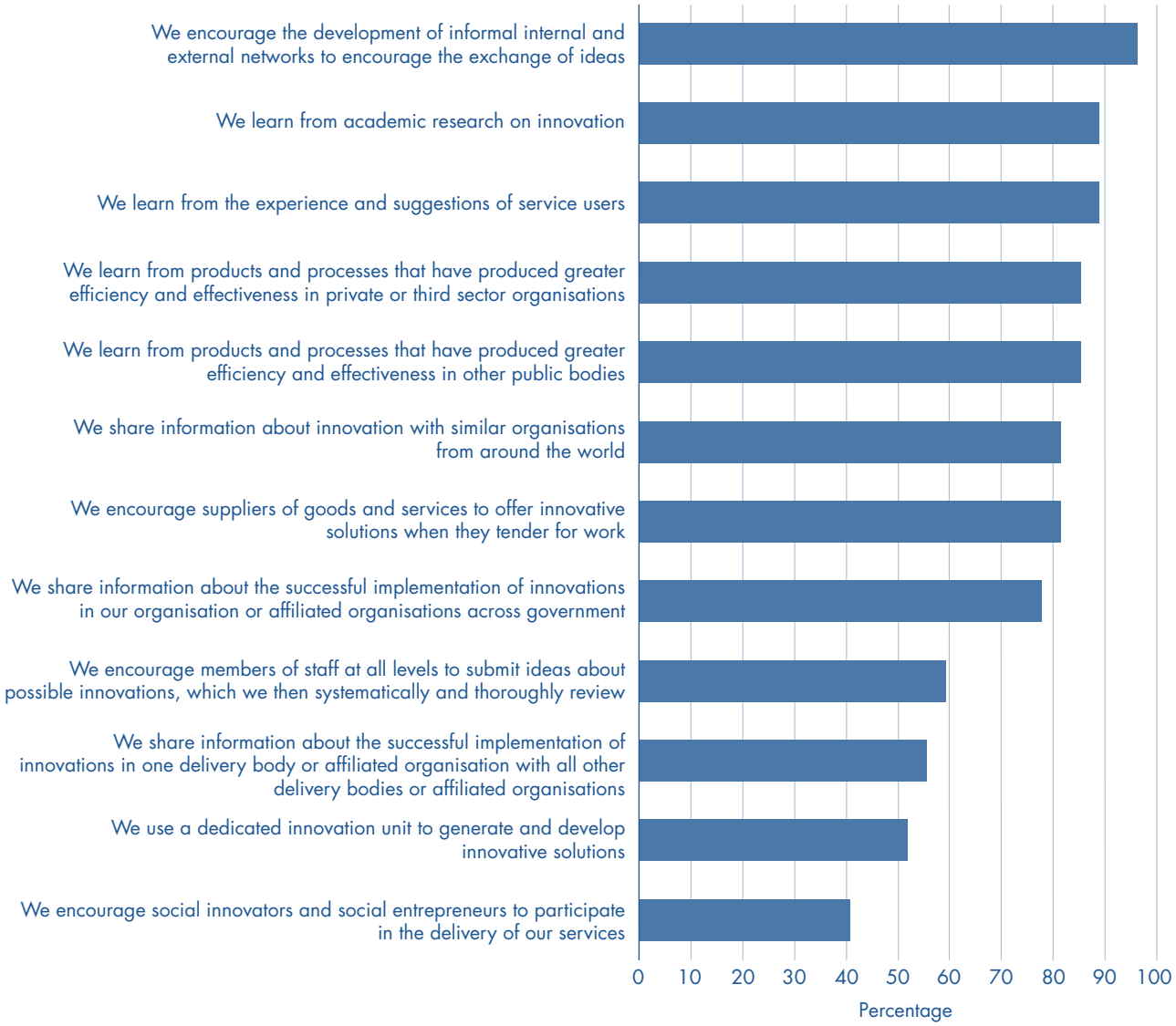


Source: National Audit Office survey of 27 central government organisations

3.3 Despite this widespread recognition of the importance of innovation, our survey shows that not all sources of innovation are being exploited by government. Departments and agencies told us that they generate or capture innovative ideas from a wide range of sources **(Figure 6)** and external sources such as academic research, service users and private sector organisations were amongst the most important. But when we asked about innovations that departments considered successful, these tended to originate inside the organisation (see Figure 4, page 11). Frontline staff participating in our bulletin boards generally supported the evidence from surveys and innovative projects that senior management was the main source of innovation. Some drew a correlation between the origin of the idea and the success of its implementation, suggesting that managers are more likely to support and push through ideas that they themselves came up with. Frontline staff and teams responsible for delivering innovative programmes also identified barriers to implementing innovations.

6 The ways in which central government organisations generate or capture innovative ideas

The percentage of surveyed central government organisations who used the following methods



Source: National Audit Office survey of 27 central government organisations.

Encouraging innovation from suppliers

3.4 The UK public sector purchases an estimated £150 billion worth of goods and services from private and third sector providers.[10] This expenditure represents a significant opportunity both to drive innovation in the wider economy, as government acts as an early adopter of new ideas, and to bring about innovative public goods and services, as government exploits industry expertise. Procurement and commissioning can also be used as means for directly engaging the private sector with government priorities, such as efforts to improve sustainability.

3.5 The evidence we have gathered shows that central government organisations are not systematically taking the opportunity to use suppliers to generate innovative ideas. In responses to our survey, only a third of surveyed departments and agencies said that they encourage suppliers of goods and services to offer innovative solutions when they tender for work. Few respondents submitted examples of innovations which originated with their suppliers. There were, however, isolated examples of good approaches to supplier-driven innovation (Case 4 and Case 5), further illustrating the potential for suppliers to contribute to innovation.

3.6 Some of our previous reports on large scale procurements, such as the Nuclear Decommissioning Agency, the Academies programme, e-Passports and PFI deals, have included examination of how contracts have been designed to give suppliers flexibility to develop innovative solutions which lead to better outcomes. **Box 9** shows some of the main lessons learned, highlighting some of the potential barriers to getting greater innovation through procurement.

3.7 The Treasury, the Office of Government Commerce and DIUS have recognised that departments can use procurement processes which get suppliers to innovate. The January 2007 Treasury report *Transforming Government Procurement* states that a step-change will be required to harness the benefits that businesses can offer through their commercial expertise and ability to innovate.[11] The report sets out how the Office of Government Commerce will be given stronger powers to set performance standards, monitor departments' progress against them, and demand departmental collaboration where that improves value for money.

3.8 DIUS's *Innovation Nation* White Paper stated that departments would produce Innovation Procurement Plans during 2008 setting out how they would drive innovation through procurement and use innovative procurement practices. DIUS published its own plan and guidance for other departments in December 2008.

3.9 Some departments have already produced strategies that outline how they will use their suppliers to generate innovative ideas. The Ministry of Defence's innovation strategy sets out how it will use procurement in this respect.

BOX 9

Lessons learned about procuring for better outcomes

Suppliers may be discouraged from innovating if they do not acquire the intellectual property rights that result. In a recent report on the Nuclear Decommissioning Authority,[1] we found there was a need to balance capturing as much of the value of an innovation for the taxpayer as possible, while at the same time giving the supplier sufficient incentive to innovate.

The type of contract involved is significant. Again, in relation to the Nuclear Decommissioning Authority[2], we found that contracts specifying detailed, frequently changing short-term annual work programmes meant suppliers did not have incentives to innovate in order to provide long-term value for money. In the Academies programme, the desire to avoid cost over-runs resulted in value engineering which cut back the scale of innovation.[3]

Specify the desired end-point. In the e-Passports programme,[5] innovation resulted from specifying the desired end-point, but relying on the supplier to conduct the research and development necessary to define the technical solution.

Use a whole life costing approach. In several of our reports on Private Finance Initiative projects[5], we have noted the importance of using whole life costing to appraise projects, which is a systematic approach of balancing capital costs with revenue costs to achieve an optimum solution over a project's whole life.

Source: National Audit Office reports

NOTES

1 The Nuclear Decommissioning Authority, Taking Forward Decommissioning, HC238 2007-08.

2 ibid.

3 NAO Report. The Academies Programme,HC254, 2006-07.

4 See NAO Report Identity and Passport Service: Introduction of ePassports, HC 152 2006-2007.

5 See, for example, NAO Report Ministry of Defence Major Projects Report 2003, HC 195, 2003-04.

10 CBI and QinetiQ. *Innovation and Public Procurement: A New Approach to Stimulating Innovation,* May 2006.
11 HM Treasury. *Transforming Government Procurement.* January 2007.

3.10 An innovative approach is also being used to involve the private sector in the development of solutions to the pressing challenge of climate change. The Department of Energy and Climate Change and the Department for Business, Enterprise and Regulatory Reform run an Environmental Transformation Institute and Environmental Transformation Fund. The Institute is designed to bring private sector players together to develop innovative solutions to the issue of carbon emissions.

Using the insight and experience of service users to develop ideas

3.11 The Government has recognised the scope to learn more from citizens and businesses about how to improve public services for some time. Following the 2005 Transformational Government Strategy, the Cabinet Office established the Customer Insight Forum to spread good practice, identify barriers to change and inform policy development and delivery. Sir David Varney's 2006 Service Transformation Review[12] made a series of recommendations to support delivery of the Strategy. The 2007 Comprehensive Spending Review included a Service Transformation Agreement with nine departments to take forward the recommendations of this review.

3.12 Our survey indicates that departments and agencies are gathering information from customers, but we did not find many examples of this insight being translated into innovations. Of survey participants 82 per cent stated that their organisation runs discussion groups or workshops with service users to discuss their experiences; 85 per cent that their organisation systematically requests feedback about service users' experiences; and 52 per cent that their organisation makes use of online communities, such as discussion groups or message boards. Users were cited as the source of very few successful innovative projects, however, and participants in our discussion boards rarely mentioned the contribution of service users to the development of innovation.

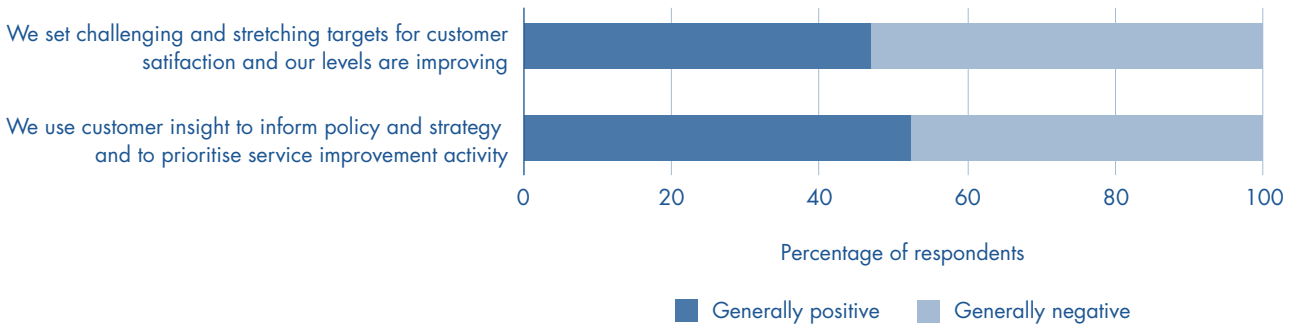
3.13 There are isolated examples of successful use of citizens' ideas to achieve innovation as shown by our Case 1, Case 2 and Case 3. But lack of understanding of how to use customer insight is a barrier. To spread understanding of good practice, in March 2008 the Cabinet Office launched *Customer Service Excellence*, a government standard to support customer focused service delivery. This includes a self-assessment tool to allow organisations to measure how customer focused they are and identify areas for improvement. The initial results, collected from organisations that have used the tool, suggest that organisations themselves believe there is considerable work to be done **(Figure 7)**; but that the tool itself is a useful starting point.

Getting frontline staff to develop innovative ideas

3.14 Frontline public servants are, by definition, in regular contact with users of public services and therefore in a good position to understand how service delivery might be improved. Frontline staff were cited as a source in only around a quarter of the examples of successful innovation that were submitted to us (Figure 4, page 11), suggesting that there is potential for greater innovation from the front line. Under 60 per cent of bodies we surveyed as part of this study told us that they encouraged staff to submit innovative ideas.

7 Progress against the Cabinet Office's Customer Service Standard (self-assessment results)

The percentage of surveyed central government organisations who agreed with the following statements



Source: Cabinet Office

12 David Varney. *Service Transformation: A better service for citizens and businesses, a better deal for the taxpayer*. 2006.

3.15 Participants in our online discussion forums gave us many examples of their own ideas for service improvement, such as a clinic for patients to attend prior to an operation which enables them to avoid staying at the hospital on the night before the operation. Although some of these had been successfully developed and implemented, others had not been captured and reviewed effectively.

3.16 Our discussion forums indicated that suggestion schemes are widespread, and revealed other means of capturing ideas, such as time in staff meetings to share ideas and experience, and forums with senior staff to ask questions or suggest ideas for improvement. But perceptions of risk, external pressures and a number of organisational factors create barriers to innovative ideas being put forward or developed.

- Innovation brings with it an element of risk, and **frontline staff are concerned about the consequences of failure** for service users.
- Negative external coverage can lead to a long period of **risk aversion**, even when the coverage was about isolated incidents not related to innovation.
- There are **few incentives to innovate** – only half of respondents to our survey of central government organisations agreed that "my organisation provides incentives for individuals to generate ideas for innovative products, services and processes." Our discussion boards with frontline staff indicated that lack of incentives can be a barrier to innovation. Frontline workers felt that they could not justify spending time developing new ideas at the expense of their day to day duties. Teachers and civil servants in particular consistently referred to lack of time to develop ideas as the most significant obstacle to innovation. Views on what types of incentive would work varied across sectors, however (Appendix 4 Table 4 at www.nao.org.uk).
- The **volume of change** resulting from initiatives from senior managers or Whitehall departments can be a disincentive for frontline staff to suggest innovative ideas that may result in further change.
- While at an organisational level, **targets and performance measurement regimes** are seen as a help to innovation (see Appendix 3 Figure 8), they are considered by frontline staff to be more of a hindrance than a help to innovation, because they are seen to prescribe the way in which services are delivered and restrict the space in which creativity and innovation can occur.
- Staff in the most **hierarchical organisations** are inhibited from suggesting improvements by an expectation that a decision-maker could prevent their ideas being taken forward. Hierarchies of decision makers also impacted on the elapsed time between idea generation and implementation.

Appendix 4 (available at www.nao.org.uk) sets out in more detail the findings from our online discussion forums and shows how these barriers can create disincentives to innovation.

3.17 Evidence from senior civil servants completing our survey of central government organisations suggests that there is increasing support for well managed risk taking. Over 96 per cent of respondents agreed that their organisation provided support when things go wrong despite good risk management, compared with 65 per cent when we asked a similar question in 2004.[13] Nearly 90 per cent of respondents to our survey agreed with the statement "my organisation looks upon risk as an opportunity as well as a threat", compared with 65 per cent who agreed with the same statement in 2004. And whilst departments often cited potential reputational damage as a hindrance to innovation, over half of respondents considered their organisation's attitude to risk to be a help rather than a hindrance to innovation (Appendix 3, Figure 8).

3.18 Senior civil servants see their organisations' objectives and Public Service Agreements as factors supporting innovation, and all survey respondents from the 16 ministerial departments told us that every one of their Departmental Strategic Objectives would require innovation in order to be met. Over half also agreed that their organisation's corporate structure supports the generation and development of innovation.

3.19 Addressing the disparity between what departments and agencies told us and the views recorded at the front line will require strong leadership and action across government departments.

13 NAO Report. Managing risks to improve public services. (HC 1078, 2003-04).

Leading innovation across government

3.20 The Cabinet Office and the Department for Innovation, Universities and Skills have taken action to present a clearer message that innovation is a priority in central government (paragraphs 1.10-1.12). The Cabinet Office's strategy for public service reform, *Excellence and Fairness*, envisages giving frontline staff the power and responsibility to innovate, and the Treasury's Operational Efficiency Programme includes a work strand which will analyse how best to facilitate frontline innovation, reporting at the 2009 Budget.

3.21 The results of our survey show that the profile of innovation in central government has been rising for a number of years, but that the creation and work of the Department for Innovation, Universities and Skills has not yet significantly raised it further. Over 80 per cent stated that the profile of innovation has increased over the last three years, whereas only around a third stated that it has increased since the creation of the Department.

3.22 Following the White Paper, DIUS established the Whitehall Innovation Group to exchange good practice and experience amongst innovation leads in government departments. The Steering Group for the development of public sector innovation policy, which includes senior representation from the Treasury and Cabinet Office, recently acknowledged the Whitehall Innovation Group is currently more of a fluid network for exchange of good practice and experience than a senior group of decision makers. DIUS is considering how the Whitehall Innovation Group might be developed or supplemented to provide higher profile senior leadership. DIUS has worked with the Steering Group on how to create an increased demand for innovation to complement the more supply orientated measures committed to in the White Paper.

3.23 At a departmental level, it is not clear that innovation is encouraged through leadership. For example, we found that only a third of central government organisations surveyed have a board member responsible for innovation. A quarter of central government organisations had an innovation strategy, although these strategies varied in style and content. Some referred to innovation only in relation to its role in knowledge management or research and development policy; while others, rather than having a strategy solely about supporting innovation, included innovation in the high level departmental strategies.

3.24 The innovation strategies that we analysed showed that they could be a useful means for articulating how innovation can contribute to meeting the challenges facing the organisation, understanding the barriers to innovation that existed within the organisation, and planning the changes that needed to be implemented to increase the innovativeness of the organisation. The Ministry of Defence's innovation strategy and the Department of Health's *High Quality Care for All: NHS next stage review final report* show that these departments have a good understanding of the role of innovation within their priorities and the challenges to exploiting innovation in their circumstances, with the strategies identifying specific actions for improvement **(Box 10)**.

BOX 10

The Ministry of Defence Innovation Strategy

The strategy states that innovation is important in providing improved equipment, processes and services to our Armed Forces. It articulates the barriers to innovation within defence environment, including poor communication of the results of research, a culture of risk aversion and a commercial approach which is not flexible enough to work with innovative suppliers. Its strategy for increasing innovation in defence acquisition includes principles such as the need for a speedy response to innovative proposals, actions to bring about an innovation culture within Defence such as engaging suppliers in forming requirements, and support for activities to increase the supply of scientists and engineers.

The Department of Health's *High Quality Care for All: NHS next stage review final report*

This review set out a 10-year vision for the NHS. It concluded that the main challenge for the NHS had changed from increasing capacity to delivering high quality care throughout the service. With regard to innovation, the review concluded that the NHS was good at invention but less good at systematic uptake of improvements. The report sets out specific action to foster innovation – innovation funds and centres of collaboration partnerships with universities and industry to develop new treatments – and actions to enable innovation are embedded across the report as a whole, for instance in its emphasis on local freedom to improve quality.

Source: National Audit Office analysis of Ministry of Defence Innovation Strategy, December 2007, and NHS next stage review final report, June 2008.

Using information to identify when innovation is needed

3.25 Our previous report in 2006 identified that relevant and reliable management information on the performance of the various parts of an organisation was important to identify the areas where innovation could improve efficiency and quality of delivery. It recommended that departments and agencies should improve their information on where costs are incurred, and should develop and publish metrics which could be compared with similar bodies in the public sector, private sector and abroad.

3.26 The management information produced by government bodies remains variable in its quality. In June 2008 the Committee of Public Accounts reported that the quality, timeliness and completeness of resource information provided to departmental boards needed to improve. 85 per cent of the bodies we surveyed said that they produced integrated information about the cost and performance of their services, and 70 per cent said that this information was presented to the board to enable it to compare the productivity of programmes. However, less than half said that such information helped them innovate, and around a third said that its quality was a hindrance (Figure 8). Our case examples indicate that good management information has been used effectively to identify areas ripe for innovation (Case 1 and Case 6).

3.27 As well as making it possible to identify where innovation is needed, good performance data is needed to make the case for innovating. Our case examples show that this is a key factor in success (Case 4, Case 7 and Case 8). Civil servants in our discussion forums emphasised that measures of success should be attached to innovative projects, especially as success in the public sector is difficult to measure and demonstrate. In order to demonstrate the benefits of an innovation, be they reducing costs, improving performance or both, it is first necessary to demonstrate how successful it has been as a programme. The value that the innovation has added in comparison to the historical way of doing something must then be demonstrated. Meeting this test remains a challenge to the public sector.

Supporting the delivery, diffusion and adoption of innovation

3.28 A number of departments make financial resources available for the development of innovation. Forty per cent of surveyed organisations stated that they have budgets specifically allocated for innovative activity, including research and development funding, support for innovation units and funds for investment in proposals for innovative service improvements. Nine of these were able to provide details of the size of this budget in recent years, although departments do not all define innovation in the same way (Figure 2). The Department for the Environment, Food and Rural Affairs consistently allocates five per cent of its annual budget to innovation, the Ministry of Defence, between six and seven per cent and the Nuclear Decommissioning Authority about four per cent. The remainder each allocate between 0.5 and one per cent.

3.29 The centre of government is also making more money available for departments and agencies to invest in innovative ideas. In the 2007 Comprehensive Spending Review, the Government set aside over £2.5 billion to support and promote public sector innovation during the 2008-09 to 2010-11 spending period. Our 2003 review of the Invest to Save Budget concluded that "the chances of promoting successful innovation are likely to increase if [the budget] targeted its support on a smaller number of key areas which have the most potential to benefit from innovation".[14] The more recent innovation funds are targeted at meeting some of the major challenges outlined in part one, which current service delivery methods may not be best placed to meet **(Box 11)**.

BOX 11

Funding has been made available for investment in innovation to meet a number of significant challenges

- £600 million in the Transport Innovation Fund which supports innovative proposals to improve transport in local areas;
- £164 million for the City Challenge fund for education, delivering innovative approaches to school improvement in challenging urban areas;
- £150 million in additional Continual Professional Development, so every teacher is supported with training in the most innovative and effective professional practice;
- £1.2 billion for the National Police Improvement Agency, which supports innovation and improvement across police forces;
- £27 million for the Social Enterprise Fund, to support the development of social enterprise to transform health and social care services;
- £518 million of Social Care Reform grants for Local Authorities to redesign and reshape their systems to deliver world class social care; and
- £100 million in partnership with the Wellcome Trust which will promote innovation throughout the health sector.

Source: Department for Innovation, Universities and Skills, Innovation Nation, March 2008

14 NAO Report. The Invest to Save Budget. HC 50, 2002-03.

3.30 Lack of good information about the success of innovative activities and the barriers to innovation identified in paragraph 3.15 also make it more difficult for successful innovations to be adopted more widely or for the public sector organisations to learn from innovation elsewhere. Our parallel report Helping Government Learn shows there is scope to improve learning processes across government. The Department of Health's High Quality Care for All: NHS next stage review final report identified failure to take up new ideas as the main barrier to greater innovation in the health service.

3.31 Our survey showed that more than half of central government organisations had some form of internal innovation unit. The role of these units varies **(Box 12)**. Some are used to develop ideas from staff, service users or suppliers, and some help organisations to learn from elsewhere.

BOX 12

Case examples of innovation units

At the Department for Environment, Food and Rural Affairs' **Innovation Centre,** policy or delivery teams can run workshops designed to enable the generation of innovative solutions to problems.

The Department for Work and Pensions' **IT Innovation Centre** and **Solutions Centre** are designed to inspire creativity and innovation as well as being a site where new ideas can be tested before implementation. The Centres are also available for use by other government bodies.

The Ministry of Defence's **Centre for Defence Enterprise** invites proposals for funding and support from companies with scientific or technological innovations that have a potential application in defence.

The **NHS Institute for Innovation and Improvement**, sponsored by the Department of Health, promotes service innovations by producing guidance and spreading information about good practices such as Case 1.

The NHS **National Innovation Centre** (part of the NHS Institute) supports the adoption of technological innovation from industry. It uses a web-based screening tool to allow innovators to self- assess potential ideas, and assistance for the most promising ones to be developed within the health service. The Government Gateway team in the Department for Work and Pensions is working on an adapting the screening tools so that they can be made available across government.

In local government, the **Social Innovation Lab for Kent** helps council staff solve local problems. For instance academic experts have used ethnographic techniques to help the council understand the experience of service users, leading to changes such as services for fathers at children's centres and better internet access to information on care services.

Source: National Audit Office fieldwork

3.32 DIUS has taken a number of steps to encourage the flow of knowledge and information about successful innovation. The Whitehall Innovators Group, set up following the Innovation Nation White Paper, comprises people with an interest in and responsibility for innovation from across central and local government. The National School of Government is also working with DIUS on the development of an Innovation Hub to collect and disseminate learning about successful innovation across government. The initiatives described in Box 6 (page 14) could supplement the above sector-specific innovation units across government, but these initiatives are still being developed and it is too early to conclude on the impact they will have.

Measurement of innovation in the public sector

3.33 It is difficult for DIUS to make the case for innovation in the absence of measures of the amount of innovation taking place or its benefits. Devising measures of innovation for the public sector is complex. NESTA is assisting DIUS in working with OECD and the Nordic countries to develop internationally comparable measures. The biennial UK Innovation Survey of UK businesses, developed with the OECD, defines innovation activity as the introduction of a new or significantly improved product (good or service) or process for making or supplying them; innovation projects not yet complete, or abandoned; and expenditure in areas such as internal research and development, or acquisition of external knowledge. Our previous report highlighted the importance of information on productivity to measuring innovation, and the Office of National Statistics has produced measures of productivity in key public services which could play a part. NESTA aims to pilot an Innovation Index to measure UK innovation in the round in 2009, but the public sector element is challenging and may take longer.

APPENDIX ONE

Methodology

1 We designed this study to examine the progress that central government has made in developing its capacity for innovation since we last reported on the subject in 2006. The evidence used for this report was collected between and April and October 2008. Our fieldwork consisted of a literature review, survey of central government organisations, case example interviews, online discussion forums, semi-structured interviews, and analysis of secondary data.

Literature review

2 We conducted a review of the published literature on the subject of innovation in the public and private sectors, which included consideration of work by leading academics on the subject in this country and abroad. This was used primarily to inform the design of other elements of the study, in particular the survey of central government organisations.

Survey of central government organisations

3 The survey of central government organisations was conducted between July and August 2008 in order to give us an in-depth understanding of the drivers, incentives and barriers that can impact upon their innovative capability. Before sending the survey out more widely, we asked for comments on its content and usability from DIUS, the Cabinet Office, NESTA, the Ministry of Defence and the Department of Health. The survey was then sent electronically to the Finance Director of each organisation, giving them the choice as to who was the most suitable person to complete it, as we were aware that due to the different organisational structures across government, the job title of the individual best placed to answer the questions would vary from organisation to organisation.

4 The survey covered the following areas:

- Organisational details
- Innovation, culture and capability
- Generating innovations
- Managing innovations
- Barriers and drivers of innovation
- Examples of innovative projects and programmes

5 The majority of questions asked organisations to choose the most appropriate response from a range of options. Some questions invited further detail from the respondent by use of a free text response. We included a number of questions which were originally in the survey we conducted for our 2004 report *Managing risks to improve public services* (HC 1078, 2003-04) so that we could track relevant changes in approaches to risk.

6 We received the following survey returns:

- Sixteen of 17 main central government departments. The Department of Health did not complete the survey as it felt that it would not fully reflect the changes that were under way in the health sector following Lord Darzi's report, *High Quality Care for all: NHS Next Stage Review*, published in June 2008. However, it made available to us extensive evidence gathered for, and analysis carried out for the Darzi review, sufficient to provide a detailed picture of innovation in the health sector. We followed this up with interviews with the Innovation Policy team, Department of Health Research and Development Director and the Chief Executive of the NHS Institute for Innovation and Improvement.
- Nine of the 14 largest (in terms of expenditure) executive agencies and non-departmental public bodies. Five declined to respond, mainly on the grounds of insufficient resource to complete the survey.

- Two Regional Development Agencies. One was chosen on the basis of its size, while the other was chosen as it was the lead RDA in issues relating to innovation.

Case examinations

7 To obtain evidence of the factors which impacted on the success of real innovative projects we conducted semi-structured interviews with project managers of, or people otherwise significantly involved with, 15 innovative projects nominated by departments as part of their survey returns. We selected projects so as to give reasonable coverage across government, and to allow us to examine innovations from a number of different sources (including those from leaders, from staff, from suppliers, and from service users). We also carried out one case example interview with a County Council in order to gain a local government perspective.

8 The interviews typically covered:

- The source and drivers of the innovation
- Management of the innovation
- Piloting, evaluating and rolling out the innovation

9 At each stage, we discussed the barriers that were encountered, as well as the factors which were critical to the success of the innovation.

10 The projects we examined in detail were:

1. Department for Business, Environment and Regulatory Reform: Business Support Simplification Scheme
2. Department for Communities and Local Government: Eco-towns
3. Department for International Development: Human Resources transformation programme
4. Department for Transport: Vehicle and Operator Services Agency on-line licensing
5. Department for Work and Pensions: Lean programme
6. Environment Agency: Flood Warnings Direct,
7. Environment Agency: Innovation 4 Efficiency team
8. Higher Education Funding Council for England: Higher Education Innovation Fund,
9. Higher Education Funding Council for England: flexible working and flat structure
10. Home Office: Iris border control
11. Kent County Council: Social Innovation Laboratory Kent
12. Legal Services Commission: Delivery Transformation programme
13. Luton and Dunstable Hospitals stillbirth project
14. Ministry of Justice: Community Justice
15. National Offender Management Service: Disposable mattresses
16. The Pension Service: Pension Transformation Programme

11 In order to compare these drivers and barriers to those which exist in the private sector, we conducted semi-structured interviews along similar lines with three private sector companies (Nike, Arup and Clarks) about some of their innovations.

12 We also interviewed staff from the Innovation Unit, the NHS Institute for Innovation and Improvement; the Department for Environment, Food and Rural Affairs' Innovation Centre; the local government Innovation Forum; and the Technology Strategy Board. We held detailed discussions throughout with the public sector innovation team at the Department of Innovation Universities and Skills.

Online discussion forums

13 In order to get evidence of the attitude of frontline staff towards innovation and further evidence of their organisations' innovative capacities, we commissioned Ipsos Mori to set up and run eight moderated online forums for two weeks. There were two forums for each of the following groups: police officers, teachers, health professionals (including both clinicians and managers), and civil servants.

14 The themes covered in these forums were:

- Innovation at an organisational level
- Generating innovation
- Managing innovation
- Barriers and incentives

15 Ipsos Mori produced a report for us based on an analysis of the transcripts of these forums. It is available at www.nao.org.uk

Semi-structured interviews

16 To enable us to gain further evidence of government strategy in this area, we conducted further semi-structured interviews with officials in:

- The Department of Innovation, University and Skills
- The Cabinet Office
- The Design Council,
- The National Endowment for Science Technology and the Arts (NESTA)
- The National School for Government
- The Department of Health
- The NHS Institute for Improvement and Innovation
- The Department for Communities and Local Government

Analysis of secondary data

17 Our evidence of staff attitudes towards ideas such as innovation and change was supplemented by an analysis of secondary data in the form of staff surveys from 14 central government organisations, as well as the 2006 cross-governmental survey of senior civil servants carried out by ORC International. Our view on the attitudes to risk of central government organisations was further informed by our review of a number of their high level risk registers.

APPENDIX TWO

Progress in implementing recommendations from the 2006 NAO report

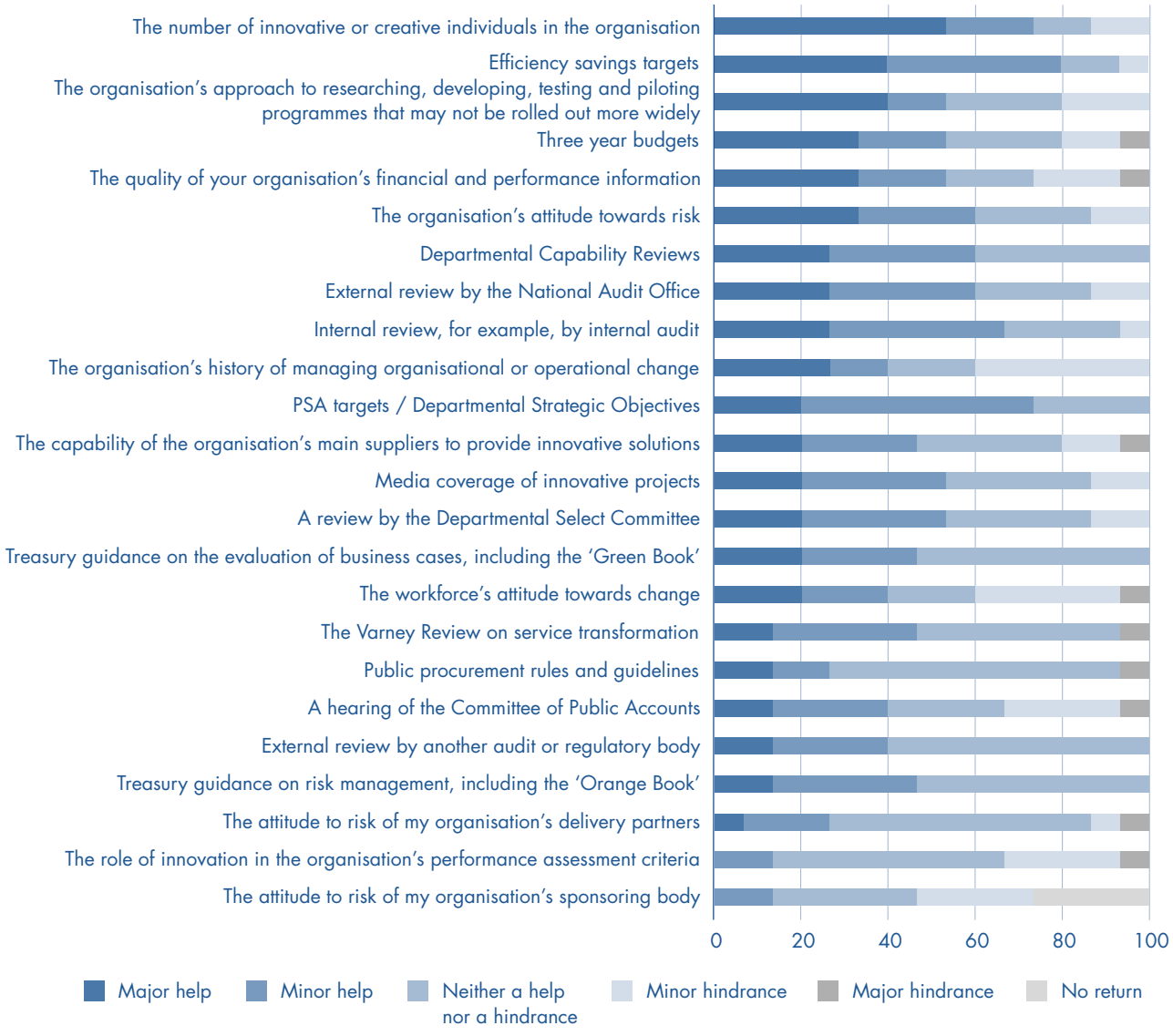
Summary of recommendation	Summary of progress
1 Government should give more focus to fostering innovation in central government, particularly to improve productivity.	There is more emphasis on innovation from the centre of government, and central government organisations consider the amount of innovation has increased. The Innovation Nation White Paper spells out the imperative for innovation in public services. Increasing efficiency is only one of the drivers for departments to innovate.
2 Departments need better data on where costs are incurred in their operations and on the costs of possible innovations.	There are significant gaps in cost and performance reporting in government. At a project level good cost information has facilitated some innovation, while its absence has been a barrier.
3 Individual incentives to encourage managers in central government organisations to develop or promote innovations need to be improved.	There is still a lack of incentives for managers to support innovation, but it is important to link these with organisational incentives.
4 Departments and agencies should ensure that they use piloting, small-scale testing, and quicker decision-making processes.	Most innovations we examined used some form of piloting and testing. Those that did not recognised this would have been beneficial.
5 Central government organisations should strengthen their ability to learn from each other and from outside.	Departments have put mechanisms in place to learn from outside, but the relatively small proportion of successful innovations generated from external sources indicates more can be done.
6 There should be mechanisms to seek ideas from staff, the front line, and customers.	Mechanisms such as suggestion schemes generally exist, but there are remaining barriers to generating and developing ideas from frontline staff and customers.

APPENDIX THREE

Factors that help or hinder innovation

We asked departments and agencies to what extent a list of 24 factors helped or hindered innovation in their organisation. **Figure 8** shows the results.

8 Factors considered to help and hinder innovation



Source: National Audit Office survey of 27 central government organisations.

Most significant **helps**:

- The number of innovative or creative individuals in the organisation
- Efficiency savings targets
- External review by the National Audit Office
- Internal review, for example, by internal audit
- The organisation's approach to researching, developing, testing and piloting programmes that may not be rolled out more widely
- PSA targets / Departmental Strategic Objectives
- Three-year budgets
- The organisation's attitude towards risk
- The capability of the organisation's main suppliers to provide innovative solutions
- Departmental Capability Reviews

Most significant **hindrances**:

- The organisation's history of managing organisational or operational change
- The workforce's attitude towards change
- Media coverage of innovative projects
- The quality of the organisation's financial and performance information
- A hearing of the Committee of Public Accounts
- The attitude to risk of my organisation's sponsoring body
- The role of innovation in the organisation's performance assessment criteria

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