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Why is it so hard to achieve organisational innovation in government?

**Patrick Dunleavy^{*}, Helen Margetts⁺, Simon Bastow^{*},
Oliver Pearce^{*}, Jane Tinkler^{*}**

^{*} LSE Public Policy Group, London School of Economics

⁺ Oxford Internet Institute, Oxford University

Abstract: Innovation within government has been much less studied than in the private sector. Yet it has a powerful influence on the 25% of UK final consumption undertaken by public agencies. This paper introduces the available theory of government innovation and then presents the data from a systematic survey of 125 organizational innovations nominated by UK central departments and agencies. We examine how innovations originate and what factors sustain their implementation, what the main barriers to innovation are seen to be in British government, and where impacts are achieved or missed. The innovations in our data set cost less than £1 million on average, but with a large range in costs, and they took 31 months on average to deliver. Most innovation processes are top-down and there is little input from customers/clients or front-line staff. Supporting research using interviews and focus groups suggest that government organizations continue to offer relatively weak incentives for managers or staff to originate innovations and that a generalized reluctance to embrace new ways of working remains widespread in central agencies. We outline a set methods and issues that are likely to remain important research problems for government innovation research.

‘Nothing was ever yet done’, observed John Stuart Mill in *On Liberty*, ‘that someone was not the first to do. All good things that exist are the fruits of originality’. An argument about the centrality and difficulty of invention and piloting new ideas went on to form a centrepiece of Mills’ defence of liberal democracy as the optimum institutional and social environment for sustaining economic, technological and social welfare advances. At the time that he wrote, and within the post-Benthamite utilitarian tradition that inspired his writings, it was accepted without question that government interventions could often play a critical role in stimulating progressive innovations, remedying social ills and providing the essential sub-structure for manifold individual plans for life-improvement to secure firm foundations and flourish. Yet in the ensuing decades both Mill’s confidence in progress and his association of it with government have been drastically reduced, leading to a situation where in modern times the phenomenon of government innovation is almost unstudied in serious social science.

In this paper we have tried to redress this relative neglect. We begin by briefly considering two grounds for the re-emergence of government agility and innovation as critical topics in contemporary public management. The second section then reports the results of systematic research on innovations in UK government carried out as a ‘value for money study’ for the National Audit Office (NAO) in 2004-6. We outline the key findings of the study in section 2 below and then consider some reflections on their significance for the future study of government innovations in the third and concluding section.

1. The importance of studying government innovation

‘[Those] that will not apply new remedies must expect new evils; for time is the greatest innovator’.

Francis Bacon

Few people will now deny that government should if possible be innovative. But a sharp new impetus behind studying this topic has recently been stimulated from two apparently very distinct sources. The first is an upsurge of interest in how governments respond to sudden crises running across the grain of policy-makers’ expectations; and the other is the waning of

previous 'flat productivity' assumptions picturing government services as inherently areas of low productivity advance.

(i) After the 9/11 and 7/7 massacres in New York, Washington and London it has become a truism that modern governments need to be agile, ready to respond quickly to emerging changes and threats in their environment. The consequences of attitudinal anachronism can be catastrophic, witness the unpreparedness of the otherwise excellent French health care system for a two week summer heat wave in 2003. The obsolescence of government systems operating within limiting organizational culture assumptions was also brilliantly captured in the film *Flight 93*. Here a group of ordinary American citizens on a hijacked 9/11 flight used cell phones to contact their families and loved ones (who in turn were watching CNN). Not only were the passengers able to work out what was going on in a highly compressed time period and despite the misinformation and intimidation of the hijackers, but they promptly did something effective about it, at ultimate costs to themselves. Meanwhile in the same time period highly-resourced government agencies staffed by expert and specialized officials and equipped with masses of hi-tech equipment were still trying to get their heads around the fact that the world has changed. Even at more mundane levels, static and un-agile government policies have far-reaching consequences. For instance, the prolonged delays in UK government regulations to force mobile phone companies to reduce the incentives for thieves to steal and use mobile phones sparked a crime wave that citizens acting alone could not easily contain. All three examples are disturbing because they break the implicit social contract between democratic states and their citizens - by state agencies being slow or remiss in undertaking their part in the division of labour, which alone makes modern governance sustainable.

As they always have and always will, citizens solve most social problems on their own. But they can only do their bit if government fulfils its own responsibilities promptly and in real time, that is if government is *agile*. The US Secretary of the Navy acutely remarked in 2002:

We have threats that are dynamic and changing and we need an organization that is very adaptive, that is very agile and is quick. Instead of having cycles that take years, we need cycles that take months...because the threat changes and we need quicker

decision-making, so we need to significantly streamline the way we conduct business.¹

This imperative is also widely recognized as involving both appropriate institutional structures and business processes on the one hand and an appropriate organizational culture on the other:

When you think about an agile organization, there are really two components: One is a mind-set within the organization. And the other is the ability to deliver. I think it really requires both of those.²

These new times for modern government throw into a different, more urgent perspective the underlying ability of departments, agencies and regional and local governments to make innovations.

(ii) A second key perspective on government innovation is more long-term, paying attention not to performance in crises and strong shifts in the external environment but instead to the ‘glacial’ accretion of innumerable changes, often modest institutional alterations or small changes in techniques and outputs. In the private sector a continuous flow of these ‘organizational innovations’ seems to constitute a key basis for the most successful large firms, the serial innovators who bring to market a whole sequence of innovative products or achieve ‘transformational’ changes in their internal processes. At the macro-level the ability to sustain a flow of organizational innovations (rather than primary inventions or new patents) is widely acknowledged as the key process shaping the evolution of productivity levels in private sector industries and services. Given this central importance, it is unsurprising that all aspects of private sector innovation processes have been studied in minute detail.

Yet the government sector also plays a large part in the definition of ‘national’ productivity. For example, Figure 1 shows that the public sector accounts for a massive 25 per cent of final consumption spending in the UK, in 2004 amounting to £252 billion. Small differences in the

¹ *Gordon England, US Secretary to the Navy, October 2002*

² *Skip Bailey, Information Resources, US Federal Bureau of Investigation, August 2003*

productivity of public sector operations consequently can have significant implications for the overall costs and efficacy of government operations, and indirectly for the level of tax burdens carried by citizens and enterprises. In particular, there is no a priori reason to suppose that organizational innovations play any lesser role in the development of public sector productivity than in the private sector.

Yet the study of the evolution of public sector productivity and of government innovations' role in this process, are both in their infancy. For many decades government outputs have not been directly measured, instead being denominated primarily in terms of the inputs used to produce them – an analytic move that leads automatically to 'flat productivity' assumptions, the notion that government sector productivity neither improves nor declines, whatever the pace of technological or organizational change in the sector. This long-entrenched position is slowly changing at the level of macro-economic statistics, where the UK government is pushing for better measures of government productivity across broad policy sectors. But there are many pitfalls still here, and even if useful macro-statistical solutions are found at an aggregate level, there may be limited implications for the analysis of individual government organizations.

The current literature on government is also extremely small and largely limited to anecdotal evidence and 'apt illustrations'. There are a number of rhetorically plausible studies promising therapeutic effects from the application of different discourses or formulae for achieving change. But their supporting evidence-base is chiefly confined to 'best practice' research, in which hopeful early signs of positive effects are often taken to license very generalized conclusions. Systematic research studies using clear methods and looking for quantitatively-based conclusions are few and far between.

There has also been relatively little read-across from the literature on private sector innovations in the study of government bureaucracies for several reasons. Much of the public administration and management literatures represents government organizations as inherently more constrained by political, legal and ethical constraints in their operations than private sector firms – a stance that is strongly rejected by most top private sector managers themselves. Theories of 'incrementalism' and 'historical institutionalism' have been widely construed as legitimating a picture of government organizations as inherently static in their modes of operating, creating a stable 'keel' for the democratic state in terms of relatively

unchanging standard operating procedures and strong inertial forces fuelled by established institutional momentum.

This stance has been strengthened by work on private sector firms showing that many large corporations are quite poor at innovating. Instead they chiefly embrace new ideas via mergers and acquisitions, taking over smaller start-up and breakout firms that alone seem able to create genuinely pathbreaking new products, free from the constraining bureaucratic procedures and the dampening organizational cultures apparently endemic to many large corporations. Studies in organizational ecology also stress that the most fertile zones for innovation are concentrated in industries with many new organizational births and deaths, where new ideas can be rapidly absorbed and cycled through to implementation, with few or no intra-organization constraints on disruptive new ideas. Compare this situation with the apparently very limited competition and long-lived characteristics of departments and agencies that made Herbert Kaufman in 1976 seriously ask, *Are Government Organizations Immortal?* It is little wonder that many academic observers (including virtually all economists and most students of organizational behaviour) have assumed on a priori theoretical grounds that the pace of organizational innovations in the government sector must necessarily be weaker than in private industries and services, and might plausibly be supposed to run cold and slow. This expectation in turn put analysts off from looking in much more detail at the innovation records of government organizations, so much so that the topic is barely discussed in many contemporary textbooks of public management. We turn next to our empirical study, seeking to illuminate this neglected but critically important area.

2 Innovation in UK Central Government

The methodological centrepiece of the research reported here was a survey sent to the largest 130 central government departments and agencies, seeking nominations for concrete innovations they had recently completed or progressed through to beginning implementation. We gathered quantitative data on the size, costs, and timing of the nominated innovations, plus extensive qualitative information on the changes involved. We also secured responses from the innovating organizations to questions about the origins of innovations, their progress and the influences fostering them, the barriers encountered and their perceived impacts. We

complemented this information by securing the views of NAO experts on the quality of the nominated innovations. We also sought feedback on the main quantitative findings from a wide-ranging programme of interviews and focus groups about government innovations held with three levels of civil servants, UK management consultancies and government IT contractors, and senior staff from major UK businesses and English local authorities. Full details of the study reports and supporting materials are available for free download.³ We consider first some key characteristics of the innovation nominations made, and second how departments and agencies reported the influences shaping the development of their nominated innovations

The characteristics of innovations nominated

Although our study was carried out under the auspices of the NAO, and thus in some sense departments and agencies had to reply or risk being seen as not co-operating with Parliament, it proved a difficult matter to elicit replies. We wrote to 126 government organizations but received positive replies from only 85 (a response rate of 68 per cent). Some civil service agencies declined to take part on the grounds that they ‘do not do innovations’, or could not think of any innovations they had made, or felt that it would take too much time to find an example. We asked for nominations and information on between one and three innovations, depending on the organization’s size. We hoped to receive 250 nominations but in the end received only 125. Many organizations evinced great difficulty in nominating innovations, and interacted with our helpline staff repeatedly in completing our relatively simple e-survey.

We deliberately defined innovations very broadly – citing a range of current formulations, including a characterization of innovation as ‘anything new that works’, originated by the Prime Minister’s Strategy Unit. We wanted to make it feasible for departments and agencies to nominate a wide range of possible innovations, ranging from policy innovations to

³ See *National Audit Office, Achieving Innovation in Central Government Organizations: Volume I Main Report and Volume II Research Findings* (London, The Stationary Office, 2006), HC 1447-I and 1447-II Session 2005-6, 25 July 2006. These reports are freely downloadable from the National Audit website www.nao.org.uk and also from www.GovernmentOnTheWeb.org along with data summaries for all 125 innovations studied, and a focus group report.

organizational innovations and spanning across different scales of innovation. In the event, the responses were strongly influenced by the established relationships between the National Audit Office (sponsoring our research) and the civil service, which focus on non-political and implementational aspects of public administration,. Departments and agencies returned no nominations of policy change innovations, but instead a set of responses that were restricted largely to organizational and technological changes.

In our interviews and focus groups opinions differed as to the usefulness or representativeness of the resulting data set of 125 nominations as a representation of governmental innovations in the UK. Many civil servants and some consultants felt that because of the implied boundaries of NAO interests the responses received provide only a partial representation of innovations. They argued the UK central government has an exemplary record of implementing new and radical policy initiatives, often with extensive implications for service delivery.

However, other officials and many outside interviewees and focus group participants argued that the returns received do represent fairly the extent of civil service *endogenous* innovations, those originating within public management structures themselves. In this respect they are distinct from the ever-present churn of politically-imposed targets, responding to new ministers with different priorities and to party-political competition. These macro-changes may or may not qualify as innovations or as successful in implementation. What departments and agencies returned are ‘non-political’ nominations with some clear claim to be (consensually) regarded as innovative and as successfully implemented.

We largely agree with this second interpretation, namely that the dataset provides a useful window into a part of the overall innovations process in government – that concerned with organizational innovations. The framing limitations arising from the broader NAO-civil service relationship need to be kept constantly in mind in looking at the data below. But the nominations were independently returned by a large number of organizations, in response to broadly framed questions, as part of a Parliamentary scrutiny process that they take seriously – and in this sense they clearly generate useful insights into about UK civil service attitudes.

Figure 2 shows how the nominations received were distributed across the main types of workstreams denominated in the recent Gershon report, a major efficiency review stretching

up to 2008 whose implications are still being worked through by all civil service agencies. Most innovations were concentrated in policy functions, reflecting the UK civil service's generally 'non-executant' role in managing complex policy delivery chains (Figure 2a). In substantive terms there was a concentration of innovation nominations on first administrative processes and second IT and Web innovations (Figure 2b).

Both parts of Figure 2 also show that on close inspection a large minority of the innovations returned appeared to be stand-alone or one-off innovations, that is isolated changes not forming part of a wider business process change. Only one in eight nominations clearly formed part of a serial innovations process, a ratio which seemed relatively low to our business interviewees and focus group participants. The large bulk of the remaining nominations were so enigmatic that they could not be clearly classified on this criterion.

One of the most surprising features of the dataset was that fully a fifth of responding organizations nominated innovations costing less than £100,000 to introduce. Figure 3 shows that the median innovation submitted cost £0.9 million. Although the most financially large-scale innovations submitted ran into hundreds of millions of pounds, the small average cost estimate was surprising. (To give some context, when we were piloting the innovations survey the research principals, who are not especially senior academics working in small sub-organizations, generated trial responses from our own work ranging from £300,000 to £1.3 million in cost terms). So to find organizations with hundreds or even thousands of staff returning smaller innovations was disconcerting. On the other hand, business respondents in interviews and focus groups did not find the median costs of innovations unrealistic, although they were staggered by the size of the very largest nominations. Some dismissive comments were also made about the least cost nominations.

One possible explanation of the low submitted cost numbers for innovations is that the UK civil service still has only a loose grip on the detailed costings of its own activities. Figure 4 shows that between four fifths and two thirds of agencies were able to supply information on different cost components requested. Around a third of agencies could not rough-estimate the capital costs associated with innovations, but this may have been for innovations with few such costs. More worryingly is that Figure 5 reports the results of our quality test of the cost numbers submitted carried out by cross-checking with other information supplied, especially on staff numbers involved (in FTE terms). Only a quarter of the 125 innovations appear to

have wholly reliable costs data, while a similar fraction looked feasible but somewhat less good quality in one respect or another. The remaining half of the nominations had cost numbers attached which seemed problematic in one or two ways, chiefly incommensurabilities with the staff time reported, and the apparent scale of the project in the qualitative information supplied.

Turning to the timings of projects Figure 6 shows that the median innovations nominated took 28 months from project origination to implementation, but that there was a quite a spread, with one in ten projects taking four years or more, and another sixth stretching from three to four years. A fifth of the innovations nominated took less than a year to progress from origins to implementation, but Figure 7 shows that they were overwhelmingly very small projects. The Figure also shows a clear positive association between the financial costs of projects and the average length of time they took to complete.

We also looked at the differences in time taken to make innovations across department groups, shown in Figure 8. Here the average time across departments was somewhat longer (31 months), with most scores clustering closely around it. Two departments (Defence and Health) took appreciably longer, Defence having some of the biggest innovation projects in our dataset. The Department of Work and Pensions had some fast IT and Web-based projects, reflecting its strong reputation in our general interviews for doing innovation relatively well, while Culture, Media and Sport's innovations seem to be faster because they were smaller.

We also analysed the time profiles of the nominated innovations, comparing the amounts of time spent on different stages, with the results shown in Figure 9. The largest group of innovations (over a third) were end-loaded, with most time spent in implementing already developed and approved ideas for change. One in eight projects showed a profile of delays at early stages followed by fast implementation later. Other time-profiles were even less frequent.

There were fairly predictable responses to these timing data amongst respondents in our interviews and focus groups, with most civil servants believing that the results are creditable and give the lie to claims that government organizations are inherently slower than the private sector. Most business respondents (including people who had shifted into the civil service from business) felt that the timings were on the slow side (although sometimes on larger

projects than private firms would often undertake), They broadly suggested that their firms might do things six months faster on medium sized projects and some firms would rarely do a project extending beyond two years. Some civil service insiders also acknowledged that project timescales in government were over-long:

‘Yes, I agree with that. There’s only group I think who are slower than we are, and they are the European Commission... I don’t think that [Figure 6]’s very good I’m afraid. We still have this view that because of the particular nature of the external accountabilities that work on us, we still have to be very risk averse and very certain before we move in doing anything... So I am afraid we still grind things quite small in analysing issues before we decide that action is justified’. (Senior official)

Finally, we analysed all of the 125 innovations nominated to assess how innovative they were. The study team looked at the qualitative character of the changes reported and at the evidence for their effectiveness contained in the survey returns and reached an internal judgement on the quality of the change nominated. We then asked relevant NAO senior staff members with expertise in each department group and sector to assess the nominated innovations and discuss them with us, comparing their informal evaluations with our own. Bearing in mind the definition of innovations quoted earlier as ‘anything new that works’, this process suggested that around a third of all nominations were clearly new and also clearly working in a way that was not seriously contested or ambiguous. But around one third of the nominations either did not do much that was substantively new (even for the organization in question), but merely replicated an already established normal practice elsewhere; or the changes involved could not be demonstrated from the available information to be making a positive difference to outputs or outcomes. The remainder of the innovations received fell into a mixed category, some being not well documented and so hard to categorize, and others having their efficacy contested in one respect or another.

The main influences on innovations’ development

Surveying government organizations about their innovations processes in a general way is unlikely to be rewarding as a research strategy, since respondents will have the difficult job of characterizing an average experience, and will typically have only very partial personal

experience of a whole run of innovations. Instead, in specific relation to each of the 125 nominated innovations, we asked departments and agencies to tell us about what factors triggered it, who originated the proposal, what factors shaped the innovations' progress and development, what barriers needed to be overcome and what impacts were achieved. Our data here are subjective but serious and considered judgements from government organizations, mostly filled in by relatively senior officials who had personal knowledge of the nominated innovation, although different organizations used different internal processes for formulating their responses. Respondents chose statements from pre-coded lists of influences that were shaped by early interviews and piloted before implementation to cover key response possibilities, but there was an opportunity also for respondents to write in other influences. We cross-checked responses for consistency with the qualitative accounts for each innovation. Our detailed questionnaire is available for download with marginals for each question.

Figure 10 shows the factors cited as the most important triggers, responsible for the innovations process getting started. The single biggest cause was efficiency drives, involved in one in six cases. But political causes, when taken together as a group (including changes of government or ministerial priorities, and policy environment shifts), were about twice as important, involved in one in three cases. The remaining triggers were fairly diverse, although crises were important in one in seven cases.

Turning to the actors originating the ideas for innovations, Figure 11 shows that the senior management were credited with more than a third of innovations. In addition, some accompanying comments made clear that some organizations citing individual staff members referred to chief executives or other senior staff members. Middle managers were important in bigger departments, and the centre of government for agencies. Ministers relatively rarely originated organizational innovations and frontline staff almost never. After piloting, customers were not mentioned in the pre-coded items for this question but none of the organizations added them in the write-in box.

We asked departments and agencies about internal processes that supported their particular innovation and Figure 12 shows that linking up between organizations ('joined up government', a theme of the 1999 White Paper *Modernizing Government*) played an important role. Linkages took place at various spatial levels, not just nationally. Finding

funding to explore new ways of working and practical work to show the feasibility of the innovations were almost as important, with making space for new ideas also widely involved.

Figure 13 shows the factors chosen by the government organizations as having the most influence on the development of their innovations. At first sight making funds available seems critically important, accounting for over a third of responses. However, almost as frequently cited were a cluster of well-known practical measures for stimulating new ideas whose efficacy might easily be overlooked – including formalized brainstorming, looking for spin-offs, practical experiments and ‘awaydays’ (a UK-specific label for longer meetings in more relaxing venues, designed to get people out of their normal business routines). Collectively these measures were assigned as most important in over a quarter of innovations. Cross-cutting work (across silos) again featured prominently as well here.

Another question about influences asked about factors outside the department or agency immediately responsible for the innovations that were involved in its development or flourishing. Figure 14 shows that the two biggest influences were other government organizations. Parent departments were especially cited by Next Steps executive agencies, along with partners in joining-up arrangements cited quite widely. ‘Centre of government staff’ here means people in 10 Downing Street, various Cabinet Office units and the Treasury, whose role was smaller but noteworthy. The second biggest external influence were private sector firms, chiefly contractors and consultants, who were especially cited as influential in relation to IT-related innovations and some PFI/PPP measures.

Looking across both internal and external factors but at just those nominated as being ‘critically’ important for innovations’ development, Figure 15 shows results for some combined answers – this time on the basis of 84 organizations responding to our survey (rather than on an innovations basis). Finding money for new ideas again emerges as the most commonly cited critical factor, with remaining influences relatively widely distributed. The prominence of private firms and inter-agency linkages all suggest that ‘governance’ networks are relatively pluralistic in UK central government.

Turning from positive influences we also asked nominating organizations about the most important barriers that had to be overcome in originating and developing their nominated innovations, and Figure 16 shows the results. Bear in mind here that the dataset we collected

essentially related only to innovations that nominating organizations themselves rated as successful (although we make some caveats about that above). So these barriers are not necessarily those that would be identified in a different methodology that sought to cover both innovations that flourished and those that failed. The most striking feature of Figure 16 is how often nominating departments and agencies chose a generalized reluctance to embrace new ways of working as their most important barrier, cited in a quarter of all cases. Fragmentation and silos inside organizations were also chosen in one in ten cases. The only other common barriers were again difficulties in freeing up resources and (for central departments especially) difficulties in negotiating changes with stakeholders and interest groups, including civil service unions and outside lobbies.

Finally we asked responding organizations about the impacts achieved by their nominated innovations. The approach we took asked agencies to rate impacts on a seven point scale running from very high to very low impacts for seven major categories that emerged as important in piloting and interviews (although agencies could also write in other impacts). We also asked responding organizations to supply evidence in terms of key performance indicators, statistics or other information to back up their impact ratings – an approach designed to exclude organizations simply claiming high impacts on everything. We are confident from the detailed patterns of replies that this question was again taken seriously and answered in a considered way by responding organizations.

Figure 17 shows that four impacts were most commonly claimed as high or very high, focusing on improvements in service delivery and responsiveness, creating new resources and offering new or extended services (the last two especially true of Web-based IT innovations). By contrast the area where agencies were most likely to claim only low impacts was in improving the work life of staff. Some interviewees and focus group respondents (especially middle managers) were frank in explaining that government modernization changes rarely appealed to staff and almost invariably involved people being asked to do more with less. Almost as modest were the claims made by departments and agencies that innovations cut costs, a performance that was remarked on by many of our business interviewees and focus group respondents. In their view provable cost reductions were a key driver of the kinds of innovations that businesses do most, and the weak claims made here for favourable cost impacts seemed to them realistic but disappointing. Surprisingly also there were relatively few claims that innovations helped improve policy evaluation.

The pattern of responses to requests for supporting evidence amongst organizations nominating innovations also provided some insights on how government organizations were able to assess the impacts they claimed for these changes. Figure 18 shows that half of them were able to provide some qualitative information on each of the seven aspects. But most civil service organizations provided no statistics of any kind (true for four fifths of the innovations nominated) and where these were given they usually related to a single aspect only. Only one in twenty responding organizations provided statistics to back up their impact claims on two of the seven aspects we asked about.

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3 Conclusions: Prioritizing Innovation

Given the limits of the dataset gathered in this study acknowledged above, it may be useful to start our conclusions by situating the information considered in section 2 in terms of a wider picture of the types and roles of innovations in government. Figure 20 shows the view of the main sub-types of innovations that emerged from our qualitative analysis of the nominations and the discussions about other types of innovation (especially policy innovations) in our interviews and focus groups.

Most of the organizational innovations considered above fall into the left hand side of the green box at the bottom of Figure 20 and their primary impacts appear to have been in enhancing existing outputs within the same or reduced inputs. For example, one department finding itself at the bottom of Whitehall league tables for answering Parliamentary

correspondence replaced its previously completely decentralized systems of responding to letters, emails and phone calls with a centralized customer contact centre spanning across all modes of communication. Similarly a unit within the defence ministry reorganized an equipment repair line so as to reduce the number of operations and cut the time involved to a third of its previous length. In other words most organizational innovations, in government as in the private sector, work to enhance the *productivity* of existing activities. Some sizeable impacts were also seen from innovations that allowed new or existing inputs to deliver new kinds of outputs, as with the provision of information via websites to the 45 per cent of citizens, enterprises and customers who access them out of normal office hours, a substantial quality of service extension. Similarly one of our responding agencies introduced completely new fire and chemical hazard teams for handling incidents up to 200 miles offshore from the UK.

The most problematic area for the study of government innovations concerns the areas in the bottom box in Figure 20 that are shaded dark green. This covers political-level policy-changes, some of which should undoubtedly qualify for recognition as top-level innovations. But which should these be? Many top-level changes may only represent a churn of political priorities, or the cycling through of repeated or re-used solutions, or simply stochastic ('white noise') policy shifts in response to new ministerial or executive branch personnel, recent media priorities or the shifting balance of power in interest group politics. There is a strong separation of policy-change from organizational innovations in government for many reasons, especially the policy/administration dichotomy, with its strong resonance in civil service codes of conduct. This problem has no real parallel in corporations, where board-level strategy changes often rest upon and interact far more closely with processes of internal business process restructuring, and where profits and sales growth data are always available to help capture the impact of both effectiveness and productivity changes within common financial denominators.

Clearly the methods we have used above in section 2 shed little light on how a broader stream of innovation studies in government can go beyond the level of organizational innovations studied there to encompass also a sub-set of all policy-level changes that might be appropriately designated as innovations. In the UK almost all policy change is politically controversial, with the opposition parties critiquing the effectiveness of government initiatives. And even where some kind of political consensus can be attained for regarding a

policy change as a top-level innovation (rather than simple policy churn) reputable academic work to back up such judgements is rarely available. Even where all these elements apparently come together to validate a policy switch as innovative and effective, as with the ‘Literacy Hour’ initiative in schools by the first Blair government, the passage of time often produces evidence of Hawthorn-like effects and awareness of adverse or unintended by-products. These problems suggest that going beyond a picture of organizational innovations in government departments and agencies to a broader characterization of government innovation as a whole will always remain extremely difficult. There are no magic cures or easily apparent methods for surmounting this hurdle, which is likely to remain one of the central methodological problems for studying government innovation in the future.

None the less it is useful to briefly consider here what other kinds of evidence are available in the UK case (and might be available or extendable in other countries) for characterizing top-level innovation. At this level, major changes usually originate from a small circle of top political and administrative decision-makers. In the UK they are often implemented countrywide without piloting or after the most brief or partial of pilots. The primary impact of top-level innovations (if indeed that is what they are) seems to lie in improving the efficacy of outcomes produced by existing outputs through improved targeting. Our dataset included several instances, including a major project-review system introduced to try to combat problems with large-scale procurements (especially many behemoth IT contracts where the UK’s record has been poor). A smaller number of more well-founded innovations also fostered new outputs and outcomes and achieved clear quality of service extensions. Our interviewees and focus groups were united in believing that the British experience is one of an unusually centralized system of government with very strong political direction. Academic commentators have stressed the ‘high modernism’ of UK governments arising from the strong concentration of powers in Westminster and Whitehall, the importance of ministerial ‘hyperactivism’ and a certain tendency to embrace ‘megaprojects’.

There are no easy ways of objectively indexing the extent of top-level innovations or their impact on UK central government organizations. Figure 21 shows two partially relevant indicators of the extent of top-level policy change (some of which may relate to innovation). There are now around 285 distinct organizations in central government as a whole (excluding the Scottish, Welsh and Northern Irish devolved administrations), down from just over 300 at the start of the Blair government in 1997. Figure 21a shows that major organizational

changes have taken place in most years in this period, except in the two years (2000 and 2005) immediately before general elections. Typically there have been 15 to 30 organizations abolished each year (that is 5 to 10 per cent of the total), and similar numbers of new or radically merged organizations have been created. Figure 21b shows that in six years out of the last decade relatively few staff have been affected, with the numbers involved below 20,000 in a core civil service of 530,000 staff (that is, less than 4 per cent of the total). But in four years in the last decade there have been major reorganization changes, affecting in all some 330,000 central government staff, over three fifths of the average civil service numbers in this period. Some of the changes involved here are closely analogous to top-level business innovations, such as the 2005 decision (following the O'Donnell review) to merge the Inland Revenue and Customs and Excise to form an integrated tax-collecting department, Her Majesty's Revenue and Customs (HMRC). This change might perhaps be uncontroversially accepted as a top-level innovation. By contrast, the earlier decision to introduce and expand tax credits for lower income people, now run rather problematically by HMRC, highlights the difficulty of securing wide acceptance that something clearly new in policy terms also 'works'.

Turning to more technical issues, although the still generalist civil service is not vested with huge amounts of professional expertise, none the less the UK also has a record of pushing ahead many large-scale and ambitious information system modernization projects. Around 40 percent of the organizational innovations in our dataset above were IT- or web-based, and many of them were larger than the average project nomination. There is evidence also to suggest that many major policy change programmes in UK government are now IT-based, dependent on the implementation of very large new IT systems. For instance, one department alone, the Home Office, has current plans to introduce an ID card and national database costing at least £6 billion, an 'electronic borders' scheme for controlling immigration in countries of embarkation and an 'I visas' (intelligent visas) programme for non-UK citizens. The Department of Transport similarly has plans to bring in satellite-based road charging, perhaps covering the whole country, while the UK National Health Service is in the throes of implementing a £13 billion central IT network and associated care and patient record systems countrywide

In total UK public agencies will spend some £16.5 billion on government IT in 2007, approximately 1.2 per cent of GDP and on some estimates perhaps a fifth to a quarter of total spending on government IT across the whole EU of 25 countries in this year.

At the heart of this strong executive there is powerful co-ordination by a network of cabinet committees. But Figure 22 shows that in terms of encouraging and fostering government innovations the administrative picture is much more fragmented. The Treasury and the Department of Trade and Industry (DTI) have long taken a keen interest in fostering private sector productivity growth, but their websites, publication lists and press releases are remarkably silent on the subject of innovations within the public sector, and especially within central government. The most involved central body seems to be the Office of Government Commerce, which runs the Gateway process for vetting major procurement projects' feasibility and is active in developing a small portfolio of equity stakeholdings in government sector ventures.

The Cabinet Office theoretically encompasses a range of relevant expertise, since it includes four units that have commented on or produced discussion papers about government innovations in the recent past, but only one of these (the *Transformational Government* white paper, issued by EGU in 2005) has had any visible lasting impacts on departments' and agencies' behaviours. However, themes from the earlier and more integrated Cabinet Office white paper *Modernizing Government* (1999) were also conspicuously present in the dataset of innovations discussed in section 2. Finally the Department for Communities and Local Government has a notional watching brief on encouraging innovation in local authorities and its own funded Regional Development Agencies, but again has not produced documentation or policy which seems to bear on government innovation itself.

The overall picture of innovations (or innovations policy) that emerges above the level of the organizational innovations (on which we focus here) is mixed. The UK public management system has a strong pro-modernization, even hyper-modernist orientation. And some objective indicators certainly point to a considerable degree of top-level organizational change. However, there is a considerable divorce between this picture and that in section 2, where the key features of organizational innovations seem to be their relatively small financial scale, predominantly one-off character, top-down origins and development influences, and relatively restricted impacts. One of the most intriguing explanations of this

split vision suggested to us by interviewees and focus group participants was that given the power of ministers and the system's responsiveness to their changing needs and priorities, the UK civil service finds it difficult to secure and retain enough resource in terms of management attention and financial backing needed to maintain its own organizational development at the pace required if politicians' expectations of policy change are to be met.

Given this picture, are there any ways forward then that might help to stimulate the rate of organizational innovation in British central government? The NAO study (cleared with all the main agencies at the centre of government) suggested a need to focus more systematically on securing continuous productivity change targeted for assigning a higher priority to serial innovations, fostered by more co-ordinated and purposeful cross-government policies with a stronger push from central agencies and a clearer lead-agency with a brief to encourage innovations – such as the Office of Government Commerce. The Cabinet Office needs to consider how the main intra-civil service socialization programme (called Professional Skills in Government) might assign more priority to innovativeness, and Whitehall departments need to translate that into clearer incentives for innovativeness in their human relations, appraisals and promotions policies. The NAO report also recommended a radical improvement in the extent to which government organizations understand how their costs are created and might be changed, with the Treasury tasked to produce data on industry-standard costs for the key governmental activities, and departments and agencies needing to obtain far clearer operational costs data. Government organizations can also do a great deal to loosen cultural inhibitors that commonly impede innovations' development in large organizations, making more use of counter-cultural devices such as awaydays, brainstorming sessions, policy clubs for young professional-level staff, creating more counter-cultural and front-line experiences for middle and senior managers, spreading project management ways of working instead of traditional structures of individually-owned 'desks', identifying and reusing innovators and effective project managers, and strengthening their abilities to learn from and expand successful innovations. Decision-making processes need to pay more attention to the opportunity costs of unnecessarily delaying decisions or the implementation of more cost-effective processes. And departments' and agencies' need to boost their ability to generate innovations from external audit reports, academic and other research, speedier and smaller-scale pilots, and reversible innovations. Current civil service arrangements are also too top-down, with the contributions of customers or clients and front-line staff largely screened out and with very ineffective current procedures for suggestions schemes. Departments and

agencies need to strengthen their recognition of innovations, to brand them and disseminate information about them better, and to formulate much clearer and simpler ways of communicating to staff and middle managers that innovative suggestions are highly valued.

This ensemble of suggested changes attacks the problem of creating and sustaining a greater flow of organizational innovations within government from a number of different angles. The data reviewed above suggest that the current relatively restricted innovation processes cannot be improved by any one predominant measure nor even a single set of measures. Instead the entropic potential of large and established organizations and the inertial weight of existing practices need to be persistently, widely and continuously challenged by policies signalling top managerial commitment to valuing and eliciting a wide range of innovations. Government organizations need to signal to their own staff, managers and customers that they are continuously open to ideas for improvements and committed in putting effective ones into practice. Focusing on productivity changes and new forms of outputs and outcomes is tricky to sustain, but there do not seem to be any shortcuts for such a multi-faceted effort.

Figure 1: The breakdown of total final consumption expenditure in the UK, 2004

		Percentage of total UK figure			
		Private		Government	
	Total UK (£m)	Household %	Companies %	General %	<i>of which Central %</i>
Gross disposable income	1,179,631	65	15	20	<i>11</i>
Less savings	172,477	20	87	-7	-9
Gives: Total final consumption expenditure	1,007,173	76		24	<i>15</i>
<i>of which: Individual consumption</i>	912,306	83		17	<i>10</i>
<i>Collective consumption</i>	94,867			100	<i>65</i>

Source: United Kingdom Economic Accounts 2004 (Second Quarter edition).

Figure 2a: Innovations by their integration in a wider process and Gershon workstream

<i>Type of Gershon workstream</i>	Is the innovation part of a wider process?			
	Yes, explicitly so	Implicitly so	No, one-off or stand alone	Total
Policy (public)	7	22	14	43
Transactional services	1	15	11	27
Frontline services	4	6	9	19
Policy (private)	3	5	6	14
Procurement	1	10	1	12
Back office	0	6	4	10
Total	16	64	45	125

Source: NAO survey of central departments and agencies

Figure 2b: Innovations by their integration in a wider process and type of innovation

<i>Type of innovation</i>	Is the innovation part of a wider process?			
	Yes, explicitly so	Implicitly so	No, one-off or stand alone	Total
Administrative systems	11	27	19	57
IS systems and ICTs	1	15	7	23
Web or internet	2	12	9	23
Technology	2	6	8	16
Human resources	0	4	2	6
Total	16	64	45	125

Source: NAO survey of central departments and agencies

Figure 3: The median cost of nominated innovations was £0.9 million

Total cost	Percentage under or equal to
£100,000	20
£500,000	42
£800,000	48
£2,100,000	61
£6,250,000	80

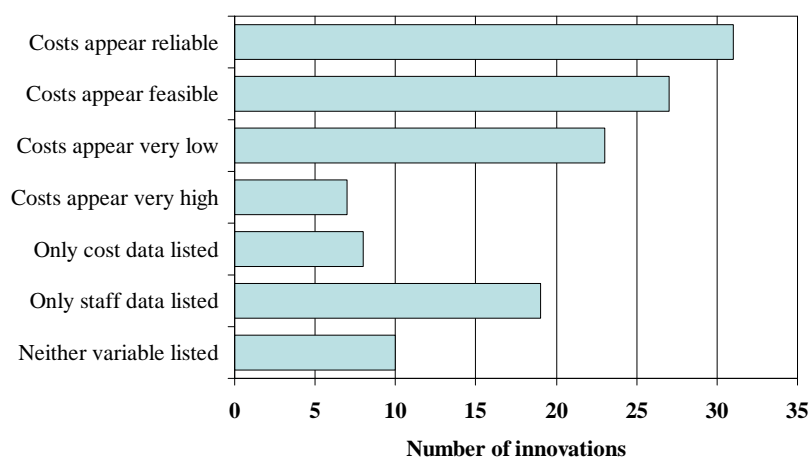
Source: NAO survey of central departments and agencies

Figure 4: Between two thirds and four fifths of central government organisations were able to provide cost data on their submitted innovations

Cost element	Percentage of submissions providing data
Total costs	78
Administrative development	74
Administrative implementation	71
Capital development	69
Capital implementation	64

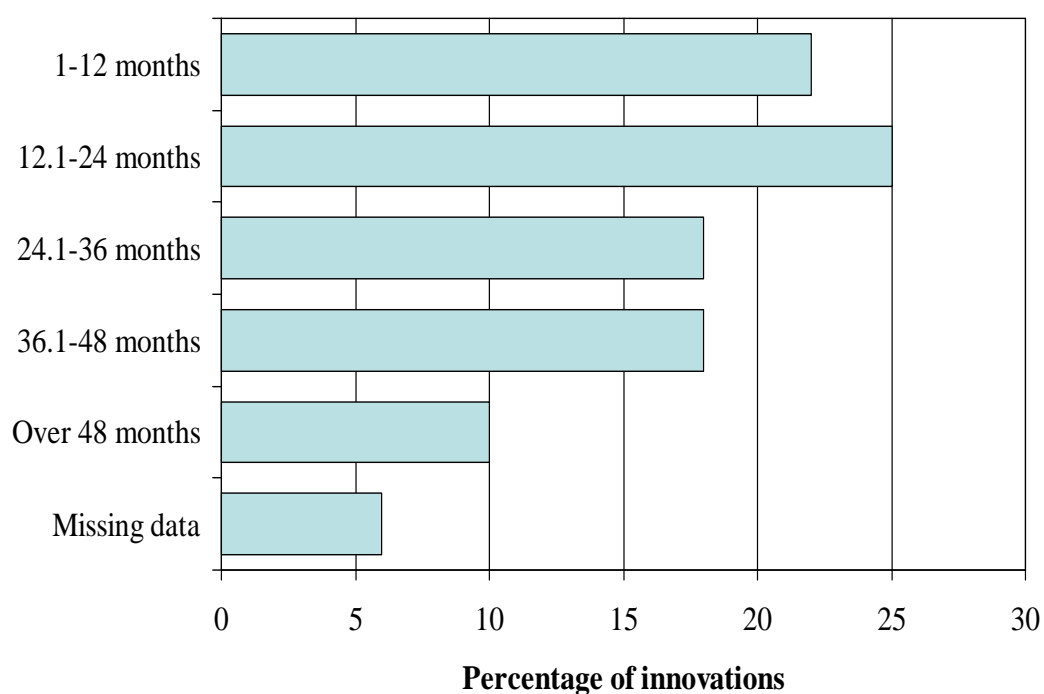
Source: NAO survey of central departments and agencies

Figure 5: How the research team evaluated the quality of costs and staffing data



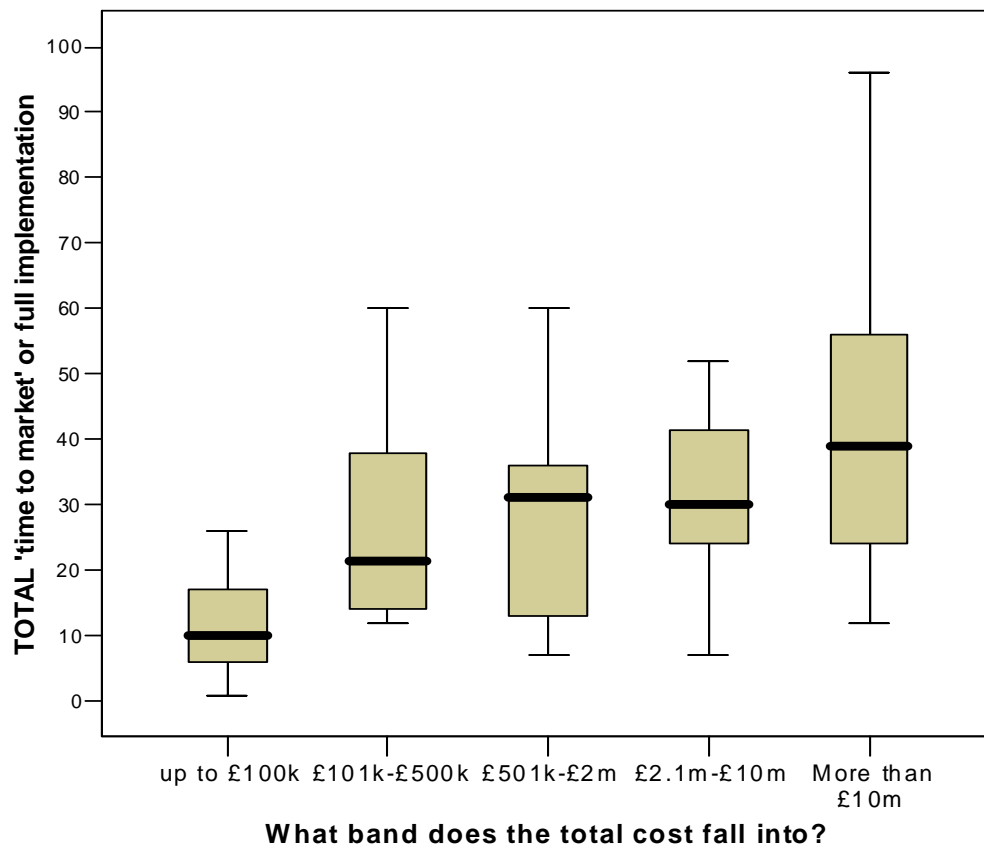
Source: NAO survey of central departments and agencies

Figure 6: The average (median) time taken to develop and implement nominated innovations was 28 months



Source: NAO survey of central departments and agencies

Figure 7: The relationship between the costs of innovations and the time taken to develop and implement them



Explanatory note: This ‘box and whisker’ plot shows on the horizontal axis a set of different costs bands for innovations, and on the vertical axis the timescale for those innovations. In each bar the thick black band shows the median timescale taken for projects in that cost band. The fawn shaded box shows the middle 50 per cent of projects: the top of the box is the upper quartile (three-quarters of the data fall below this level) and the bottom of the box is the lower quartile (a quarter of the data fall below this level). The ‘whiskers’ above and below the box show the spread of the unusual observations, those that are especially high or low in their timescales.

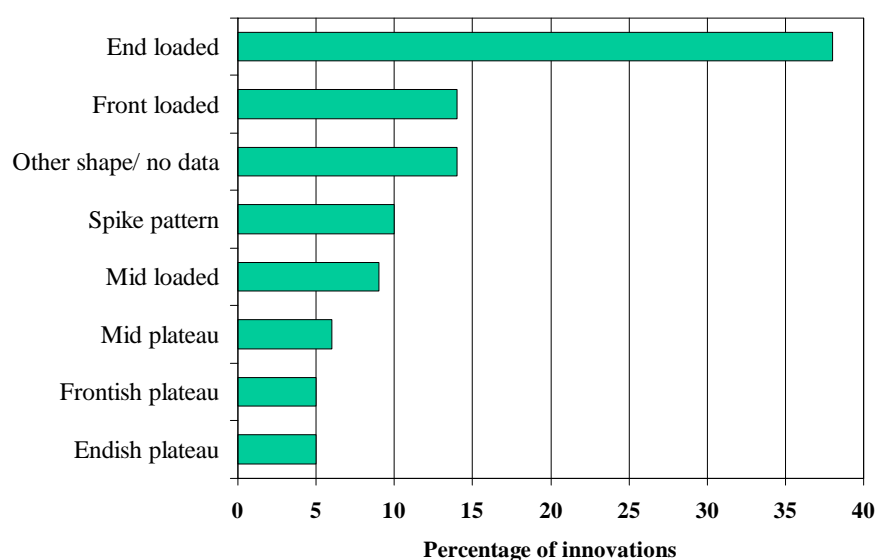
Source: NAO survey of central departments and agencies

Figure 8: The mean time taken by innovations across the main departmental groups

Departmental group	Mean time for innovations in months
Dept of Health	53
Ministry of Defence	44
Dept for Transport	34
Dept for Education and Skills	34
Average	31
Dept for Communities and Local Government	28
Dept for Trade and Industry	27
Dept for Environment, Food and Rural Affairs	26
HM Treasury	25
Home Office	24
Dept for Work and Pensions	15
Dept for Culture, Media and Sport	14

Source: NAO survey of central departments and agencies

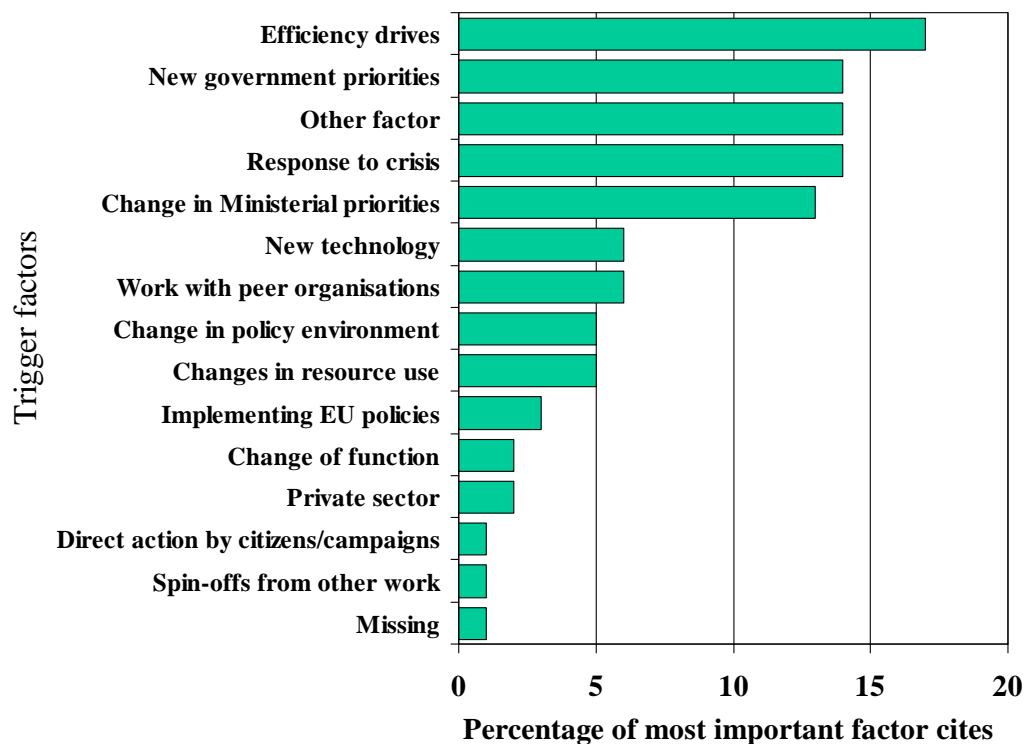
Figure 9: The distribution of innovations across different time-profiles



Explanatory note: Time patterns showing a peak of months spent on the closing stage of an innovation are end-loaded; those with a peak at the start are front-loaded; and those with a peak in the middle are mid-loaded. Patterns with a 'plateau' have no single peak but two or more stages taking the most time.

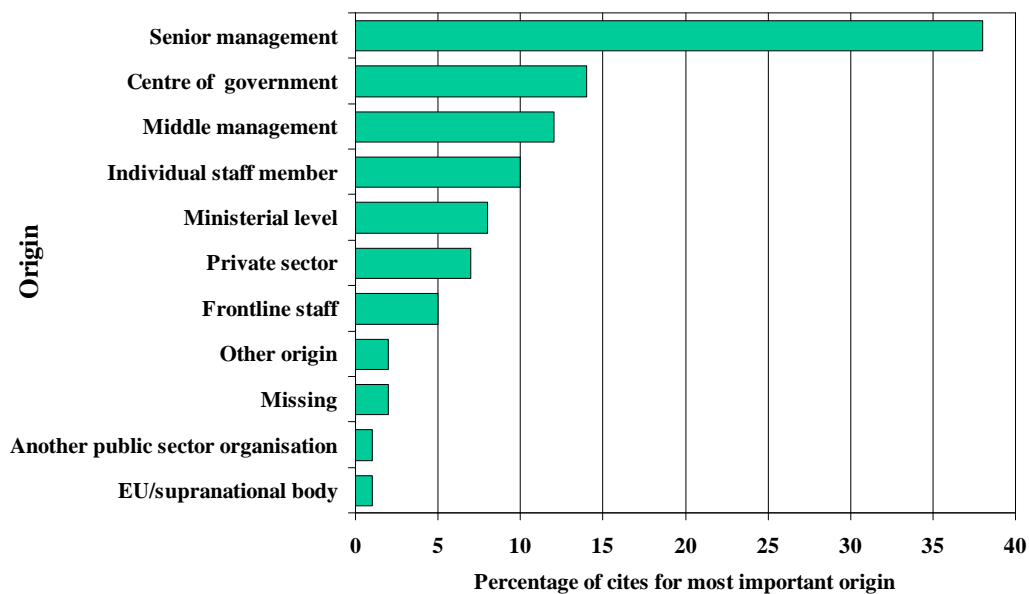
Source: NAO survey of central departments and agencies

Figure 10: The percentage of all cites for the most important trigger factor in innovations



Source: NAO survey of central departments and agencies

Figure 11: The most important origin cited for nominated innovations



Source: NAO survey of central departments and agencies

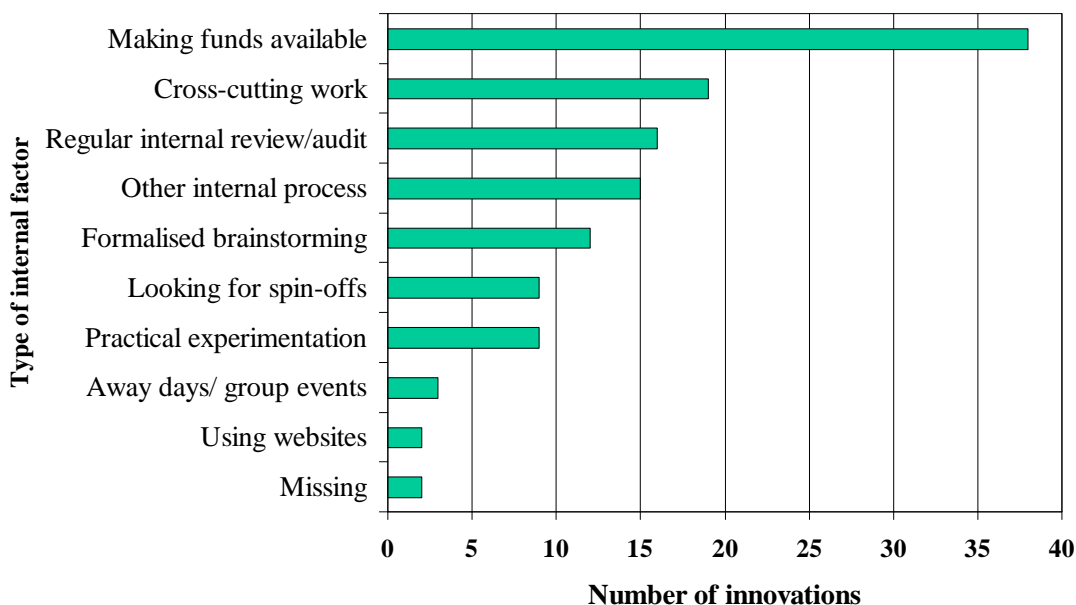
Figure 12: The internal factors cited as either ‘key processes’ or ‘useful processes’ in the development of the 125 innovations submitted

Internal factor cluster	Numbers of innovations			
	Key process	Another process	Total	‘2+1’ Score
Linking and integrating	58	33	91	149
Funding for new ways of working	56	23	79	135
Practical work	33	42	75	108
Creating space	39	21	60	99
Other internal factor	23	6	29	52

Note: The 2 +1 score weights a ‘key process’ as 2 and ‘another process’ as 1, while the total weights both equally at 1.

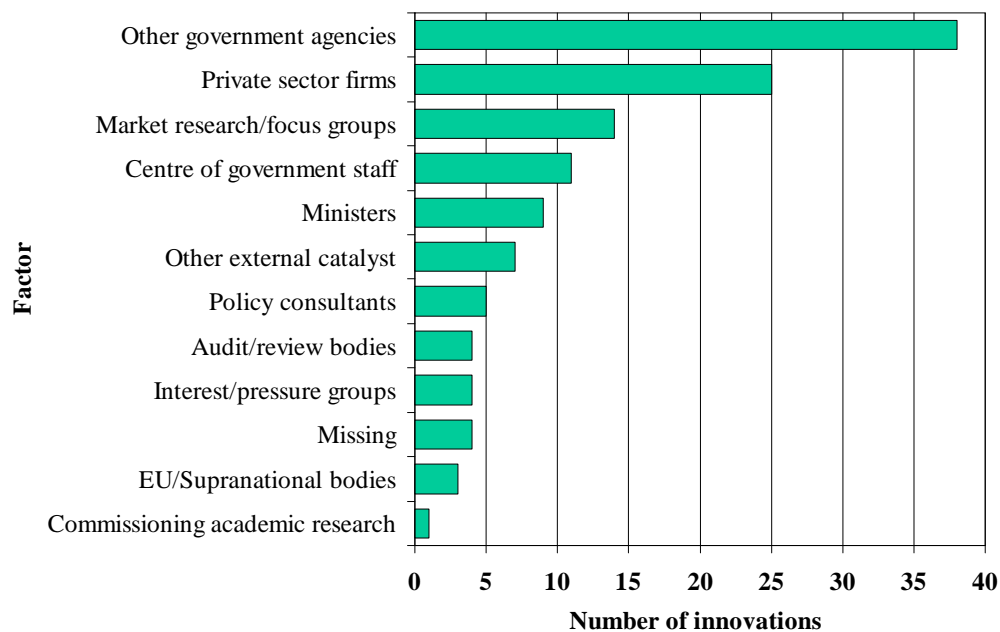
Source: NAO survey of central departments and agencies

Figure 13: The most important internal factors influencing innovations’ development



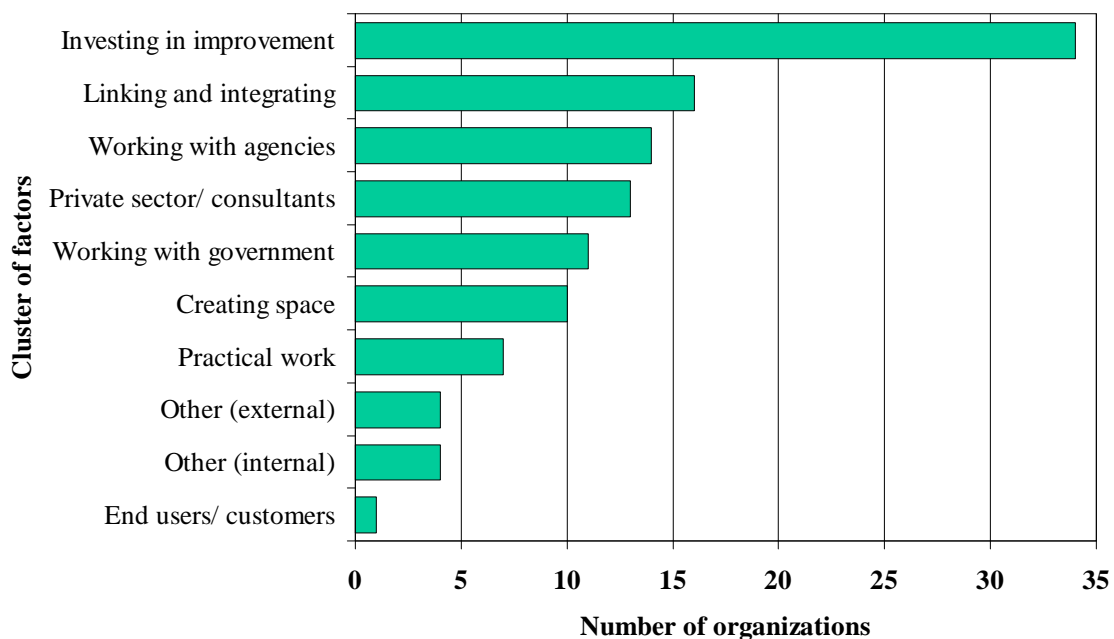
Source: NAO survey of central departments and agencies

Figure 14: The most important external factors influencing the development of nominated innovations



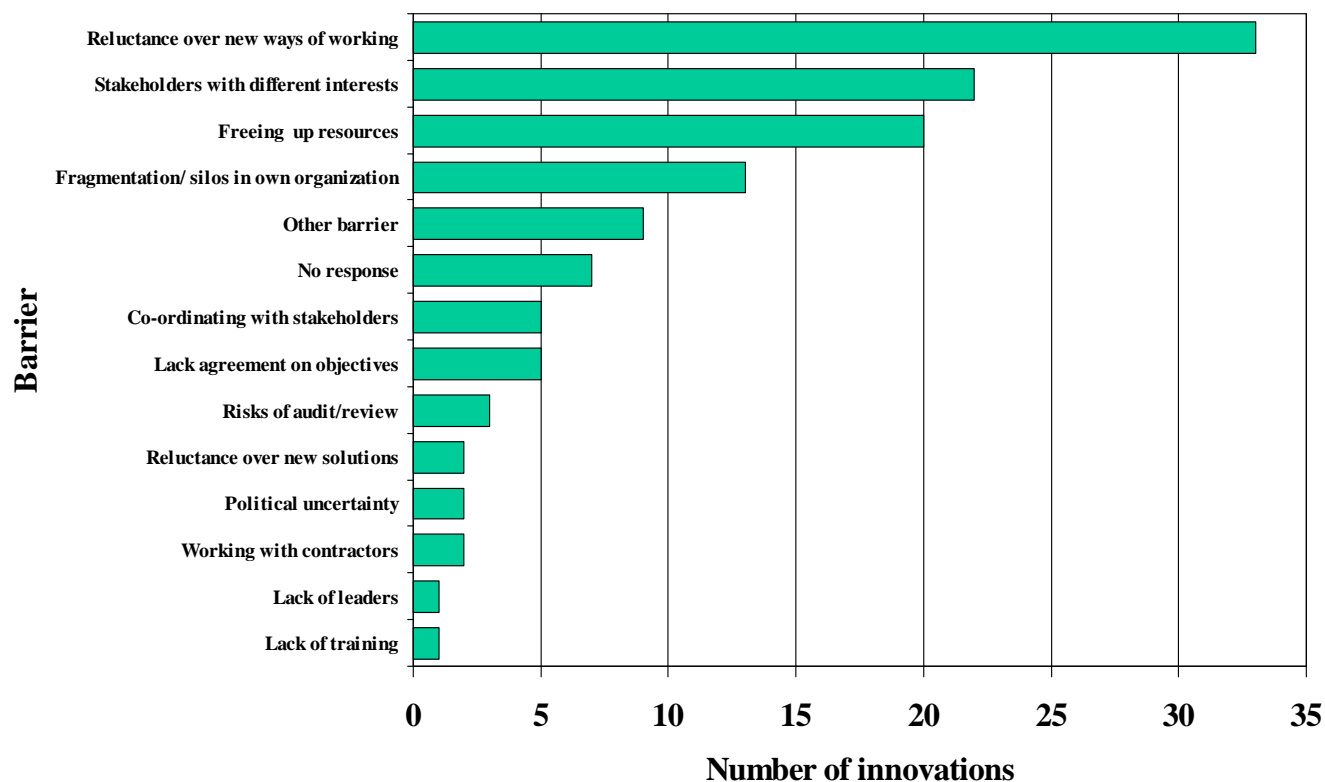
Source: NAO survey of central departments and agencies

Figure 15: Clusters of internal and external factors listed as ‘critical’ for the development of nominated innovations, by 84 responding organisations



Source: NAO survey of central departments and agencies

Figure 16: Individual factors cited as the most important barrier to nominated innovations



Source: NAO survey of central departments and agencies

Figure 17: The success rates for nominated innovations on seven criteria

Impacts	Innovations scored 'high' or 'very high' (1)	Innovations scored 'low' or 'very low' (2)	Success rate Columns (1)/(2)
Improving service delivery	88	5	18
Improving responsiveness	65	6	11
Creating new resources	77	7	11
New/ extended services	71	15	5
Improving evaluation	33	21	1.6
Reducing core costs	45	34	1.3
Improving work life of staff	23	30	0.8

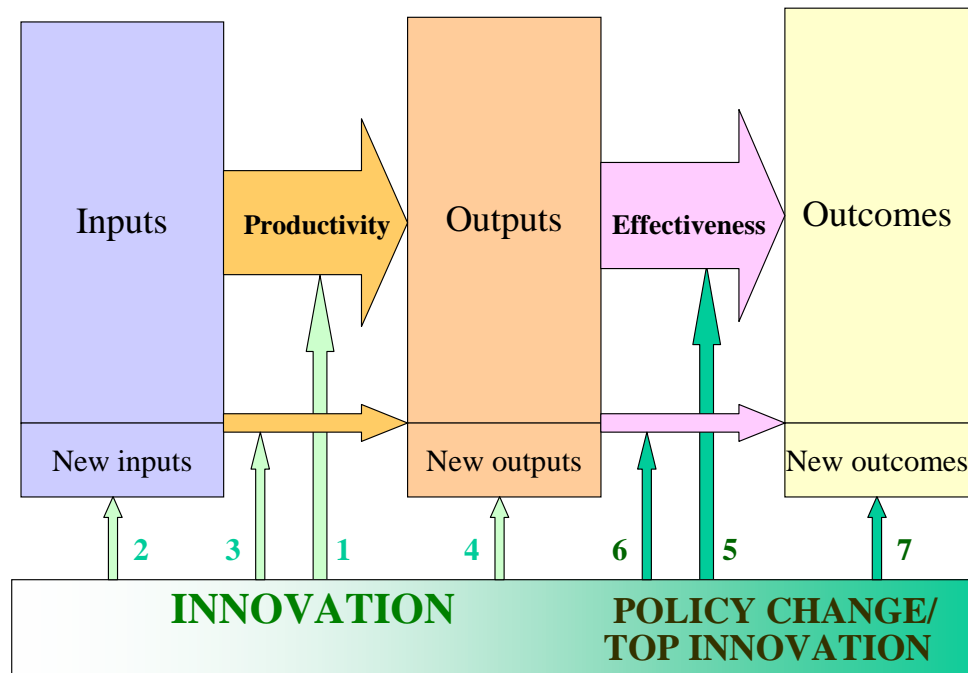
Source: NAO survey of central departments and agencies

Figure 18: How extensively organisations nominating innovations provided supplementary information on the seven possible impacts asked about and also financial information for innovations (base number for innovations = 125)

<i>Number provided</i>	Innovations providing supplementary information (/7 total)	Innovations providing statistical data (/7 total)	Total number of boxes filled in (/7 total)	Percentage for total column
None	20	97	20	16
One	7	21	5	4
Two	9	6	9	7
Three	16	0	16	13
Four	11	0	9	7
Five	9	0	6	5
Six	21	0	12	10
Seven	32	0	48	38

Source: NAO survey of central departments and agencies

Figure 20: How innovation influences productivity, effectiveness and the introduction of new inputs, outputs and outcomes in central government organisations



Types of innovation impacts:

- 1 improving the productivity of existing inputs;
- 2 introducing new inputs;
- 3 improving productivity using new inputs;
- 4 introducing new outputs;
- 5 improving the effectiveness of existing outputs;
- 6 increasing policy effectiveness via new outputs;
- 7 introducing new outcomes.

Figure 21 (a) A substantial number of central government organisations have been created or abolished/merged

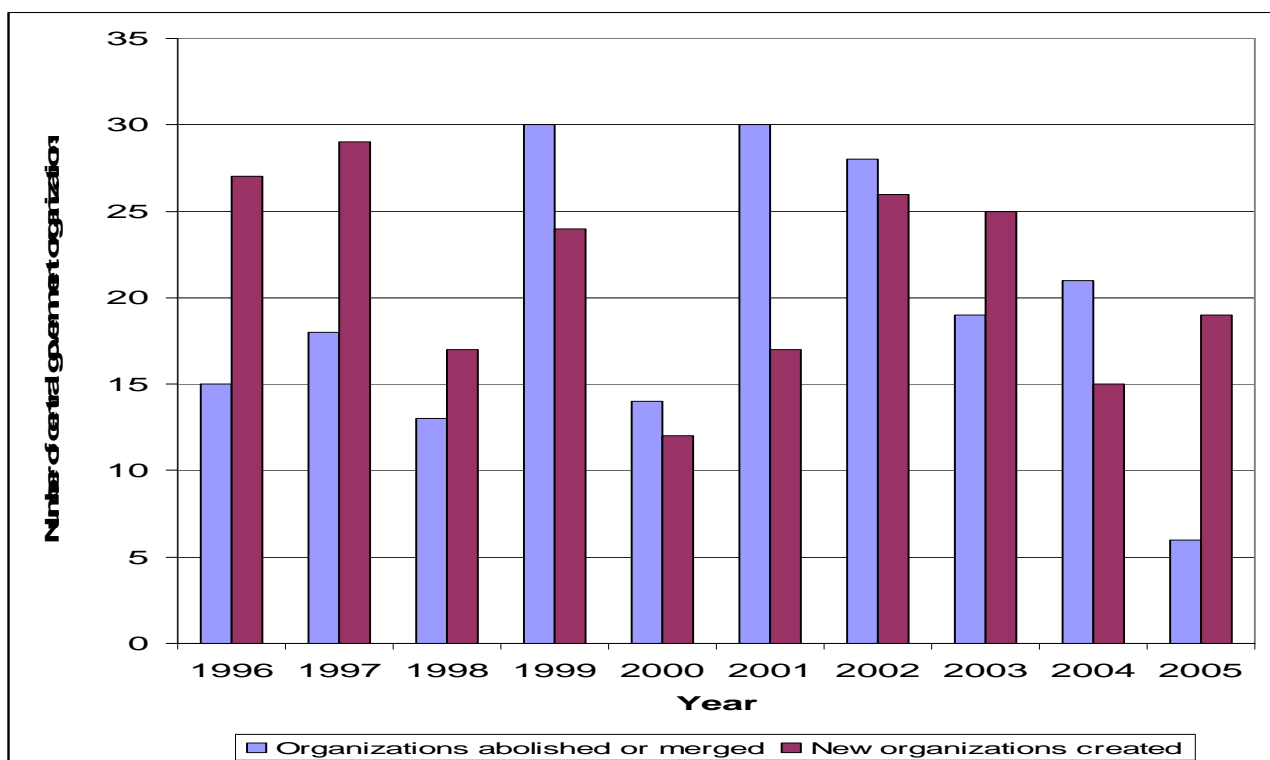
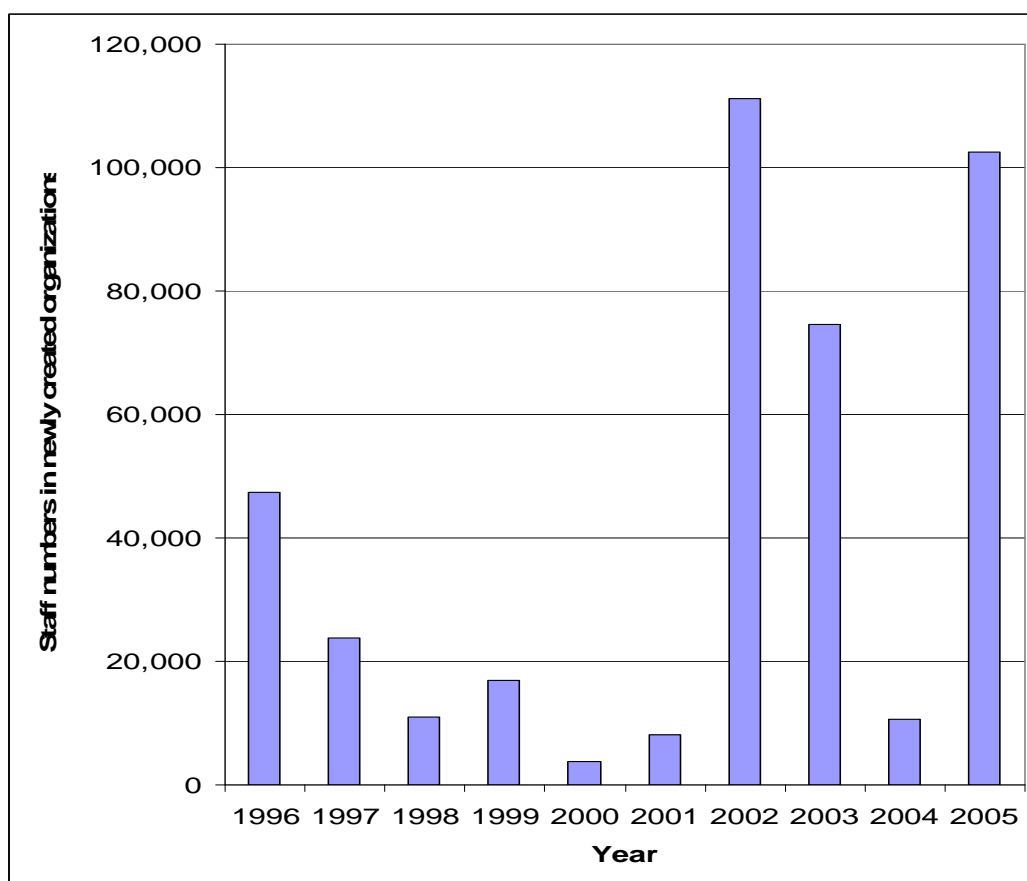
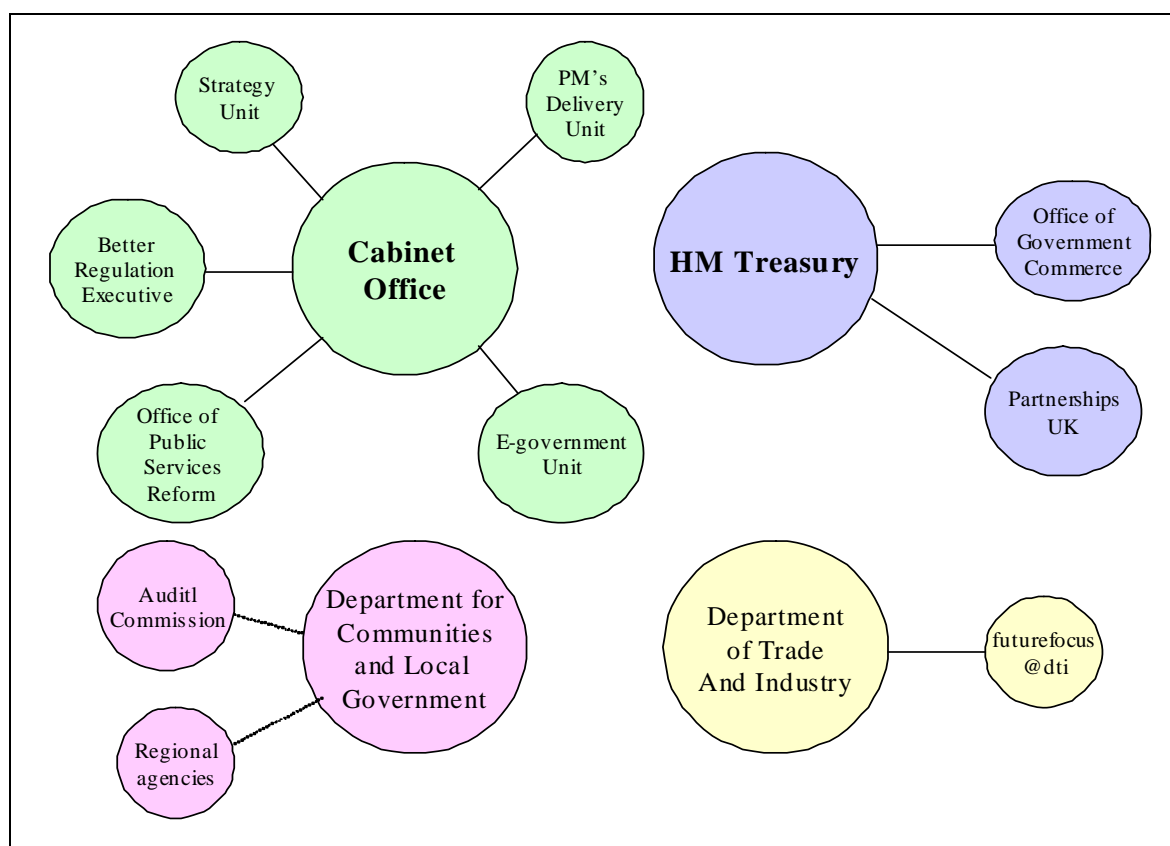


Figure 21 (b) Substantial numbers of staff have been affected by the creation of new or merged central government organisations



Notes: The 2005 data here are estimated from 2004 organisation and personnel numbers. The charts cover all central government ministries, major executive agencies and major non-departmental public bodies. NHS bodies at national level are included but all regional and local NHS bodies are excluded. Public corporations and advisory committees are both excluded. More detailed data tables are given later in this report, in the Detailed Research Findings volume, Figure xxx. Sources: HM Treasury

Figure 22: At the heart of Whitehall, although a number of government organisations are involved in encouraging innovation in government, there is no clear priority to encouraging innovation or change



Note: Partnerships UK is a private sector classified company which has the Treasury as its largest shareholder.