

Better Public Services through e-government



REPORT BY THE COMPTROLLER AND AUDITOR GENERAL
HC 704-I Session 2001-2002: 4 April 2002

executive summary

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- 1 Information Technology (IT) provides opportunities to deliver public services which are accessible more quickly and available at times and in ways which are more convenient to citizens (**Example 1**). Increasingly, both private and public sector organisations are also using new technology to improve their operational efficiency. Central civil government departments currently have underway around 100 major IT projects in their initial stages of procurement with a total value of about £10 billion¹.

What is e-government

- 2 Electronic or **e-government means providing public access via the Internet to information about all the services offered by central government departments and their agencies; and enabling the public to conduct and conclude transactions for all those services** for example paying tax, claiming and receiving benefits, getting a passport. It is also about departments harnessing new technology to transform the internal efficiency of government departments.

EXAMPLE 1 – How e-government can improve public services and departments' efficiency. The example of the Land Registry

How the public can access information and advice more quickly. The Land Registry's website¹ provides a range of information on:

- property prices by geographical area;
- information on how to find out about property ownership;
- forms for lodging applications to register land.

How the public can interact with the Land Registry on-line

- view computerised land registers;
- view details of pending applications and searches;
- apply for copies of any register or search;
- send correspondence electronically to any Land Registry District Office.

How the Land Registry is improving its efficiency

- Using information technology the cost per unit of work has reduced in real terms from £27 to £22.

1. www.landregistrydirect.gov.uk

Source: NAO examination of the Land Registry

- 3 To achieve this the Government has set the target that 100 per cent of services should be available on line by 31 December 2005². This does not mean that people are going to be obliged to use the e-government route. For example some people will not have access to Internet services or may prefer not to use them. But because of the benefits set out in this report in terms of greater choice, convenience, speed, accessibility and efficiency departments are expected to encourage the public to use the e-government route, as well as making it possible for them to do so. E-government is also requiring a fundamental change in the way departments operate. Civil servants are having to develop new IT and change management skills as well as the confidence to use IT to deliver services.
- 4 This report considers (i) departments' progress in achieving e-government; (ii) the risks that need to be managed; and (iii) sets out the benefits of e-government with examples of how they can be achieved. The report highlights good practice which if more widely applied could help departments achieve the benefits of e-government. Our findings are based on an examination of 13 IT-enabled change projects being implemented by departments and other public and private sector organisations³.

Progress

- 5 The Office of the e-Envoy, as part of the Cabinet Office, is responsible for formulating common policies and guidelines to underpin and monitor departments' implementation of e-government. Departments are responsible for meeting the target for making all services available electronically by 2005 and for securing the benefits of improved public services and efficiency by implementing IT projects and associated change programmes. Departments have developed e-strategies which set out how they intend to deliver services electronically which have raised a number of issues (**Figure 1**) that need to be resolved if e-government is to be successfully implemented. The Office of the e-Envoy is working with departments to address these issues.
- 6 The Cabinet Office are promoting e-government through strategic direction – a number of reports have set out how service delivery can be improved through modern technology; advice and guidance; advice to the Treasury on the projects provided with financial support – the Capital Modernisation fund and the Invest to Save Budget finance innovative projects that improve public services; and the implementation of key projects.

1 Issues raised in departments' e-strategies which need to be addressed if e-government is to be successfully implemented

- **Civil servants' ability and aptitude to use IT need significant development** (19 out of 20 departments identified this as an issue);
- **More resources are required to support IT-enabled change programmes** (19 departments identified this as an issue);
- **Further technological improvements are needed to update existing IT systems** (15 departments identified this as an issue);
- **More reliable assessments of costs and benefits are required.** Generally, departments lack baseline data against which to monitor and measure improvements in efficiency made possible by IT (14 departments identified this as an issue);
- **Partnerships with other organisations are needed to deliver integrated IT services** (16 departments identified this as an issue);
- **The risk of IT-enabled change adversely affecting existing services requires careful management** (13 departments identified this as an issue).

Source: NAO examination of departments' e-strategies.

- 7 At November 2001, just over half of the 520 services which departments routinely provide to citizens and businesses were available on-line. The Office of the e-Envoy estimate almost all will be available by 1 January 2005. The services which are unlikely to be e-enabled are those which require face-to-face contact for example with victims of crime. Most of the services currently on-line provide information for the general public such as how to apply for a passport (Figure 2).
- 8 Departments are developing their systems so that citizens will be able to carry out transactions electronically such as applying for and getting a driving licence or claiming and receiving benefits. As yet very few services are provided in this way. It is these types of transactions that because they are usually routine and high volume have the most potential for efficiency gains if they are provided on-line. For example, by departments reducing staff numbers or by redeploying staff to other priorities or more complex work. The risk that services which offer the best potential for efficiency gains are not delivered electronically is, in part, addressed by the target. There is, however, a further risk that the services are delivered electronically but not used by citizens. Departments, therefore, could meet the service delivery target and the full benefits of e-government may not be realised. This suggests that the target may need to be refined to include measures of take up of electronic services.

2 Progress in achieving e-government

Benefits of e-government	Benefits	Progress
<p>The public can access information and advice on-line</p>	<p>Citizens to be able to access a wide range of information often 24 hours a day for example, on food safety, job vacancies, how to apply for a passport, advice on learning to drive as well as a number of sources of help such as NHS Direct.</p>	<p>Most of the 274 services on-line at November 2001 provide this type of advice and information. Fifty-two per cent of government services are on-line. This is compared to 59 per cent of government websites which have on-line services in Germany and 50 per cent in Australia.⁴</p>
<p>The public can interact on-line with departments to apply for and receive a range of services</p>	<p>Citizens to be able to apply for and receive a service totally on-line. For example, submitting an application for a driving licence on-line which is processed electronically and the citizen then receives the licence in the post, or applying for a passport on-line or claiming benefits.</p>	<p>While departments' electronic capability to do this is developing only a small number of services are available electronically.</p>
<p>Significant improvements in departments' operational efficiency are possible</p>	<p>Labour intensive manual processes can be replaced by electronic systems. This can happen in two ways – (i) services provided for the public can be provided electronically; for example, receiving and initially vetting claims for grants or other forms of assistance – only the more complex cases may have to be dealt with manually; and (ii) converting support activities to electronic processing; for example, purchasing and e-tendering, maintaining personnel records and processing travel claims. Private sector experience suggests that it is not unrealistic to expect efficiency savings of up to 10 per cent in an organisation's total running costs from converting to IT applications and from the associated re-engineering of existing methods of working.</p>	<p>As yet, departments have not established baselines or methodologies to assess the extent to which efficiency improvements made possible by IT are being achieved. Much depends on sufficient numbers of the public interacting with departments on-line to the extent that manual services can be significantly reduced or no longer need to be provided. The Treasury are testing transaction cost baselines in a few departments to identify a common approach to measuring efficiency gains.</p>

Source: NAO's examination of the Office of the e-Envoy and departments and discussions with private sector companies.

The risks that need to be managed to achieve e-government (Part 2)

- 9 There are two main risks (**Example 2**) which departments have to manage if the benefits of e-government are to be achieved:
- **Citizen take up** – The risk that groups in society are excluded from the benefits for example those without access to a computer and the public see no advantage in accessing services electronically and take up is low.
 - **Supply side barriers** – The risk that departments do not provide the services citizens want to access electronically or fail to take advantage of new technology to improve services and efficiency or that IT suppliers do not deliver the intended services to cost, time and quality requirements.
- 10 **Citizen take up** The public will only be prepared to interact with departments electronically if they see real benefit in doing so and the service is easily accessible. Trust is needed so that people are comfortable with providing personal information on-line⁵. As Professor Helen Margetts and Professor Patrick Dunleavy comment in the paper which we commissioned them to write on the cultural barriers to e-government⁶, citizens' existing perception of departments will influence their attitude to electronic services. If they have a low expectancy of a government organisation – then they are unlikely to look for that organisation on the Internet and will be more inclined to continue to use traditional paper methods and face-to-face contact in their dealings with organisations. This suggests that departments may increasingly need to use intermediaries such as banks, building societies, post offices, retail outlets to provide services to citizens as people already have experience of transacting with these organisations on a day-to-day basis.
- 11 **People have different needs.** Departments, therefore, need to have a good understanding of the needs and preferences of the users of their services. The elderly for example, have a range of requirements depending on their income, health, general well-being and where they live. Other groups such as students, children, parents, the unemployed and businesses will have different requirements. There is, however, considerable variation in the quality of information which departments have on their key users and client groups for example on the frequency and ways in which citizens access government services.
- 12 **People may be suspicious of IT** either because they are unfamiliar with it or have concerns about how departments might use information which they provide electronically. Citizens may be simply uninterested or do not know that a range of public services are available on-line. Departments have to communicate with the public so that they know what is available and have realistic expectations. To achieve this departments need marketing strategies which are clearly targeted at the key users of their services. Very few of departments' e-business strategies have as yet considered how best to market e-government services or have formulated action plans for doing so.
- 13 **Citizens require the ability and confidence to use IT.** To avoid any group in society being excluded departments need to take this into account in designing public services. Only 7 per cent of those in the lowest income group have home Internet access compared to 71 per cent of those on higher incomes. There is a risk therefore that groups of people may be excluded from the benefits of e-government. To facilitate access to IT so that all members of society can interact with departments on-line if they want to the Government are providing public access points such as in libraries and Citizens Advice Bureaux which people can use free of charge. For example, the UK now has 1,500 on-line centres and a further 4,500 are planned by the end of 2002

EXAMPLE 2 – Key risks for the Office of the e-Envoy and departments to address when implementing e-government

CITIZEN TAKE UP

- 1 **Familiarity** – it can take time for developments such as the Internet which have yet to become a normal established part of every-day life to be accepted by some people. There is a risk that unless services are regularly used by citizens take up of electronic services will not increase over time.
- 2 **Expectation** – some citizens have low expectations about IT and what it can deliver this innate scepticism has to be overcome. There is a risk that when departments test new systems before going live initial problems or failure can reinforce people's low expectations.
- 3 **Ease of use** – unless new services are easy to use and not complex there is a risk take up will be low for example, websites that are conservatively designed, use bureaucratic language and contain no incentives to explore the site will remain largely unused.
- 4 **Benefits** – the benefits for the public of interacting with departments on-line must be clear or else demand and subsequent take up will remain low.
- 5 **Social exclusion** – groups in society such as the elderly, unemployed, those on low income and those with learning difficulties may not have easy access to the Internet. Citizens will not take up services delivered electronically if they do not have access to a computer or other means to access the Internet for example through intermediaries. Unless ways are found to enable these groups to access the services they require in a way that best fits their needs, these groups will be marginalised from the benefits of e-government.
- 6 **Costs** – there is a risk that if the cost of accessing services on-line is expensive or time-consuming because the service has been badly designed people will not want to use it.

SUPPLY SIDE RISKS

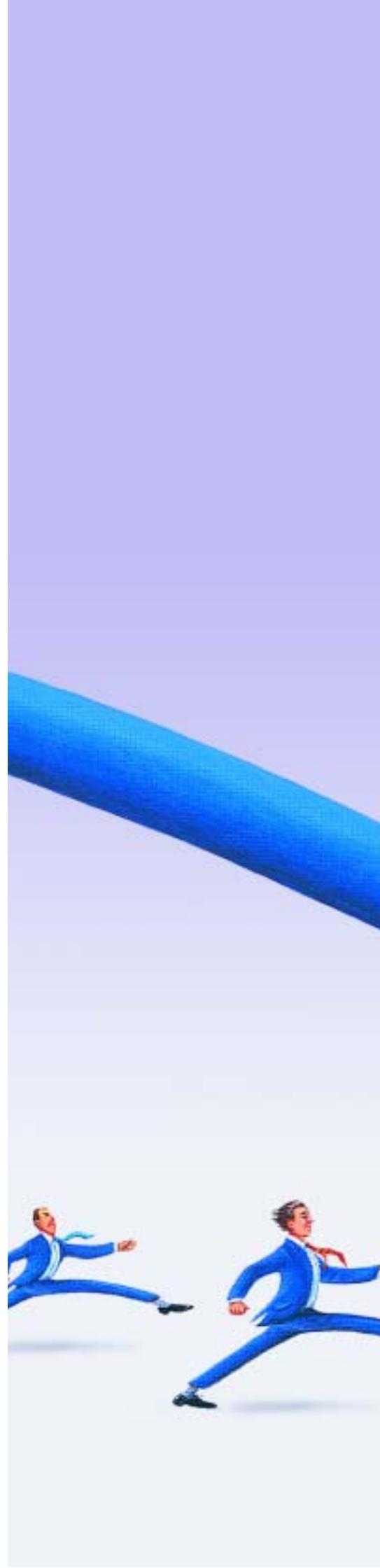
- 1 **Leadership** – if senior management does not provide sufficient leadership and commitment to implementing e-government, for example experience of high profile IT failures can lead to a reluctance to implement IT projects, which may mean the opportunities to realise the benefits of new technology for improving service delivery and efficiency are missed.
- 2 **Re-engineer ways of working** – departments may fail to re-engineer services and ways of working believing that technology induced change will be minimal and that the benefits will be modest. In doing so they will fail to realise the benefits of e-government in terms of improved efficiency and service delivery because they will rely on existing increasingly inefficient channels of service delivery.
- 3 **User focus** – if departments do not sufficiently understand citizen needs and fail to provide services in the way that meets them it will lead to low take up of services delivered on-line. For example if departments only replicate existing services on-line they will fail to secure the improvements offered by innovative on-line solutions to service delivery.
- 4 **Marketing and segmentation** – departments fail to market services sufficiently to key user groups which means services available on-line are not fully used by citizens. This may be because departments perceive a need to communicate with all citizens in the same way but different groups such as students and the elderly will need different approaches which suggest departments need to adopt an increasingly sophisticated segmentation and targeting of user groups.
- 5 **Incentives** – departments do not provide adequate incentives for staff or citizens to use services leading to lower than expected take up. For example departments may impose higher levels of security than are required to maintain user confidence which in doing so may exclude users from making full use of the service because they lack the technology to access it or fail to provide staff access to the Internet and to the departments' websites.
- 6 **Supplier** – key IT projects on which service delivery depends are delivered late, over budget or to a lower standard than specified which leads to breakdowns in service delivery and lower standards of service or departments fail to take opportunities to improve electronic service delivery because of their reliance on one supplier.

targeted at the most deprived local authority wards. Access to departments on-line is also available through intermediate technology such as call centres, for example NHS Direct. This enables people to get the benefits of e-government by staff using IT to deliver a wider range of services.

- 14 Citizens may need incentives to encourage them to access services electronically.** Examples include sharing with citizens reductions in departments' running costs made possible by IT in the form of lower fees and charges; reduced waiting times for services such as processing applications for driving licences and passports; providing a more personalised service and free access to services or some form of financial reward. Our analysis of departments' e-strategies found that while most considered that incentives were important to encourage the take up of services on-line few had identified or introduced any.
- 15 Supply-side barriers** – Departments' IT projects have in the past experienced significant technological and managerial problems which have either delayed their implementation, increased their costs or resulted in their failure. The Committee of Public Accounts' Report – Improving the delivery of IT projects published in January 2000 highlighted eight key lessons which departments needed to apply to improve project performance. The action taken by the Office of the e-Envoy and the Office of Government Commerce⁷ in response to the Committee's recommendations is set out in the Annex to this summary. This includes 'gateway' reviews for all procurement (including IT) projects at critical stages in their development.
- 16** As Professor Helen Margetts and Professor Patrick Dunleavy comment in their paper there is a risk that problems with implementing large-scale IT projects may have created a negative attitude in departments towards information and communication technology. Barriers to the development of e-government can also arise from departments' cultures and values because new technologies challenge existing ways of working. For example by taking an overly risk-averse approach to implementing electronic service delivery projects, an unwillingness to divert resources from established ways of doing things, an insistence that there are limited opportunities to displace high marginal cost interactions such as visits into low marginal cost interactions such as call centres and by not providing staff with the means to use IT such as providing them with Internet access. Implementing e-government means that departments need to address these cultural issues and tackle obstacles to technological change. This suggests that departments need strong leadership, incentives and a clear understanding of citizens needs to deliver services electronically.
- 17** As with all forms of procurement there is a risk that suppliers' IT solutions will fail, will not meet departments' expectations or will be delivered late or over budget. The Office of Government Commerce have issued a range of advice on dealing with suppliers and holds regular meetings with strategic⁸ suppliers of IT services to review their performance. Better information on supplier performance is needed, however, across departments which needs to be carefully monitored by the Office of Government Commerce and this requires a common set of indicators and a consistent approach to assessing performance.

Benefits of e-government (Part 3)

- 18** Our examination suggests that there are five key benefits which departments need to focus on delivering:
- **Greater choice.** The capability of IT to store large amounts of information which can be retrieved very quickly provides a range of opportunities to offer new services and more choice for citizens. *For example, the Public Record*



Office through the PROCAT part of its Archives Direct 2001 programme – now known as *The Nation's Memory* – offers considerably more options in the types of information searches which the public can undertake and which are more intuitive and easier for non-academics to use (paragraph 3.2).

- **Better accessibility.** People want to be able to access public services without having to complete a range of forms and visit different local offices. If they are well designed, IT systems can provide information in much simpler easier-to-use formats and because IT can provide easy access to a large number of databases, services can be often provided from one location or access point. *Hertfordshire County Council has used IT to improve access by making 80 per cent of council services available through a Customer Service Centre which is open 67 hours per week 8 am to 8 pm Monday to Friday and 9 am till 4 pm on Saturday. Hertfordshire residents can carry out transactions on-line – early examples include ordering and paying for birth, death and marriage certificates, renewing library books and booking research time at the County Archives (paragraphs 3.3 and 3.4).*
- **More convenience.** Convenience is about making services available when people want to use them and in ways that best meet their needs. *For example, the Lord Chancellor's Department are piloting a programme which will enable solicitors to issue and serve petitions for less serious cases for example via e-mail. A judge considers the petitions and where possible resolves them without the need for a court hearing. Initial results suggest that the average time taken to provide judgement on a civil case can be reduced from 21 to five days and interested parties do not have to lose time attending court sessions (paragraphs 3.5 and 3.6).*
- **Faster delivery.** IT can speed up service delivery for example, by applications being transmitted electronically and their accuracy validated on-line, workloads being scheduled more efficiently and internal working processes being re-engineered to improve their productivity. *The Planning Inspectorate for example, has by introducing IT-based systems and using technology as an opportunity to re-engineer its existing working practices and provide faster processing of planning appeals reduced the number of incomplete appeals through better quality advice and guidance (paragraph 3.7).*
- **Improved efficiency.** Private sector companies undertaking significant IT-enabled change programmes consider that value for money improvements in the region of as much as 10 per cent of total operating costs should be realisable. Improvements are likely to be achieved by (i) replacing manual processing of high volume routine claims and applications by IT systems; (ii) better and more accurate information allowing departments to target their activities and improve productivity; (iii) converting internal support activities such as procurement to IT-based systems; and (iv) using IT to assess whether backroom processes remain essential, whether they need to be significantly redesigned to support IT methods of service delivery, or whether they could be provided by other means by being outsourced.

The extent of the efficiency improvements which can be achieved are exemplified by – the Oracle Corporation saving of £71 million through the deployment of web-enabled, self-service application for functions such as personnel records, training, travel expenses and pay; and British Gas productivity improvements with it now processing 29,000 invoices per staff when previously only 6,400 paper invoices per staff were processed (paragraphs 3.8 and 3.9).

Recommendations

19 E-government has considerable potential to improve public services and departments' efficiency. The Office of the e-Envoy and departments have underway a number of programmes and initiatives to achieve e-government. To build on these and make further progress we recommend:

FOR THE OFFICE OF THE E-ENVOY

1 **Accelerate the dissemination and adoption of good practice by departments on how to encourage citizens to take up services available on-line. The major challenge is how to encourage people to access services on-line.** If sufficient numbers do not do so the considerable potential improvements in departments' efficiency will not be achieved. Departments are generally unsure as how best to encourage take up. The Office of the e-Envoy is well placed to provide advice and develop networks to disseminate good practice on how to do this.

2 **Develop a cost methodology to assess the potential to improve operational efficiency and customer benefits through IT-enabled business change and to measure its achievement.** Departments are uncertain as to the efficiency improvements and customer benefits that IT-enabled business change should be capable of delivering. A methodology is needed to assess the potential costs, efficiency gains and service improvements which can also be used to monitor achievement. This should cover for example, (i) displacement costs – the net saving or cost after the initial investment in IT of transferring from manual to electronic systems; (ii) minimum and maximum assumptions on productivity improvements that should be achievable; (iii) assumptions about the length of time it should take before efficiency gains should begin to be realised; (iv) and the implications for service users in terms of reductions in fees and charges and improvements in quality. Such a methodology needs to be applied consistently by all departments so that it can be used to encourage, measure and report the achievement of efficiency gains.

FOR DEPARTMENTS

- 3 **Set targets and effective strategies for the take up of services on-line.** Departments have a target to have all services available on-line by 2005. To focus their efforts on encouraging citizens to access services on-line departments should also set realistic take up targets for services supported by action plans to achieve them. The Office of the e-Envoy should advise departments on the development of appropriate take up strategies for services delivered on-line and monitor their implementation.
- 4 **Actively market e-services to the public.** Departments need to do more to increase the take up of electronic services where there is clear added value to users and where there is good potential for efficiency gains. Departments can do this by setting take up targets and effective strategies for services delivered on-line, marketing key services delivered on-line to specific user groups and developing incentives for them to take up the services. Incentives might include transferring some of the cost savings to users, providing free services and faster service delivery. Departments need to work together more closely to develop more integrated electronic services for client groups such as the elderly.
- 5 **Tackle the barriers to civil servants using IT.** E-government is requiring a fundamental change in the way departments operate. Unless civil servants develop appropriate IT and change management skills and have the confidence to adopt innovative approaches to deliver better public services the benefits of e-government will not be achieved. Strong leadership and sufficient high quality training is needed to convince civil servants of the benefits of new technology for them. For example, by reducing the burden of routine work, enriching jobs by delivering better services, by providing financial incentives and rewarding innovative approaches to using IT.
- 6 **Adopt an approach to IT-enabled change which realises efficiency gains.** To achieve the significant improvements in operational efficiency which e-government makes possible departments need to (i) set clear targets at the outset of a project for achieving efficiency improvements; (ii) have strong leadership to ensure that the improvements are realised; and (iii) establish a quantified baseline of current performance against which to measure the achievement of efficiency gains and to take remedial action if progress is less than planned.

FOR THE OFFICE OF GOVERNMENT COMMERCE

- 7 **Build on the results of gateway reviews to improve departments' management of IT projects.** Gateway reviews are an important initiative for improving the performance of IT projects. The reviews have already identified the need for better business cases underpinning departments' investment in IT projects, to have more developed IT project management skills, and to measure the benefits achieved by IT projects. The Office should continue to concentrate its efforts in working with departments and other central units to remedy these short comings. It should also continue to monitor departments' performance focusing in particular on how well the good practice which the Office is promoting becomes embedded in departments' approaches to implement IT-enabled change.
- 20 In addition the following reports include a range of good practice to which is also relevant to achieving e-government:
 - Progress in achieving Government on the Web (to be published);
 - NHS Direct in England (HC 505, 25 January 2002); and
 - e-Revenue (HC 492, 14 February 2002).

Annex

Action taken in response to the Committee of Public Accounts recommendations in their report - *Improving the delivery of IT projects - January 2000* (First Report 1999-00, HC 65 1999-00)

Committee's recommendations

- 1 Key decisions on IT systems are business decisions not technical ones and should involve senior management.
- 2 The management and oversight of IT projects by skilled project managers is essential for ensuring that projects are delivered to time and budget. The successful implementation of IT systems calls for well conceived risk management and sound project management methodologies.
- 3 The end users must be identified before the project commences so that their needs are taken into account fully during design and development.
- 4 Training must address the needs of users and of those operating and maintaining the system.
- 5 Departments should consider carefully whether projects are too ambitious to undertake in one go particularly if the project connects with the business operations of other parties, or depends on the development of IT undertaken by other parties.
- 6 Departments should have contingency plans to maintain adequate levels of service in the event of project failures.
- 7 There is a need for a high degree of professionalism in the definition, negotiation and management of IT contracts given the large sums of public money at stake.
- 8 Organisations should learn lessons from the projects and undertake post-implementation reviews to establish whether the project met its business objectives, user expectations and technical requirements and secured the benefits anticipated.

Action by departments

- 1 The need to be aware of the risks posed by IT projects is included in the training provided for senior managers. Senior Responsible Owners are now also appointed for all major IT projects. The Senior Responsible Owner is the individual in the department responsible for ensuring that an IT project or programme of change meets its objectives and delivers its intended benefits (paragraph 2.8 of this report refers).
- 2 Departments have developed risk frameworks which set out their approach to risk management in their areas of responsibility. Individual projects have risk assessments which feed into departments' overall assessment of risk (NAO report: Supporting Innovation: Managing risk in government departments HC 864 August 2000 refers).
- 3 Some departments have begun to segment their end users of their services to reflect their characteristics and different needs. In this way services can be designed which are more likely to meet users' needs (paragraph 2.25 of this report refers).
- 4 The Office of Government Commerce gateway reviews (part of the gate 4 assurance process) confirm that plans for training have been put in place (paragraph 2.5 refers).
- 5 Major projects are scrutinised by staff independent of the project team to assess the feasibility of the project and whether it is too ambitious to undertake in one go. For example, the Office of Government Commerce's gateway reviews of large, novel IT projects consider projects at critical stages in their development - four before the award of the contract (to confirm the strategic assessment, the business justification, the procurement strategy and the investment decision) and two looking at service implementation and confirmation of the operational benefits (paragraph 2.5 of this report refers).
- 6 Contingency planning should be part of departments' approach to risk management. The Office of Government Commerce is developing new guidance on managing risk and procurement. All new IT projects should have trained project managers in place (paragraph 2.8 of this report refers).
- 7 Following the Cabinet Office report "Successful IT: Modernising Government in Action", the Office of Government Commerce has published a procurement brief which gives procurement teams a route map through the procurement process and identifies the key sources of IT procurement guidance available (paragraph 2.16 of this report refers).
8. Senior Responsible Owners of IT projects are now required to carry out post implementation reviews once their project is completed. The Office of Government Commerce have developed a questionnaire to help them do this (paragraph 2.9 of this report refers).