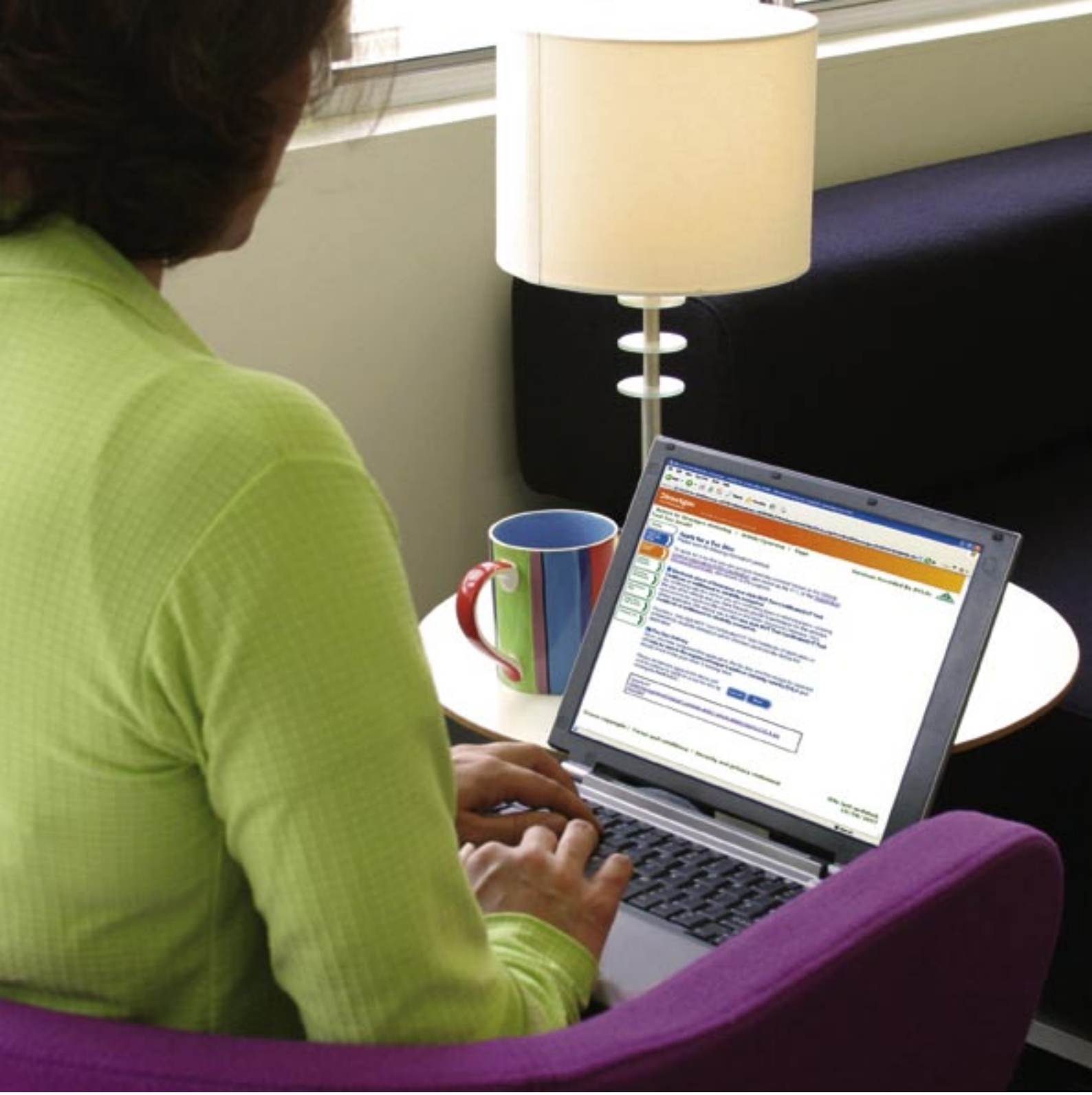

National Audit Office

Government on the internet: progress in delivering information and services online

REPORT BY THE COMPTROLLER AND AUDITOR GENERAL | HC 529 Session 2006-2007 | 13 July 2007

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National Audit Office

Government on the internet: progress in delivering information and services online

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John Bourn
Comptroller and Auditor General
National Audit Office

9 July 2007

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PREFACE

In November 2005, the Cabinet Office published *Transformational Government, Enabled by Technology*, which sets out a six year strategy for the use of technology in improving public services. Building on this was the publication in December 2006 of Sir David Varney's report to the Treasury, *Service Transformation: A better service for citizens and businesses, a better deal for the taxpayer,* which focussed on how public services could be improved by understanding better the needs of different groups of citizens and businesses. Central to both reports is improving delivery of public services by designing them around the needs of the citizen or customer, not the provider.

This is one of a series of reports by the National Audit Office looking at the use of technology in the delivery of public services. An increasing range of channels is now available to deliver public services including the internet, call centres, mobile phones, and more traditional means of delivery such as face to face transactions and post. This report focuses on progress in the Government's use of the internet. It is the third report on this subject following *Government on the Web* in 1999 and *Government on the Web II* in 2002.

Services delivered via the internet offer significant benefits. They can be available twenty four hours a day, seven days a week, and are convenient and fast, as well as offering efficiencies by releasing money that can be used to fund more tailored services for those who need them. But to optimise the take-up, government departments need to convince customers of all the benefits (and security) of internet-based services and also to understand how to best encourage, educate and support the many potential users.

Improving service delivery also includes meeting the needs of those who cannot make use of online services or those who feel more comfortable with traditional forms of engagement, such as face to face contact. The challenge for government will be to select and design the most appropriate means of delivering services to citizens in ways that suit them best.

SUMMARY

1 For millions of citizens and thousands of businesses and civil society organisations the ability to find relevant government information via the internet and to accomplish public service transactions online is perhaps the most radical extension of access to public services as a whole for several decades. For example, around 45 per cent of online accesses to government websites occur outside normal office hours in the evenings or weekends, and so could not take place by phone or office visits. For government and taxpayers, providing information and processing transactions online can also be much cheaper than conventional forms of service delivery such as call centres, mailed-in forms or office visits.

2 Not everyone uses the internet, and internet access rates are much lower than average amongst the elderly and people in receipt of means-tested benefits. There is, therefore, a need for departments to understand how to deliver services to citizens through the channels that suit them best. While government policy is to promote digital inclusion by seeking to increase internet access and skills there will be an important group of citizens who cannot make use of the internet, or who prefer to make use of more traditional forms of communication such as the telephone or post. But encouraging greater use of the internet has potential benefits for these customers as well, because money released from improved efficiency can be redirected to fund more focused and improved services for hard-to-reach groups.

3 Departments and agencies made good progress towards meeting the Prime Minister's ambitious target of providing access to all relevant services in electronic form by 2005 and recent achievements in the use of the internet can be found in many of the most important sectors of government **(see Figure 1 overleaf)**. This progress reflects heavy investment in e-services from 2000 to 2005, a period when around £6 billion was spent in new IT services, of which £1 billion (channelled through the Office of the e-Envoy) specifically promoted e-government.

4 Previous studies by the National Audit Office in this area have found that the size and complexity of the Government's web-estate makes it hard for citizens to find the information they want in a comprehensible form. Since 2004 the Government has taken a new strategic direction, intended to tackle these issues in the long term by:

- re-ordering information to make it easily findable;
- re-presenting information so that it is clearer and makes sense for citizens or businesses, and;
- joining up information effectively so that it better meets people's and enterprises' overall needs.

This approach is challenging because of the complex departmental structure of national government against a background of ten or more years of un-coordinated growth of government websites.

1 Some key achievements of government information and service provision online

Policy sector	Online Achievement	Annual service users or visitors to websites (millions)
Local government	Websites run by local authorities provide a wide range of information on local services and issues	180.0
	Local authority websites accept e-payments transactions	4.0
	The Local Directgov service seeks to provide direct links between Directgov and online local services	n/a
Foreign affairs	The Foreign and Commonwealth Office website offers advice on travel and consular services	25
	The Foreign and Commonwealth Office sends emails alerting subscribers to changes of content including travel advice, press releases and job adverts	1.5
Labour markets	The Jobcentre Plus website, including job information accessed through public Jobpoints, is the biggest of its kind in the UK	67.0
	The 'Employer Direct' facility on the Jobcentre Plus website allows employers to upload their job vacancies online or by phone. The service now accounts for 27 per cent of all notified job vacancies	n/a
Taxation	Import/export declarations have long been processed overwhelmingly online, with the service collecting £22 billion in import duties annually	26.0
	Income tax payers who need to file a self-assessment form with HM Revenue & Customs can do so online	3.0
	Employers annual declarations (form P35) filed online during 2006-07	1.31
	Employers annual summary of pay, tax and NIC details for individual employees (form P14) filed online in 2006-07	45.7
Transport	An online journey-planning service is provided by the Transport Direct website	11.0
	Motorists can now renew and pay for their car tax or declare Statutory Off Road Notification online	3.7
	The Highways Agency handles emails to its enquiry service	0.017
Health	NHS Direct offers online health advice, now used by almost twice as many online visitors as phone users	13.5
	The NHS.uk site offers information to the public on NHS services	17.7
	The Department of Health website publishes extensive health policy and NHS performance information as well as departmental consultations and publications	10.2
Pensions	During 2006-07, 116,000 Real Time Pension Forecasts were processed online between April 2006 and March 2006	0.12

☐ Information provision ☐ Transactional service ☐ Mixed/other

Source: Transformational Government Annual Report (2006) plus additional information from government departments and agencies

5 These changes are intended to be delivered by moving customer facing content across to two "supersites" www.Directgov.gov.uk for citizens and www.businesslink.gov.uk for businesses. Both sites involve substantial process re-engineering behind the scenes to produce high quality information in language targeted at the customer, not the producer. Both sites so far show traffic levels indicative of early success, and some significant organisations have moved their customer-facing content onto Directgov.

6 Government sees the next logical step as rationalising its current sprawling web-estate so as to focus upon these sites, plus a small number of other sites that target specific audience segments. There is a strong policy commitment to this approach, which has been approved by the relevant Cabinet Committee. Some 951 sites deemed as surplus have already been reviewed, of which 551 so far will definitely close.

7 There are significant challenges ahead **(see Figure 2 for examples)**. Moving the majority of internet based services to the supersites is an ambitious undertaking which will require effective joint working across many different departments and agencies, all with very different customers. Future investment in internet provision of services will need to be aligned to channel strategies based on robust knowledge about how citizens will choose to access and use public services.

Our focus group participants found some government online services and most online information-giving useful, but they were not aware of many services and often found the design of departmental and agency websites text-heavy and off-putting

8 Online services can now be accessed more easily due to the growth in households with broadband. In focus groups we found that many users are only aware of a few key sites that they use with some regularity and mostly people tend to use one or two transactional e-services once or twice a year (such as filing income tax returns or renewing car tax). However some government sites are widely and repeatedly used. An online survey carried out by Jobcentre Plus showed that 78 per cent of online service users visited its sites at least once a week. Focus group participants said that that they found government departments' and agencies' information websites quite complex to understand, with information useful to them hard to find amongst large amounts of policy material and official documentation alongside poor performing search engines. In line with the Varney report recommendations **(see Case Example 1 overleaf)**, one of the key aims of Directgov and businesslink.gov.uk is to address these issues by being much easier for citizens to use and communicating government information materials and providing services in simpler ways. We show in Part 3 that Directgov materials were appreciated as a big improvement on conventional government information by respondents in our focus group and experiments.

9 Simple to use services (like road tax renewal online) are widely used (see Figure 1) and appreciated. However, participants in our focus groups also saw greater potential for more developed kinds of web-based information provision forming an important element of choice in areas like finding schools for their children or choosing NHS hospitals for operations.

2 Three key challenges for internet based services and information provision

Channel strategies

The internet is one of many different channels available to government to deliver public services. To safeguard value for money, future investment in making services and information available online will need to be informed by channel strategies based on knowledge of how citizens prefer to use public services and how this is likely to change in the future.

The design and accessibility of websites

A census of department and agency websites conducted for this study shows that overall quality has improved little since 2002. Many internal search engines remain ineffective, sites tend to be very text-heavy and stringent accessibility standards are not always being met.

Directgov and Businesslink

Figure 20 on page 30 shows that Directgov has achieved impressive growth in unique visitor numbers in the last three years, especially since DVLA motor tax operations moved onto the site (see paragraph 3.7). In research conducted for Directgov, between a fifth and a third of the public as a whole also say that they have heard of Directgov when prompted about the site.[1] In our survey only two per cent of internet users could name it unprompted.

Source: National Audit Office

NOTE

1 Directgov Brand Tracking Research (March 2007).

10 A large proportion (two fifths) of the population do not have internet access at home and there is a risk that many may not benefit from the advantages of using online services, particularly the elderly or people who lack the skills necessary to use the internet effectively. (For example 51 per cent of adults earning less than £10,400 a year have never used the internet[1] and four fifths of people receiving means-tested benefits lack practical ICT skills.[2]) The Government is committed to making online services accessible to all citizens by 2010[3] and free or low cost internet access is provided in 6,000 UK online centres used by around three million visitors a year, housed in libraries, community centres and colleges. Many people who do not have an internet connection at home will also need support and training to be able to use the internet and most UK online centres also have staff who provide structured training and who actively promote online services. There are a small minority of centres which can only provide the most basic of help.

Government websites are rated reasonably well by users but their quality (as measured in our census of features) has improved only slightly since 2001

11 There are indications that government web provision became more comparable with the best private sector websites in the period around 2003-04, and the vast majority of government sites have quite similar and effective levels of functionality and design. In our survey they are rated reasonably well by respondents. Some sites such as the 10 Downing Street and Department of Health sites are introducing more advanced features. The provision of information and transactional services remains almost exclusively text-based and on most sites little use is made of other elements (such as video, audio or icon-based designs). As the technology shifts and customer demand changes, government sites need to consider carefully how to apply features such as video, audio and user feedback facilities appropriately. Up to a third of government sites may not meet modern accessibility standards for disabled or visually impaired people. The current web rationalisation process provides the Cabinet Office with the opportunity to establish new, up-to-date standards for all government websites.

12 There is an as yet largely unrealised potential for government websites to signpost citizens towards organisations that have sites with information, services and web communities that can offer help, advice and guidance on, for example, childcare, health matters, legal problems or finding employment. This is particularly the case with third sector organisations, many of whom act as important intermediaries between government departments and citizens, but to which few government websites provide links. In response to the Power of Information Review, commissioned by the Cabinet Office in April 2005, the Government has stated that it "should engage in partnership with user led online communities". The challenge for Government will be to make sure that the websites that it links and points users to are reliable and safe.[4]

CASE EXAMPLE 1

'Transformational Government' and The Varney Report

In January 2005 the Prime Minister told the Government CIO Council that 'Departments need to work together in delivering more public services built around the needs of the citizen'. In e-government services he identified Directgov as 'our flagship digital service'. Following this *Transformational Government*, a command paper, was published by the Cabinet Office as the policy of government, which said that services enabled by IT must be designed around the citizen or business, not around the provider. It also called for a move to a shared-service culture, releasing efficiencies in IT provision, and for an improvement in the professionalism of the government IT function. A process for achieving 'service transformation' was set in place, complete with annual reports and monitored by the e-Government Unit, subsequently made part of the Delivery and Transformation Group in the Cabinet Office.

In 2006, following on from Transformational Government, Sir David Varney completed a wide-ranging review for the Chancellor of the Exchequer called *Service transformation: A better service for citizens and businesses, a better deal for the taxpayer*. He called for action to 'improve Directgov and businesslink.gov.uk so that they become the primary information and transactional channels for citizens and businesses, reducing the number of departmental-specific websites'. His vision was that by 2011 almost all citizen-facing and business-facing services will move to the two supersites, including all e-transactions. All departments will then have one corporate website utilizing shared infrastructure, and other websites will be closed.

The principles of Sir David Varney's work will be taken forward in the Comprehensive Spending Review 2007.

http://archive.cabinetoffice.gov.uk/e-government/strategy/

http://www.hmtreasury.gov.uk/pre_budget_report/prebud_pbr06/other_docs/prebud_pbr06_varney.cfm

1 National Statistics Omnibus Survey, National Statistics. August 2006.
2 DfES, Skills for life Survey, A national needs and impact survey of literacy, numeracy and ICT skills (London, TSO, 2003).
3 EU Commission Ministerial Declaration, Transforming Public Services Ministerial eGovernment Conference 2005.
4 For more details on the estimated costs, see Figure 12 on page 24.

We estimate the annual running costs for central government websites as £208 million.[5] Some departments and agencies still have weak information about the costs and usage of their information provision and other facilities online. Hence they are unlikely to be maximizing the value gained from these expenditures

13 In 2002, the Committee of Public Accounts recommended that to increase their website usage all central government organisations should have excellent information on who is using their online services and why. **Case Example 2** shows how such information can be used to tailor online information-giving to different types of users. However while some sites do now perform data analysis, the picture generally across departments and agencies is of sharply varying degrees of information on who is using their websites and how they are using them. While there is a balance to be struck between costs and benefits of such data collection, often there is little analysis of user data that is relatively easy to collect.

CASE EXAMPLE 2

Growing web service usage for information services via excellent customer segmentation

Land Registry

The Land Registry has tailored the way it delivers its online services to two key groups of customers: property professionals and citizens. *Land Registry Direct*, launched in March 2004, provides property professionals with access to around 21 million registered titles to land in England and Wales. Access is free of charge but users pay a fee for each transaction entered at their location. The service costs on average £525,000 per year to run and currently has around 13,700 registered organisations. *Land Register Online* was developed in January 2005 as a separate service specifically designed for citizens. It provides anonymous access to data and generates around £4.4 million per year in revenue.

14 At £208 million per year, the costs of web provision constitute only a small proportion (three per cent) of central government[6] spending on IT services (which is £6.4 billion annually).[7] Some departments and agencies have poor data on the cost of their websites and along with poor data on usage, they are unlikely to be maximizing value for money. Departments who use a single contractor to provide an integrated IT and web package may have limited access to information on the costs of their web services.

To optimise investment in the internet better ways of determining the value of IT and online services as assets and judging appropriate levels of investment are needed

15 Getting citizens and businesses to accomplish transactions with government organisations online offers great scope for achieving efficiency savings, by reducing the numbers of local offices needed, the amount of mail and paper-handling involved in administrative processes, or the number of call centres needed. Investments in websites and services have historically been easier where a financial case for future cost-savings can be made. There is still considerable potential for organisations to do more with existing transaction service assets, migrating more customers over to e-channels where appropriate by better marketing and customer segmentation. The development of channel strategies which integrate online service delivery with other available channels should support better targeted investment.

16 Few government organisations have developed ways of evaluating the business value of their online information and services as an asset, or determining an appropriate investment level accordingly. However, **Case Example 3 overleaf** shows four examples of good practice, where government bodies have strong information on the business value of their websites. Systematically developing the 'web-estate' and planning investments in this way will become more important as the scope for channel switching in transaction services progressively reduces in the future.

5 See *Research Report (Section A: Part 2, Figures 35 to 42)* available from the National Audit Office Website.
6 The term 'central government' used throughout the report includes departments, executive agencies and NDPBs.
7 This figure is taken from the Transformational Government Annual Report (2006), with some exclusions such as local authorities, NHS organisations and Scottish and Welsh bodies.

Directgov and businesslink.gov.uk are set to become the main government websites for citizens and business

17 As referred to in paragraph 5, since 2006 Cabinet Office policy for improving the visibility and operations of government websites has focused on migrating all transactions services to two 'supersites', www.Direct.gov.uk for citizens and www.businesslink.gov.uk for businesses. To support Transformational Government policy, citizen-facing content and services from all government websites will be moving to Directgov. To maintain consistency with Directgov's existing approach, this process is not as straightforward as simply cutting and pasting information across. Each website's content and functionality needs to be looked at by its owner and by Directgov to reach agreement about what is appropriate to move and when. Similar processes will apply for business-facing content with businesslink.gov.uk.

18 The planned transition to focus heavily on the two supersites and to reduce considerably the number of other government websites is an ambitious undertaking and would be the first of its kind in the world. A number of risks involved will need to be carefully managed if it is to succeed as planned.

There is scope for departments and agencies to improve value for money in the provision of online services

19 We estimate that expenditure on website provision currently stands at £208 million per year. Despite many positive signs of well used information and transactional services, departments and agencies have further potential value for money to gain from using the internet. Most departments still do not have sufficient information on who is using their sites and how they are being used, and a third of departments and agencies have very little knowledge about how much their online provision of services costs them.

What we did

20 This report examines the progress the Government has made in delivering services and information online since our last report on this subject in 2002.

21 We have used a range of methods for this report including a web census of 300 department and agency sites, a survey of 153 central government organisations, web crawling of government sites, interviews with government officials and experts from the private sector, international comparisons with three countries, focus groups and experiments with users of government websites, a national survey of 1,006 adults and desk research. (Appendix One provides a detailed description of our methodology.)

CASE EXAMPLE 3

Appreciating the business value of websites and online services

Financial Services Authority (FSA)

A key part of FSA's work is to make available the official register of authorized financial services forms and the FSA Register. In 2004 the Authority carried out a cost benefit exercise and estimated that making this material available online saved the organisation around £9 million annually in distribution and administrative processing costs. The FSA also estimate that they have achieved considerable savings per visitor to their website when taking into account the annual cost of running their website.

Environment Agency (EA)

The Agency experienced a website outage lasting three full days during 2003. They used this incident to estimate the cost of not having the website operational for a period, which was estimated at £66,000 per day (made up of the cost of fixing the website and fielding displaced information requests and transactions in higher cost ways). The Agency also recognised the importance, and potential impact on its reputation, of the site being down. Currently around 15 per cent of all contacts with EA run through the website (equivalent to around 340,000 unique visitors per month).

Companies House

Companies House introduced online services on its own website in 2001 to enable around 2.3 million limited companies and their representatives to submit statutory company information. Electronic filing is currently used to submit over 250,000 documents per month (around 40 per cent of total volume filed), equivalent to around eight tonnes of paper which would have been filed manually. The website currently receives on average 40 million hits per month, making it one of the most frequently visited websites in central government.

businesslink.gov.uk

The impact survey measuring the economic impact of businesslink.gov.uk in England was a jointly agreed project between the economic analysis unit of the Small Business Service and Serco, the service provider. Carried out with 805 established businesses in England, it showed that over a 12-month period those businesses saved 2.9m hours of time (worth £61m); £94m by getting information and advice they would otherwise have paid for; and reported additional sales of £195m, increased profits of £31m and cost reductions of £7m that they believed they would not otherwise have achieved.

Recommendations

Recommendation number	Purpose	Who for	Recommendation	Why
To enable departments to assess the costs and benefits of online provision				
1	Government organisations need to have a clear strategy for providing services for different groups of citizens according to their needs. Online provision should be designed to suit both beginners and more expert users – and also intermediaries acting on behalf of citizens who do not use the internet.	Cabinet Office, HM Treasury, Departments & Central Office of Information	To inform their investment decisions, all departments should commit to carry out regular channel research, to create and publish a formal channel strategy and to set out an implementation plan that is regularly updated.	Without a channel strategy, value for money is at risk because investment decisions are not made on a strategic basis and what is provided may not meet users' needs (paragraphs 1.21, 2.9, 2.10, 2.11).
2	Improving value for money by creating a robust investment rationale for government websites and online services.	Cabinet Office, HM Treasury & Central Office of Information	Criteria should be devised for helping departments and agencies to judge the correct level of investment in websites and transactional services.	Departments have no means at present to make informed investment decisions about how much to invest in their website and transactional service provision. It is becoming harder to cost-justify new investments by making savings in conventional services and just looking for savings may not optimize the investments made (paragraphs 2.4, 2.5, 2.6, 2.7).
3	Improving value for money by creating a robust investment rationale.	Cabinet Office & Central Office of Information	Require departments to report annually on costings for information and services online according to a common methodology.	Annual reporting would incentivise departments to cost their website and transactional services provision accurately. It would provide cross-government comparisons that would increase the transparency of departments' management of their online services (paragraph 2.7, Figure 14).
4	Ensuring the risk management of the "supersite" strategy.	Cabinet Office, Department for Work and Pensions	Given the scale and complexity of Directgov, a framework should be put in place to ensure regular, independent reviews and challenge functions to identify risks and assess how effectively these are being managed.	The dual "supersite" strategy did not reach the threshold on the Risk Potential Assessment for an OGC Gateway Review. But the implications for departments' online provision put the implementation into the high risk category (paragraphs 3.17, 3.18).

Recommendation number	Purpose	Who for	Recommendation	Why
To improve the quality of online provision				
5	Ensuring that departments prioritise meeting of information demands of citizens, businesses and civil society organisations and that an emphasis on developing transaction services via supersites does not lead to a lack of development (or a pause in development) of government information websites.	Departments	Collect and analyse usage data and ensure that such data feeds directly into the design of government websites.	Online services that are not designed around how internet users actually behave will not optimise take-up, resulting in poorer value for money so feedback of usage statistics is crucial (paragraphs 2.8, 2.9, 2.10, 2.11).
			Maximise the visibility of government websites to search engines and carry out usability testing to make sure users can find the information they need within sites once they find them.	Most internet users use search engines and sites should be designed accordingly (paragraphs 1.10, 1.11, 2.13). Users find some government sites hard to navigate (paragraphs 1.5, 1.15, 1.16).
		Cabinet Office	In order to make information quicker and easier to find, the Cabinet Office, in conjunction with departments, should develop a strategy to identify and promote best practice within and across government search facilities.	Internal search engines are widely used but are not meeting users' needs (paragraphs 1.12, 1.13, 1.14).
6	Ensuring that departments design web-based services that their customer groups are able to use.	Central Office of Information, Departments	Ensure websites meet accessibility and usability criteria: no government website should go online if it does not meet required accessibility standards. Annual Reports should outline what actions have been taken to make web services and online information as useable as possible for all customers. Departments should attempt to assess the range of 'reading ages' of their users and design their web materials accordingly.	Accessibility and usability criteria should be incorporated at the earliest stages of website design (paragraph 1.21). The 2007 Budget announced an expanded and strengthened Customer Insight Forum, which it is intended will help to ensure future website design is conducted with end users in mind.
To encourage and assist citizens to use online services				
7	Optimising the take-up and return on investment of online services.	Cabinet Office & Central Office of Information	The Delivery and Transformation Group should develop and publish revised, up-to-date standards expected of all government websites. Explore what government-wide action can be taken to encourage development (for example of widely used standard features) and innovation to stimulate enthusiasm for and use of government websites.	Some public sector sites lack standard applications such as filling in forms online. Aside from some notable innovations, many public sector sites lack some of the popular features of good quality private sector sites (paragraphs 1.8, 1.9, 1.17).

Recommendation number	Purpose	Who for	Recommendation	Why
To encourage and assist citizens to use online services *continued*				
8	Optimising the take-up and return on investment of online services.	Cabinet Office, Department for Business Enterprise and Regulatory Reform	Cabinet Office to work with DBERR, DIUS, DFSC, the Digital Inclusion Team at DCLG and the COI, following the review of the digital strategy, to assist citizens currently not using online services to do so, if they wish.	By optimising the take-up of online services, resources are released to the frontline for other delivery channels for those unable or unwilling to use online services (paragraph 1.18, 1.19).
		Department for Innovation Universities and Skills	DIUS, informed by the results of the e-government pilots for the UK online centres, should help other departments identify how they can support and use the centres to improve take-up and ensure their online services are socially inclusive.	Developing relationships with intermediaries can be a cost-effective way to optimise take up among non-internet users (paragraph 1.20).
		Departments	Departments should develop their strategies for dealing with intermediaries, including formalising channels for online interaction with intermediaries, more funding of intermediaries to support citizens wishing to learn how to use online services, and publicising the availability of the provision.	
9	Optimising the take-up and return on investment of online services.	Cabinet Office, Central Office of Information, Departments	An improved marketing strategy is needed to improve brand recognition of all key government websites, which should include the Directgov and businesslink.gov.uk web addresses being included on all correspondence from departments to citizens. Building on the Power of Information Review, the Cabinet Office, COI and departments should establish ways in which government websites can safely work and interact with non-governmental websites that are relevant and useful to citizens.	To optimise take-up, citizens need clear signposting to online services and the Directgov site has low brand recognition. Risks of brand duplication and of dividing citizen from business and UK from overseas users of currently integrated sites would also be mitigated (paragraphs 3.14, 3.15, 3.16, 3.17, 3.18, 3.19).

PART ONE

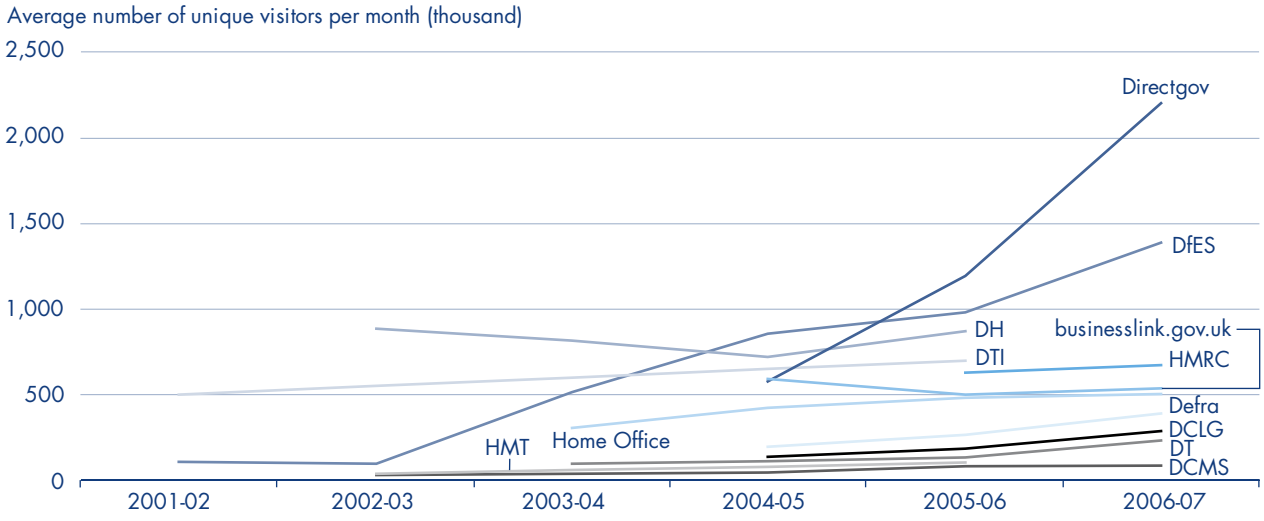
The quality of online provision

Usage of the main government sites has risen over time, in a period when background trends in web traffic have also grown

1.1 Since we last reported in 2002, visitor numbers to government websites have grown slowly but steadily, measured in terms of the number of unique visitors, shown in **Figure 3**. Two trend lines are especially rapid, that for Directgov, and for the Department for Education and Skills, which primarily reflects the provision of online information for schools and teachers.

1.2 This is against a background of increased internet use in the UK in the same period with 13.9 million households (57 per cent) in Britain able to access the internet from home in 2006.[8] This is an increase of 2.9 million households (or 26 per cent) since 2002.[9] Most households have also transferred from slow dial-up to speedier broadband services, making websites much easier to access and increasing traffic volumes.

3 Average number of unique visitors to government websites per month, from 2000 to 2007



Source: Survey of departments and agencies

NOTE

This Figure shows visitor numbers to corporate departmental sites only and does not include relevant executive agencies or NDPBs. In some cases this would make significant difference to the results shown here e.g. the Jobcentre Plus, part of DWP, website, currently the most popular Government online recruitment website, with around two million visitors every week, is not included here.

8 Sources: National Statistics Omnibus Survey, Northern Ireland Omnibus Survey and Survey of Internet Service Provider. www.statistics.gov.uk.
9 Sources: National Statistics Omnibus Survey, Northern Ireland Omnibus Survey and Survey of Internet Service Provider. www.statistics.gov.uk.

The European picture

1.3 There are no reliable comparable measures of take- up of e-government services across the European Union. Where data does exist it needs to be treated with care because there are differences in what people think of as a public authority across European states – for instance most public transport in the United Kingdom is provided by private operators. Additionally in some countries, such as the Netherlands, citizens must use the internet for some government services. **Figures 4a and 4b (overleaf)** provide an illustration of the picture across Europe. Figure 4a shows that the proportion of the United Kingdom population using an internet site to interact with Government has grown slowly but steadily in recent years. At 24 per cent in 2005 there is scope, however, to increase the use of the internet by both businesses and citizens; and Directgov and businesslink.gov.uk have shown some initial steps towards that end. Figure 4b shows the percentage of services that offer complete electronic case handling.

The public see government websites as generally satisfactory. Our census shows facilities have improved somewhat since 2001

1.4 In a national sample survey in February 2007 we asked respondents for their views on government websites, which were broadly positive. **Figure 5 overleaf** shows we asked respondents to assign marks out of 10 to government websites on ten different criteria. A key indicator here is the final column, showing how many more people gave government websites strong positive marks minus the proportion giving them the lowest possible marks. Government sites were net positively evaluated on being up to date, designed to help you find out information, easy to use and designed for different kinds of people. On half the criteria there was a small positive or negative balance. But sites scored low on people recommending them to others.

1.5 Focus groups participants saw department and agency websites as generally well run and trustworthy.

"I've used DVLA - that was easy to use . . . It was really quick and useful."

"I have used the pensions forecast online and that was good."

But some said that information was presented in an off-putting way and was difficult to understand. As one respondent put it:

"It came up with streams and streams of things and I'm thinking 'Oh for goodness sake!' … I mean I'm not brilliant at the computer, so I like it at a really basic level."

Participants also found some department and agency sites very text-heavy:

"A lot of it is wordy stuff. It would be good to have pictures or icons, to show what particular areas are – something that you can relate to."

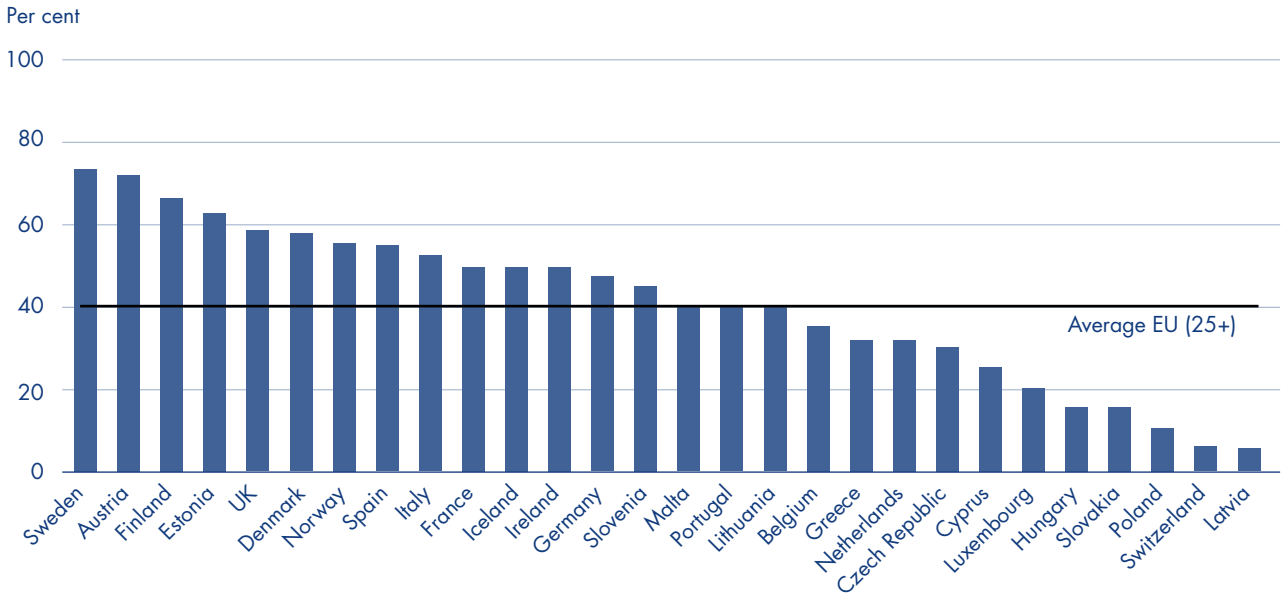
Most department and agency sites were unfavourably compared with participants' experiences of commercial sites, especially banks and travel sites. Participants said that they found department and agency sites hard to navigate, particularly when arriving at the homepage. Internal search engines, in particular, were found to be unhelpful in finding the information being sought. The Cabinet Office consider that accessibility guidelines can at times make it difficult to use innovative features that are popular on some commercial sites and would welcome moves by accessibility standards bodies to reflect more recent developments in web design.

4a Proportion (%) of the population who have used an internet site to look for government information or interact with government on services in the last three months

	2002	2003	2004	2005
Iceland	–	56	58	55
Sweden	42	44	39	52
Finland	34	40	45	47
Luxembourg	16	28	45	46
Netherlands	–	–	–	46
Denmark	37	40	44	–
Norway	–	43	37	–
Germany	17	26	33	–
Estonia	–	–	20	31
Austria	11	20	21	29
Slovakia	–	–	25	27
United Kingdom	–	21	22	24
Slovenia	–	–	13	19
Hungary	–	–	16	18
Belgium	–	–	–	18
Ireland	–	–	14	18
Italy	–	–	–	14
Portugal	–	–	13	14
Latvia	–	–	13	13
Poland	–	–	13	13
Cyprus	–	–	11	11
Lithuania	–	7	10	12
Greece	–	–	8	7
Czech Republic	–	–	7	5
Turkey	–	–	6	–
Bulgaria	–	–	5	–
France	–	–	–	–

Source: Eurostat data

4b Country services that offer complete electronic case handling



Source: Adapted from European Commission Directorate General for Information Society and Media; Online Availability of Public Services: How is Europe Progressing?

5 How all respondents using the internet rated government websites on ten criteria in our national sample survey, February 2007

The question asked was: 'Thinking about government websites, could you give them marks out of 10 on the following (where 10 is excellent and 1 is very poor)?'

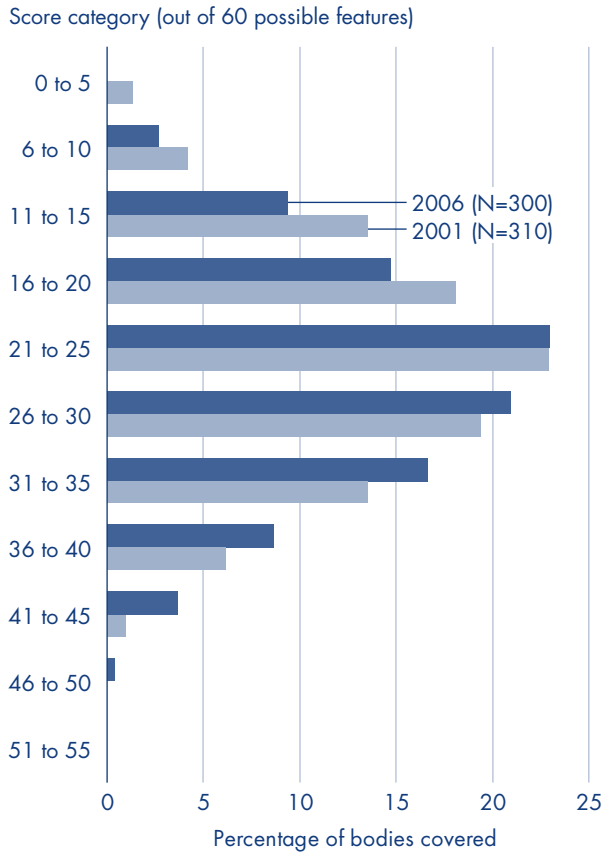
Criterion	Per cent assigning top marks (i.e. 8, 9 or 10)	Per cent assigning low marks (i.e. 1, 2 or 3)	Balance
Up to date	35	6	+29
Designed to help you find out information	30	7	+23
Easy to use and clearly written	25	5	+20
Designed for all kinds of people	24	9	+15
As good as private sector sites	20	12	+8
Designed to help you get things done quickly	18	12	+6
I can trust what they say	24	19	+5
Use icons, video and audio	12	10	+2
Help you find out what other users of government services think	12	15	–3
I have recommended them to friends or family	11	41	–30

Source: National sample survey, carried out by ICM Research for National Audit Office

1.6 Assessed against a consistent basket of 60 features (used in our two previous reports on this subject), **Figure 6** shows that government websites improved slightly in 2006 on the quality standards of 2001. About a tenth of all government sites have made major improvements in their quality score, and a further one in ten have made modest progress. One in six government sites have got significantly worse on this basis in the period since 2001, while another one in eight have got somewhat worse.

1.7 A critical feature of modern web services is what visitors can do on the site. In our focus groups, the online service for renewing road tax was strongly appreciated by those who had used it, and described as 'quick and useful'. The Department for Work and Pensions' online pensions forecast was also seen as very helpful. Hospitals sending users a personal password for booking an appointment on their website at a time that suited them and online local school applications (sending receipts) were also commended. The three cases in **Case Example 4** highlight low-cost good practices that add value for users.

6 There are slightly more higher scoring websites in 2006 than in 2001



Source: Census of government organisations' websites

There is scope to develop more online facilities

1.8 In our census of 300 government websites we identified just under 3,400 forms that could be downloaded.[10] Only one in eight of these forms can be both filled in and returned electronically. The vast bulk (85 per cent) of forms still need to be printed and filled out on paper, despite the major achievements in transactional services shown in Figure 1. It should be noted, however, that it can be difficult to cost-justify putting some forms online, such as those that are infrequently used or those where substantial reengineering is required behind the scenes to complex systems to make possible electronic data entry.

CASE EXAMPLE 4

Doing useful things online

The European Health Identification Card (EHIC)

This is a rare example of a fully electronic form in British government. The EHIC card is used by UK residents travelling in other European Union countries to access medical treatment that becomes necessary during their trip and replaced the E111 form. Users complete a short form accessed from the Department of Health website to apply for a card. The site promises fulfilment within seven working days. Applications can also be made by telephone or by post (the application form is available from the Post Office). In 2006, the mix of applications was 56% online, 25% postal, and 19% via the telephone.

Web address: http://www.dh.gov.uk/travellers

When to register for VAT

The interactive tool gives a simple conclusion to UK-based businesses as to whether or not they need to register for VAT. They are asked no more than 14 questions and for most users the process takes under five minutes. The conclusion links to download the relevant forms on the HMRC website. By contrast, the definitive official guidance, VAT notice 700/1 *Should I be registered for VAT?* runs to 20,000 words and 61 A4 pages.

Web address: http://www.businesslink.gov.uk/vat

The Legal Services Commission (LSC) online debt advice tool

LSC have teamed up with The Consumer Credit Counselling Service to provide free online debt advice to the public. The aim of the tool is to offer help to those who are challenging an unfair debt, need legal advice and want to speak to an adviser as soon as possible. The tool can also be used by anyone with a debt problem, as the user is asked a series of questions to determine what type of debt problem they have, and is directed to the most appropriate form of help and advice should they need it.

Web address: https://www.cccs.co.uk/debtremedy/(4hdclh45i0wntazytbwp1w45)/midway/cls/cls-start.aspx?clspg=1.

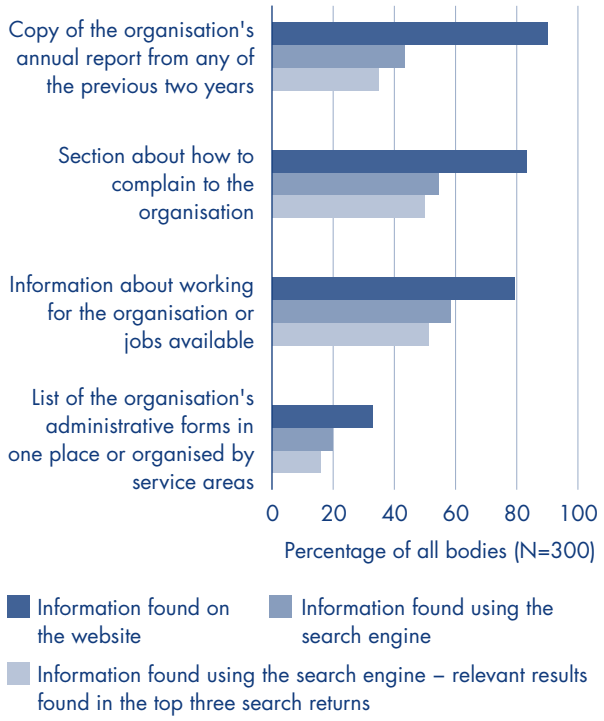
10 See *Research Report (Section A: Part 1, Figure 8)*.

1.9 At a more detailed level there also seem to be some gaps in provision. **Figure 7** shows that while four in five department and agency websites provide jobs or recruitment information, or information about how to complain, only one in five government websites provides a list of the organisation's administrative forms (although this is not relevant for all agencies). The Cabinet Office Civil Service Recruitment Gateway site lists vacancies from across government.

Many people choose to access government websites using a search engine

1.10 Powerful search engines have transformed the way that people use the internet and therefore the way in which the public access government websites and look for and find information. In our national survey four fifths of respondents said they would access government in this way and 90 per cent of questions in our experiments with internet users were answered with the help of Google. Two thirds of departments and agencies told us in our survey that some variant of their organisation's name appeared in the top three search terms entered by users arriving via a search engine. However, some people arriving by search engines are unaware that they have reached a government site. In our focus groups some quite experienced users thought that the search engine itself delivers all the answers. A search for government information using a search engine is likely to bring a wide range of results from many different websites. This can be confusing for some internet users. Directgov is designed to provide the information and services that citizens are most likely to need in a more focussed manner.

7 The availability of facilities on government websites



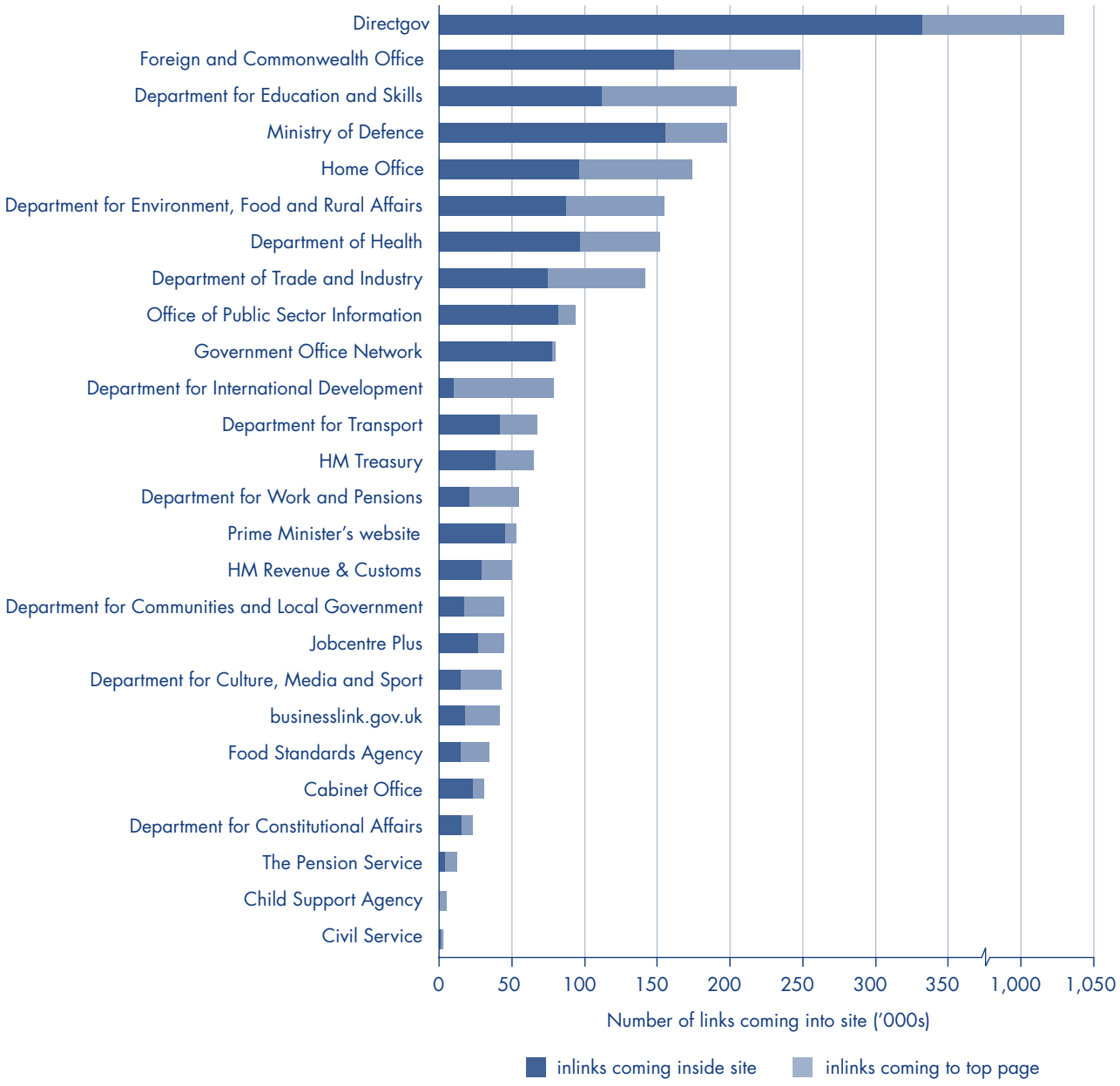
Source: Census of government organisations' websites

1.11 Achieving a high 'visibility' to search engines will lead to coming at the top, or high up, on the list of search engine results. Such visibility is in part determined by search engines counting the number of links coming into sites, as well as the extent to which the sites they come from are themselves 'authoritative' (that is, well linked to by other sites). There are 3.1 million links from external sites into all the central government department domains. (Over a million of these come to the Directgov website, mostly originating from relatively few government organisations.) For comparison there are 13.7 million inward links to the BBC website. **Figure 8** shows that departments and agencies have good visibility in relation to leading external search engines (the Foreign and Commonwealth Office, for example, has almost a quarter of a million links pointing to its site). But there is scope for greater linkage between government websites, with only three to 20 per cent of inward links coming from other government departments or agencies.

Visitors who reach government websites from other sites often arrive at the home page, and thus have to start their search for information again

1.12 When users are referred to a government website from elsewhere, they mostly go to a specific page, but at least a third will go to the home page. Figure 8 shows that this proportion is much higher on some websites: for instance, our web crawl found that two thirds of the million links coming into the Directgov website go to the home page. Some government web managers prefer users to come directly to home pages as it can help to signpost users to the most relevant and up-to-date information and manage the risk of web links and addresses becoming broken because they are out of date. However, the result is that users will then have to start searching from scratch – for instance, scanning the home page for what they need or using the internal search engine. In our focus groups participants said that this can be offputting. In their view, most government sites' home pages are very text-heavy, with many different items competing for visitors' attention, so it can make finding information harder for users.

8 How many links go to government websites



Source: Web crawling search of .gov.uk domain

NOTES

1 The discontinuity mark is used in order to be able to show the results for Directgov at over one million links while retaining clarity for the rest of the Figure.

2 In this Figure the four DWP sites have been separated out (corporate DWP, Jobcentre Plus, The Pension Service and Child Support Agency) because they are available via different domain names and, for the user, constitute four distinct websites.

Internal search engines on government sites are widely used, but attract criticism from users

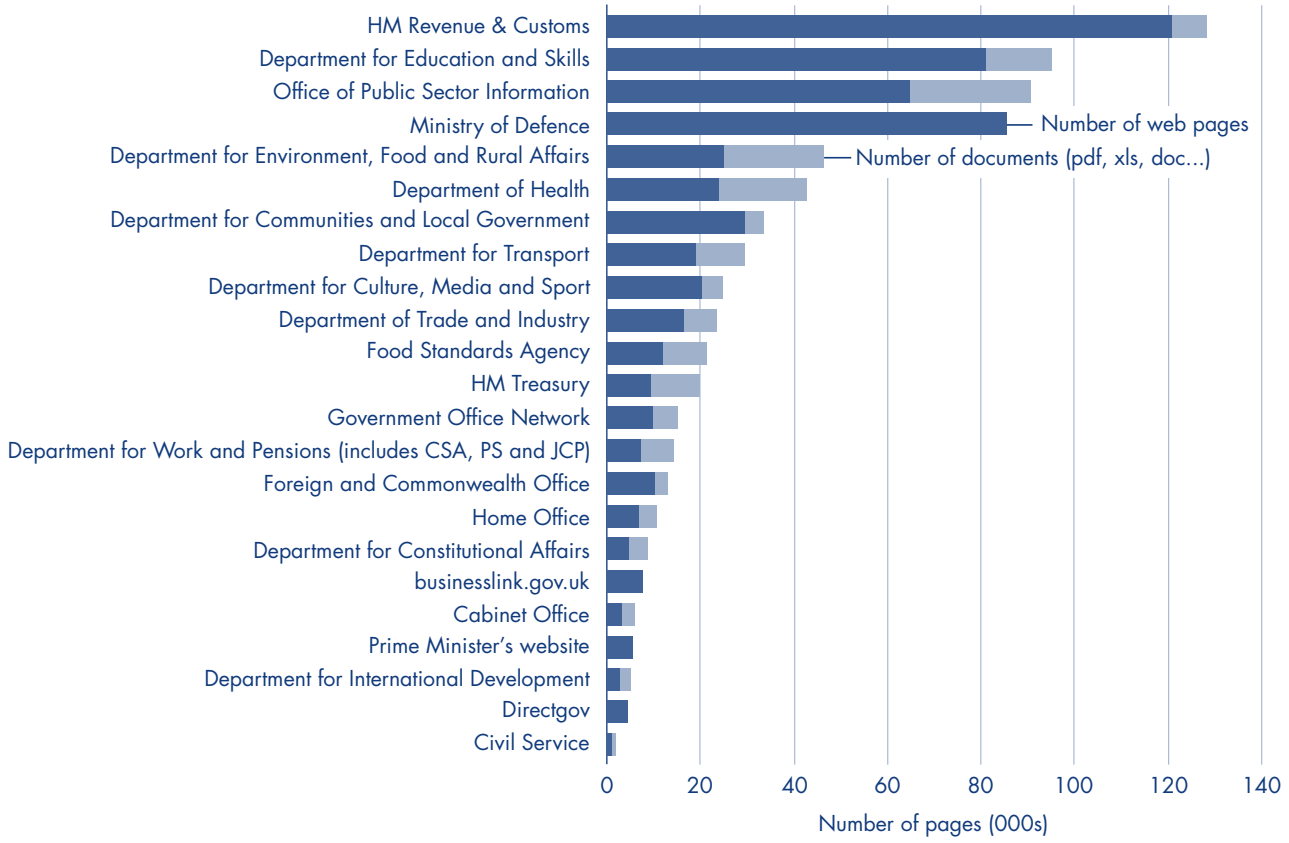
1.13 If people arrive directly to a home page they are likely to try using an internal search engine to find the information they are seeking. However, most internal search engines often fail to work satisfactorily (whether for companies or government agencies) because they crawl only a limited range of pages rather than the web as a whole. The most effective internal search engines are usually custom-built for an organisation's site, as with the internal search engine of the US government's portal site, www.usa.gov (see Appendix Two).

1.14 In our experiments with internet users, where participants started with the Directgov website, they used the internal search function for 65 per cent of the questions they subsequently answered, evidence of how vital it is for internal search engines to work well. In our focus groups, internal search engines also attracted criticisms. In interviews, Chief Information Officers (CIOs) and web managers acknowledged that internal search remains a difficult problem for departments and agencies.

Some government websites can be difficult to understand and navigate

1.15 The websites of central government organisations are mostly medium to large in size. **Figure 9** shows that the average (median) site has 17,000 pages[11], equivalent to say the site of a large department store like John Lewis. Government sites however hold a mixture of information ranging from understandably sizeable documents (often stored in PDF form) reflecting government's wider responsibility for the stewardship and custody of public records through to information on citizen facing services.

9 Size of government websites



Source: Web crawling search of .gov.uk domain

NOTE

PDFs and other document files each count as one page in the total page count.

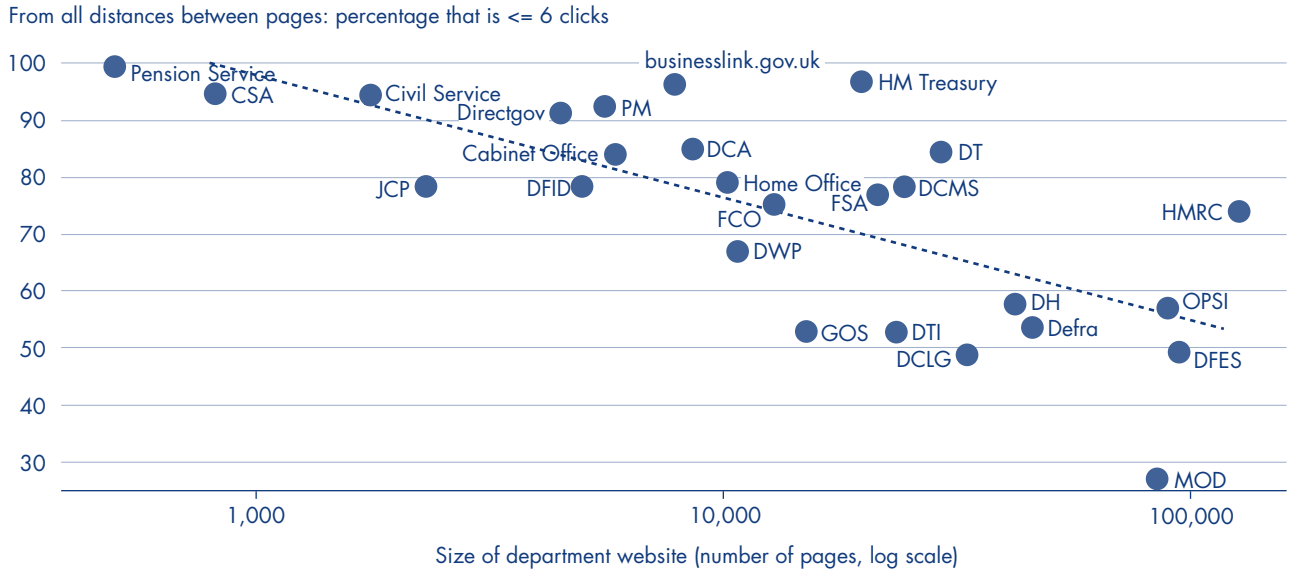
11 This is a conservative estimate because our search excluded data repositories accessible via the website. In addition we follow the conventional webcrawling analysis practice of counting each PDF document as a single page, which is rarely true for government.

One of the key aims behind the transfer of materials to the Directgov and businesslink.gov.uk websites is to reduce the risk of users being referred to cluttered materials that have been designed for other purposes. Instead the new sites aim to produce information that is better tailored to the requirements of citizens or businesses.

1.16 The larger a department's site is the more challenging it becomes to make information easy to find. There are various methods of assessing the ease of navigating around websites. One way of doing so is measuring the number of clicks required to reach information. For this study, we used as a benchmark the proportion of pages that can be reached within six clicks of any other page on a site **(see Figure 10)**. We recognise that there may be other ways to assess navigability as discussed in our Research Report. In general, as sites increase in size it becomes more difficult to maintain navigability. And in addition department and agency sites may have to cover a broader range of subjects than private sector sites, which can be a challenge for navigability. However even small/medium sites may be poorly navigable if they are badly designed and Figure 10 also shows that there are large differences between the navigability of similarly-sized sites.

1.17 Our census of government websites shows that many have yet to adopt approaches that are now commonplace amongst leading private sector sites. In the current period of website innovation in the private sector many sites allow users to generate content (such as posting video clips or photos) or playback to users what other users think (a central feature of Amazon and eBay, for instance). The facility of the 10 Downing Street site for users to sign online petitions has illustrated how popular more innovative features can be; it is also possible to access 10 Downing Street information via YouTube (www.youtube.com/downingst). The Department of Health has 'trailed' a feedback and testimonials site for NHS patients, but overall we found a very conservative view of the content and organisation of government sites. Fewer than four per cent of government sites tell users what are the most popular sections of their site or what are the most popular downloads or search terms and only one in 35 government sites recommends other relevant elements to users – for instance, telling them that people who downloaded this document on a particular issue also downloaded other relevant documents. In April 2007, the Cabinet Office commissioned a study by outside experts, entitled the Power of Information Review, on how far government websites need to adapt to these new

10 Navigability of government websites



Source: Web crawling search of .gov.uk domain

NOTES

1 The dotted line of best fit shows that there is a relationship between size of site and navigability; it is more difficult to improve the navigability of a large site. However, the wide variation from the line also shows that there are differences in navigability between similarly-sized sites.

2 The four DWP sites have been separated out (corporate DWP, Jobcentre Plus, The Pension Service and Child Support Agency) because they are available via different domain names and, for the user, constitute four distinct websites.

technologies. The Cabinet Office has responded to the Review by stating that the Government "should engage in partnership with online communities and advise civil servants on how best to participate in new media".

There is a risk that some groups of citizens may be excluded from the benefits of online services

1.18 Accessing information online (for instance, about benefits rules, health matters, or searching for a job) can be helpful for people from socially disadvantaged groups or who currently lack the necessary ICT skills needed to use the internet effectively on their own. Research suggests that 79 per cent of people receiving means-tested benefits lack practical ICT skills[12] and 51 per cent of adults earning less than £10,400 a year have never used the internet.[13] Also that 75 per cent of socially excluded people (suffering from three or more forms of deprivation) are non-users of the internet.[14] The Government is committed to making online services accessible to all citizens by 2010[15] and published, in 2005, *Connecting the UK: The Digital Inclusion Strategy* which sets out a high level framework for increasing digital inclusion. The strategy included a commitment to improve the accessibility to technology for the digitally excluded and ease of use for the disabled as well as the launch of the Digital Challenge, a competition to encourage local authorities and their partners from the public, private, academic and third sectors to identify how technology can be used to tackle social exclusion. (Sunderland was announced as the winner in March 2007.) This strategy is currently being reviewed. To support the wider digital inclusion agenda a Digital Inclusion Team was established in 2006. Funded by Communities and Local Government, the team focuses specifically on how new technology can be used to tackle social exclusion.

1.19 The Government subsidises some 6,000 UK online centres, run by libraries, community groups, colleges and local authorities to provide free or low cost internet access for people without a home PC, serving an estimated three million customers a year.[16] Some UK online centres have staff or volunteers on hand to help new or less confident users (and some also actively promote government online services). In our focus groups of internet users these facilities were well known and appreciated. However some centres are only able to provide minimal support.

1.20 Those who do not have internet access themselves will often use intermediaries (such as friends, family, care workers or advice centres) in their contact with government departments and agencies. For example, Department for Work and Pensions (DWP) has found that 45 per cent of contacts with the Disability and Carers Service and 23 per cent of contacts with the Pensions Service come through intermediaries, while Jobcentre Plus has over 12 million intermediary contacts every year. DWP are now prioritising their strategy for interacting with intermediaries but overall government departments have found it difficult to formalise online communications with intermediaries, with perceived issues around identification often acting as a barrier (the Government Gateway, for example, has the available technology and business processes to enable departments to strengthen online communications with intermediaries). Government websites are naturally cautious about providing links to external, non governmental websites, whose information they cannot easily validate. This presents a lost opportunity to signpost citizens to where they can find useful, relevant information as many non government organisations offer advice and support that will be useful to visitors of government websites. The Cabinet Office has commissioned research (The Power of Information Review) in part to inform how to develop such links.

1.21 Some users of websites, such as visually disabled people, have distinct needs depending on their personal circumstances and abilities. Government sites are expected to meet a set of accessibility standards set by the Cabinet Office.[17] However, research by Southampton University has found that the performance of departmental and agency sites in meeting these standards is patchy, with nearly a third failing to meet the required standard and most websites do not provide information in different languages that their users are likely to speak.[18] The Directgov website is compliant to the desired standard.[19]

12 DfES, Skills for life Survey, A national needs and impact survey of literacy, numeracy and ICT skills (London, TSO, 2003).
13 National Statistics Omnibus Survey, National Statistics. August 2006.
14 ONS/Digital Inclusion Team (2006).
15 EU Commission Ministerial Declaration, Transforming Public Services. Ministerial e Government Conference 2005.
16 UK online centres: *Transformational Government for the Citizen, Research Report*. UK online centres 2006.
17 Specifically, websites should meet the Web Content Accessibility Guidelines 1.0, meeting all double-A checkpoints.
18 Adam Field, Southampton University, http://news.bbc.co.uk/1/hi/technology/4853000.stm. (For more on this, see the Research Report, Figures 19 and 20.)
19 The standard is WCAG (Web Content Accessibility guidelines) at "priority 2" or "AA" standard.

PART TWO

How government online provision is currently organised and what it costs

2.1 Departments and agencies run their own websites and the sites' operation may be assigned to a web manager located in an IT division or a communications/marketing division, or policy divisions that generate most content for information sites. The Chief Information Officer (CIO) of departments or equivalent position in some agencies sets IT strategies and runs the operations of main IT systems, for which transaction websites often interface. The CIO may also manage overall IT procurement, which may include website provision under some arrangements.

Most teams managing government websites are small

2.2 Most government organisations have small website teams of between two and seven people. The lowest staff sizes are generally small agencies that have contracted out all or part of their website hosting and provision. A few departments and large agencies have up to 20 website staff, although these organisations are outliers, untypical of the broader picture. Staff are drawn chiefly from communications/marketing and IT divisions, with policy sections involved in generating content.

2.3 About half of all government organisations use specialist web-hosting companies to run their websites, as **Figure 11 overleaf** shows. Amongst ministerial departments none host their own websites and over two fifths buy web services as part of an integrated IT package with their single, main IT contractor, an arrangement which often limits the information available to them on the costs of their web services. Amongst other government organisations (especially executive agencies and non-departmental public bodies) only a quarter buy web services as part of an integrated IT contract, while a fifth of other agencies host their own sites.

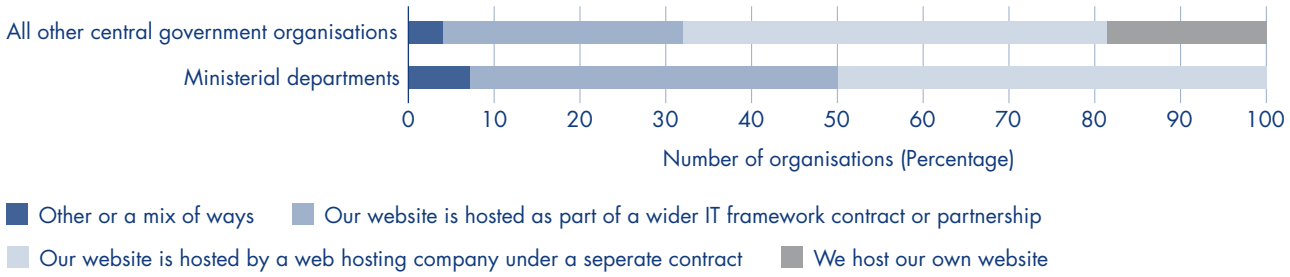
Government organisations spend £208 million on websites. Around a quarter still have poor data on website costs

2.4 We estimate the annual costs of directly running government websites as £208 million. **Figure 12 overleaf** shows the breakdown of these estimated costs across main policy areas. (Our data draws mainly on costs supplied in survey returns by departments and agencies. But many organisations could not provide costs for their websites. In these cases we have either estimated a proportion of IT costs or for smaller sites included a conservative amount on a sliding scale related to the size of their website staffs.[20]) The estimated amount constitutes only 3.2 per cent of all central government IT expenditure. But it nonetheless amounts to more than £1 billion of spending every five years. We note that in his report on Service Transformation, Sir David Varney estimated that initiatives around e-services could potentially save the government up to £400 million. This is consistent with our estimate of government spending on websites in that the majority of the potential £400 million savings identified in the report related to a reduction of spending on other service delivery channels – telephone and face to face contact centres – as contact demand shifted to improved e-services.

20 See *Research Report (Section A: Part 2, Figures 35 to 42)*.

2.5 Reflecting the diverse range of government organisations' activities, the total cost of website provision varies considerably across central government. At the bottom of the scale a small museum estimated its web costs at no more than £1,000 a year. At the top of the scale, a ministerial department spends £28.5 million per year on all its website provision. Before the recent pruning of unnecessary websites (see Part 3), some ministerial departments had anything up to 250 separate website domains, each of which involves some staff time and related payments for hosting and other services. However, the middle mass of government organisations spend between £100,000 and £1 million a year on their websites, with a higher spending average in ministerial departments than for other kinds of bodies.

11 How central government organisations operate their websites



Source: Survey of departments and agencies

12 Total estimated costs of all website provision and support across UK central government (2006-07)

Policy area (not department)	Number of bodies included		Total estimated costs for the policy area (£000s)	Percentage of total costs taken from survey returns
Education and Skills Family	16	(7)	38,020	91
Trade and Industry Family	41	(24)	33,610	90
Culture, Media and Sport Family	46	(4)	25,230	68
Work and Pensions Family	10	(4)	24,580	80
Home Office Family	16	(12)	17,720	98
Environment, Food and Rural Affairs Family	27	(8)	16,830	83
HM Treasury (includes HMRC) Family	10	(5)	14,520	37
Health Family	34	(14)	12,980	51
Constitutional Affairs Family	8	(6)	6,870	84
Transport Family	13	(4)	5,280	36
Other	20	(6)	4,440	76
Ministry of Defence Family	32	(9)	2,910	56
Communities and Local Government Family	14	(5)	2,790	87
Foreign and Commonwealth Family	9	(1)	2,590	75
International Development Family	1	(1)	120	100
Total	**297**	**(110)**	**208,490**	**74**

Source: Survey of departments and agencies

NOTE

This Figure shows estimated costs for all website provision and support across UK central government. Each policy area therefore includes costs from a number of organisations, the totals of which are shown in the second column, not just from the relevant main Department. We surveyed a proportion of organisations within central government. These included all departments, major executive agencies and NDPBs and some smaller public-facing organisations. In this Figure, we mainly draw on costs supplied in the survey returns (N = 128). The number in brackets in the second column shows the number of organisations providing costs in their survey return (N = 110).

Many organisations could not provide any costs for their websites. In these cases we have devised a simple three-level notional cost based on an evaluation of the size and the running costs of each organisation. Where general IT figures were available, but not costs relating only to websites, we used a simple multiplier table to extrapolate an estimate for web provision and support costs. To calculate multipliers we calculated ratios for web costs as a proportion of total IT costs for two different categories of organisation as follows: Type of organisation (i.e. Department, agency); and Type of organisation based on the main operational functions. In the final column, we present a percentage of total costs for each policy area which are directly reported in the survey. This gives an indication of how far these numbers might change with full survey returns.

2.6 Most (but not all) departments and agencies in our survey also gave details of how their spending on web services and IT more generally have changed in the period since 2002. Most organisations have maintained or increased their expenditure on IT generally and on websites in this period. However, as **Figure 13** shows, a larger number of organisations reported substantial increases in web spending than reported increased IT expenditure generally. (Not too much should be read into this, since web spending will normally start from a much lower base number than IT spending in general, and hence reporting larger percentage increases is automatically easier.) It is noticeable though that a substantial minority of departments and agencies in Figure 13 report decreasing their web spending and their general IT expenditure by up to half.

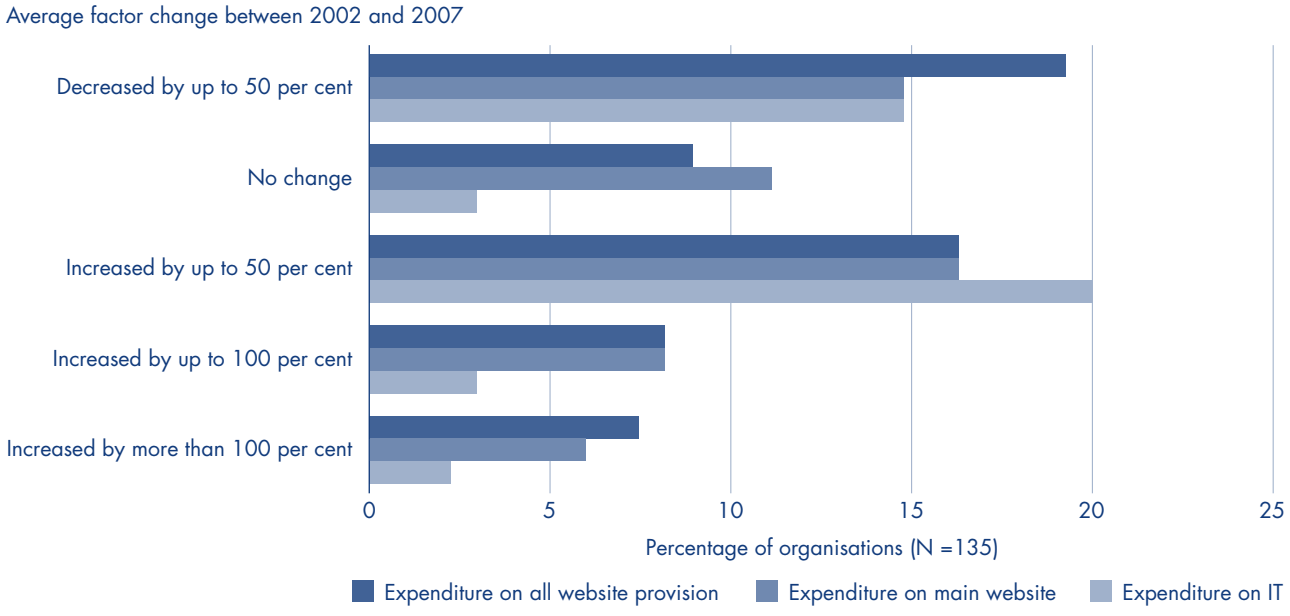
2.7 In their last report on e-government in 2003, the Public Accounts Committee criticized the poor information available about the costs and usage of government websites. In our survey nearly a quarter of departments and over a quarter of government organisations as a whole could not supply data on their website costs. And even where data were returned in our survey, over two fifths of all the organisations responding said that the numbers given were estimates. However, three tenths of departments and agencies have mostly firm data for their website costings, as shown in the final column of **Figure 14 overleaf**. In terms of types of organisation, about half of ministerial departments have good website cost data, while a fifth have none. Amongst executive agencies and other public bodies, only around a fifth have full data and almost a third have none.

Government organisations have improved data on their websites' usage but progress has been slow

2.8 The Committee of Public Accounts also recommended that departments should improve their knowledge of their website usage levels and how they are changing over time. Figure 14 shows that five out of six government organisations surveyed now have data on unique visitors. But one in six still have no data, and where data is being collected, many organisations are not analysing them to inform the design of sites.

2.9 To obtain good value for money government organisations should be able to closely relate cost and usage information. Figure 14 shows that less than one in five have both good usage indicators and mostly firm costs data. A further quarter (one fifth of departments) have good data on one aspect but only estimated data on the other. Over one quarter of departments have partial data on one indicator and no data on the other. A small minority of organisations returned neither kind of information.

13 Changes in web and IT spending, 2002 to 2007



Source: Survey of departments and agencies

2.10 Websites are one of a range of channels that departments use to deliver services and provide information to citizens. The different channels used to deliver a service need to be well integrated as citizens will use different channels according to their personal circumstance and the task they are undertaking. Often, service users will use different channels for the same task, particularly for more complicated transactions. So, for example, to find a school a parent may use Directgov to find information on the performance and location of local schools, visit some schools and meet the teachers, make a choice and then fill out an application form online at their local authority website.

2.11 Departments and agencies expect their website usage to grow by 14 per cent over the next four years, and expect modest reductions of about half this amount in paper forms and correspondence and use of the telephone channel, but with only tiny increases in emails anticipated[21]. When investing in websites, or other delivery channels, departments need to know how citizens use public services and how this is likely to change in the future. Although over half of government organisations put emphasis on customer segmentation, around two fifths do not and only 13 per cent of departments and a third of government bodies more generally have a formal channel management strategy **(see Figure 15)**. The Varney Report, which was welcomed by the former Chancellor of the Exchequer, recommends that the Government should apply the principles of good channel management.

Information provision is the business area for which websites are generally most important

2.12 We asked departments and agencies to identify core business areas in their organisation and tell us to what extent the website is used in each area. **Figure 16** shows just under half cited providing information, with further related uses in terms of marketing and consultations. The second big use was in terms of citizens and businesses filing applications, forms or registrations. Responses to a second question asking departments and agencies to rank different purposes in terms of the value of their website to government operations are shown in **Figure 17**, and confirm the general importance of meeting information needs, providing documentation and making services visible to customers. Accomplishing transactions via their website was a top priority for only one in eight government organisations, but of medium importance in up to half.

14 Quality of information on usage of main corporate websites and the cost of website provision and support returned by departments and agencies

	Data on number of unique visitors to the website							
Data on costs of website provision	No data		Partial data		Full data		Total (%)	
	All	Depts	All	Depts	All	Depts	All	Depts
No data	7	**3**	11	**11**	9	**11**	27	**25**
Partial data	6	**16**	20	**17**	18	**13**	44	**46**
Full data	3	**3**	7	**8**	19	**19**	29	**30**
Total (%)	16	**22**	38	**36**	46	**43**	100	**101**

Source: Survey of departments and agencies

NOTES

1 All figures are percentages and have been rounded to the nearest full per cent.

2 Figures in blue (All = all dataset) for the whole population of organisations responding to the survey (N = 129). Figures in blue bold (Departments only) show Ministerial departments and non-ministerial departments (N = 37).

3 Technical note: We asked organisations to provide annual cost figures for the most recent year and previous five years. We assessed each response using the following criteria. Full data – organisation could provide at least four out of five years including the most recent and could provide full data for the break-down for the current year. For organisations less than five years old, we required full data for each year of existence. Partial data – organisation could provide one to three years of data and at least a total for the current year. None or negligible – no data provided or figures that seemed grossly unrealistic. A judgement was made on borderline cases between Full and Partial in favour of Full (i.e. benefit of the doubt).

21 See *Research Report (Section A: Part 2, Figure 50)*.

2.13 With the radically increasing volumes of retail and financial transactions now occurring on the internet, commercial website companies have invested heavily in techniques designed to maximize traffic (especially from search engines) and a large number of specialist firms have grown up in this area. Relatively little of this expertise has apparently found its way into government. While six out of every 10 government organisations saw search engine optimization as a high priority, two in five did not. Most (80 per cent) departments and agencies assign a high priority to getting their website address more prominently featured in corporate literature. Six out of ten government bodies also assigned a low priority to advertising their website in relevant media, and their strategies on linking to other sites showed rather divided views.

15 The web management strategies being pursued by government organisations

	Priority put on segmenting customers							
Whether there is a formal channel management strategy	Very high or high		Very low or low		Neither		Total (%)	
	All	Depts	All	Depts	All	Depts	All	Depts
No strategy	8	**13**	7	**17**	19	**13**	34	**43**
Yes, but there is not currently a formal document	24	**29**	0	**0**	14	**17**	38	**46**
Yes, there is a formal document	22	**13**	1	**0**	5	**0**	28	**13**
Total (%)	54	**55**	8	**17**	38	**30**	100	**102**

Source: Survey of departments and agencies

NOTES

1 All figures are percentages of all organisations completing this question in the survey and have been rounded to the nearest full per cent.

2 Figures in blue (All = all dataset) for the whole population of organisations responding to the survey. Figures in blue bold (Departments only) indicate equivalent percentage for Ministerial and non-ministerial departments only where N = 37.

16 Priorities for government websites

In which business areas do government organisations get most use from their website? ***(Percentage of business areas nominated)***	
Information provision	49
Application, registering, filing	18
Marketing and campaigns	9
Searching data or catalogues	8
E-tendering or procurement	4
Recruitment or training	3
Forecast or evaluation	3
Coordinating action across different stakeholders	3
Surveys or consultations	3
Purchasing	2
Total (of 158 business areas nominated)	**102%**

Source: Survey of departments and agencies

NOTE

60 organisations nominated two business areas and 38 nominated one. Percentages have been rounded.

17 How different factors ranked in terms of value of their website to government organisations

	Ranked in the...		
	Top two	Middle three	Bottom two
Proactively meeting the information needs of customers or citizens	79	16	6
Making available relevant documentation	57	30	13
Making our organisation's services more visible to customers or citizens	49	44	7
Extending the range and quality of our services	23	51	23
Accomplishing transactions with customers or citizens	21	39	38
Cutting our costs in dealing with customers or citizens	14	46	38
Another function	4	2	10

Source: Survey of departments and agencies

PART THREE

Future developments and strategy

3.1 Responsibility for the development of e-government rests with the Delivery and Transformation Group (formerly the e-Government Unit) in the Cabinet Office. It works closely with the Chief Information Officer's Council which has a brief: 'To drive forward the Government's strategy for IT-enabled change in the provision of public services; to review delivery of departments' programmes for making efficiency savings through e-enablement; and to make recommendations as necessary to the Committee on Public Services and Public Expenditure'. The government programme is overseen by the PSX(E) Cabinet sub-committee, chaired by the Chief Secretary to the Treasury.

Departments and agencies would like more practical guidance from the Cabinet Office

3.2 Departments and agencies would like more contact and support from the Cabinet Office in developing their online presence. **Figure 18** shows that the e-Government Unit was seen as effective by departments and agencies in setting government-wide standards for websites but the Unit was seen as having low overall impact. The Cabinet Office now work chiefly with departmental Chief Information Officers (CIOs) on the CIO Council. CIOs are responsible for cascading guidance to the IT Directors of agencies and NDPBs within their departmental group.

18 How government organisations rated the past work of the e-Government Unit (EGU) and the extent to which they viewed these aspects as priorities

Figures are net percentages	How much impact has EGU had?		How much of a priority should this be for EGU?	
	All	Departments Only	All	Departments Only
Setting government-wide standards for websites	47	**46**	39	**41**
Encouraging organisations to grow take-up of online services	–11	**–8**	6	**0**
Helping organisations to improve the quality of their websites	–19	**–5**	49	**43**
Providing infrastructure for secure online transactions	–38	**–18**	3	**–2**

Source: Survey of departments and agencies

NOTE

Figures in blue (All) are for the whole population of organisations responding to the survey (N = 128). Figures in blue bold (Departments only) show Ministerial departments and non-ministerial departments (N = 37). They are calculated by (Percentage of organisations where this factor scores top) minus (Percentage of organisations where this factor scores bottom).
Questions asked here are taken from recommendations made by the PAC Report following the NAO study Government on the Web II from 2002.

The government is seeking to radically reduce the number of central government websites

3.3 Current government policy seeks to reduce the number of government websites by: (i) concentrating behind main department domain names and eliminating other less-used domain names; and (ii) moving main service delivery and related information provision functions over time to two government supersites, Directgov orientated to citizens and businesslink.gov.uk orientated to firms and enterprises.

3.4 Focusing domain names on main department sites is a strategy that has worked well in Canada, where many agencies are hosted within their main department's site and where some sites (like the integrated business site) have well-marketed and memorable names. During the autumn of 2006, the Cabinet Office asked departments and agencies to review their 'web-estate' of sites and to identify candidates for closure. In January 2007 it was announced that 450 unneeded government-run websites (out of 951 sites identified) were to be closed. Most of these sites are out of date campaign or information sites. As **Figure 19** shows, nearly half of the sites to be eliminated come from just two departments (Education and Health). Subsequently the websites scheduled for closure has increased to 551.

3.5 As explained in paragraph 17 in the Summary the Directgov and businesslink.gov.uk teams are working with departments to move the majority of the content of their sites over to the planned supersites. Departments will retain their own 'corporate sites' containing chiefly departmental information for professional audiences and policy documents and reports. The process of transition may extend to 2011.

To improve online service provision the government is developing two existing websites, Directgov and businesslink.gov.uk, into supersites

3.6 The final element of the current strategy is the creation of two government supersites. A first step has been the transfer by the Driver and Vehicle Licensing Agency of its web operations to Directgov. As a prelude to this move some operational units previously run by the Cabinet Office have been moved to the Central Office of Information. The Government Gateway, a facility for users to authenticate their identity to government departments and closely related to the planned supersites, has been entrusted to the Electronic Delivery Team (EDT) in the Cabinet Office. The Varney report recommends that

19 How the unneeded websites to be eliminated are distributed across department groups and types of sites

Department	Government sites (.gov.uk)	Other sites (.com, .co.uk, .org etc)	Total sites to be cut
Education and Skills	48	89	137
Health	89[1]	21	110
Environment, Food and Rural Affairs	23	37	60
Communities and Local Government	28	17	45
Cabinet Office	37	0	37
Home Office	15	22	37
Transport	18	18	36
International Development	0	34	34
Defence	15	0	15
Constitutional Affairs	10	4	14
Treasury	11	0	11
HM Revenue & Customs	0	8	8
Work and Pensions	2	2	4
Trade and Industry	3	0	3
Total	299	252	551

Source: Data at http://www.cio.gov.uk/documents/annual_report2006/website_list.pdf

NOTES

1 Includes 35 sites from the .nhs.uk domain.

2 Data from January 2007. Some departments have since added more sites to be eliminated to the list, but we have used the January 2007 data as they are the last systematic reports.

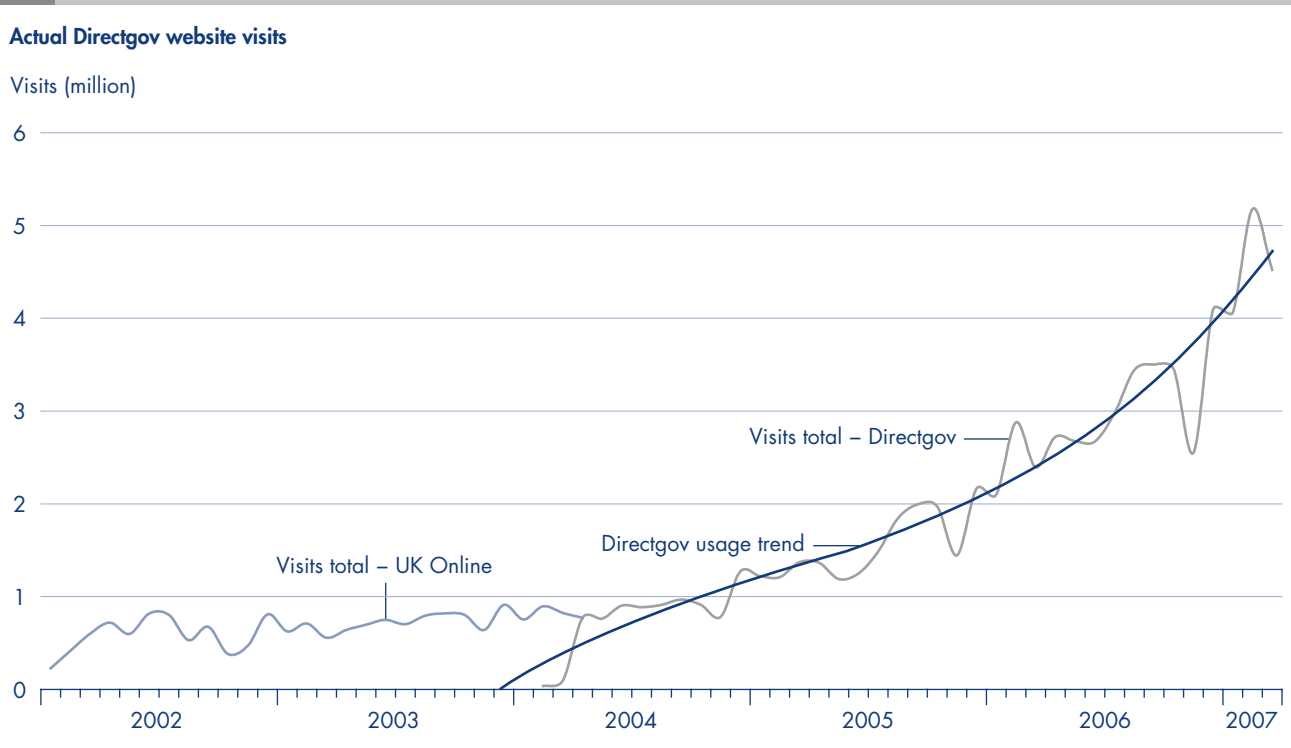
Directgov responsibility should be based with Department for Work and Pensions and that businesslink.gov.uk (up to now run by the Department of Trade and Industry) should move to HM Revenue & Customs.

3.7 This strategy involves progressively moving most of the government's citizen-facing and business-facing web presence to two main sites, whose successful operation will become critical for UK government. **Figure 20** shows that Directgov has shown impressive growth in unique visitor numbers in the last three years, especially since the DVLA operations shifted onto the site during 2006, with visits now reaching five million per month. This is an encouraging trend of development, which marks a sharp break with lagging usage of the previous government portal site, UK Online. There are good prospects for usage to grow further as more transactional services are added to Directgov and businesslink.gov.uk in future. Businesslink.gov.uk is a somewhat smaller site, but is achieving around 700,000 visits a month compared to fewer than 100,000 for its predecessor site, businesslink.org, which closed in 2004.

3.8 The new supersites are planned to conform to high accessibility standards and to be run in a much more market-orientated manner than many government websites. Directgov already meets good accessibility standards. It conducts regular market research on the public's perception of their brand and recognition of their website by asking prompted questions, in which the brand or website are named (or sometimes screen shots of the site are shown) and respondents are asked if they have heard of it or visited it. In 2006-07 the numbers responding positively that they had heard of it have fluctuated quite a lot within a range from one quarter to a third of respondents. In our independent survey, carried out in February 2007, 19 per cent of internet users said they had visited the site. However, in the same survey when we asked about the site without prompting respondents, only two per cent of internet users were able to name it. Directgov themselves define a 'supersite' as one that is spontaneously visible to, and nominated by, the public (see Glossary).

3.9 In the new intended arrangements, it will be of the utmost importance for the whole of government that the technical operations and continuity of those operations achieved by Directgov and businesslink.gov.uk meets the very highest standards. Overall service availability on the Directgov site in late 2006 and early 2007 was 98 per cent, and it was previously 100 per cent. Some isolated instances of service non-availability occurred in a transition to a new web platform, but have now been resolved. Directgov has strong leadership from experienced IT professionals with private sector experience and its IT infrastructure is intended to provide departments with a

20 The growth of website visits to Directgov since 2004 (compared with the earlier UK Online website)



Source: Directgov data

highly resilient, secure and scalable e-channel infrastructure as part of its core service. Under the Varney proposals the Department for Work and Pensions is taking over department sponsorship of Directgov and has conducted a due diligence review. It identifies the potential benefits for customers and departments and notes that the current IT uses industry-standard products and is robust and scalable. It also points to some risks that will need to be managed, including improvement to the Directgov funding model, providing more detailed plans to departments and agencies about how a phased move of website materials and marketing will be accomplished in the period up to 2011, and adapting the IT infrastructure from the current mainly static content to handle more dynamic e-services.

3.10 Overall service availability on businesslink.gov.uk was 99.98 per cent in 2005, 99.99 per cent in 2006, and 99.99 per cent in early 2007. Businesslink.gov.uk is outsourced to Serco, providing a partnership with BT Global Services to deliver the platform, which already includes a customer registration and profiling system that operates with Government Gateway. Under the Varney proposals HM Revenue & Customs has already taken over department sponsorship of businesslink.gov.uk and has conducted a due diligence review. It identifies the potential benefits for customers and departments and notes that risks similar to Directgov's will need to be managed. A significant difference between the current Directgov and businesslink.gov.uk models is that the latter syndicates its content and services through local Business Link operators and business support organisations in Northern Ireland and Scotland.

3.11 There is no parallel to the UK's planned supersite strategy overseas and interviewees from our comparator countries viewed it as a very radical step. The American government runs a well used finder site which is highly effective at searching and prioritizing information across federal government (and indeed state governments also), but there is no attempt to centralise content. In Canada the Government On-line Initiative running from October 1999 to March 2006, developed at a cost of around Ca$800 million, delivered better and more responsive services as 130 of the most commonly used services are now available online.

3.12 **Figure 21** shows that departments and agencies see Directgov as effective in helping people to find what they are looking for in government and for joining up services. But its search facilities (which search only the Directgov site itself) attracted criticism. And Directgov was not seen as helping departments and agencies to grow their web traffic. A similar level of recognition was achieved by businesslink.gov.uk, which was less well known by, or seen as relevant to, many organisations. Directgov believe that as their site develops, departments will experience an uplift in traffic through cross-selling from service to service.

3.13 Links to the Directgov website are found in fewer than a third of other government sites although Directgov is relevant to the work of most government organisations. We estimate that businesslink.gov.uk is relevant for at least a third of government sites, but in fact there are links to it in only one in 12 sites.

21 How government organisations rated the level of effectiveness of the Directgov website for different aspects

Percentages	Top scoring %		Bottom scoring %		Balance (net positive)	
	All	Departments Only	All	Departments Only	All	Departments Only
Helping people to find what they are looking for in government	49	**57**	20	**23**	29	**34**
Joining up citizen-related services across government	49	**40**	28	**37**	21	**3**
Acting as a first port of call for government-related services	36	**47**	26	**37**	10	**10**
Providing a search engine for government information	29	**20**	43	**60**	–14	**–40**
Helping government organisations to grow take-up of online services	16	**17**	51	**60**	–35	**–43**

Source: Survey of departments and agencies

NOTE

Figures in blue (All) are percentages of total organisations responding to this question (N=87). Figures in blue bold (Departments only) show Ministerial departments and non-ministerial departments (N=37).

The supersites are appreciated by the public, but they need to develop further their brand recognition

3.14 The public appreciate the idea of a site where all government-related information and services might be accessed.[22] In our focus groups, participants who found information on the Directgov site liked the way that it was written and presented, commenting that it was 'laid out clearly' in comparison to some of the departmental sites. For instance, a feature explaining tax codes was popular because it was easy to understand, whereas participants looking for the same information on the HM Revenue & Customs (HMRC) site became lost in complex documentation. One government interviewee also commented to us that businesslink.gov.uk 'provides businesses with tax info in five minutes, so that they don't have to wade through thousands of pages on the HMRC site'. HMRC accepts that information is not as well laid out on their site as it could be. Planned improvements will now be taken forward via the cross-government sites, following the Varney agenda, building on the good material HMRC has already contributed to Directgov.

3.15 We noted in paragraph 3.8 that Directgov takes its brand development seriously and that the picture gained of public recognition varies somewhat with the way that questions are posed. In our focus group only around one in ten participants knew about the Directgov site beforehand although some came across it during our practical sessions. Focus group participants also felt that Directgov site was not well marketed and that the name was difficult to remember:

"I don't think they do advertise it do they? How are you supposed to know about it?"

"I've never actually heard of it".

"I went to Directgov and didn't realise I was in a government site. And to search the next question I went out of it and back to Google, which just shows you that brand means nothing to me".

Directgov have not yet run a full public marketing campaign.

3.16 We ran experiments where subjects were allowed to use search engines or the Directgov website to find government information. (The results of these experiments are shown in **Figure 22**). The Figure shows that for most questions, there is no significant difference in the number of pages visited in answering questions, regardless of whether participants used a search engine or whether they used the Directgov website.[23] For three questions, participants using a search engine found information by clicking through significantly less pages than those using the Directgov website. In contrast to search propositions, Directgov aims to join up information and advice across departments and present this as a coherent citizen focused topic. Overall, the results show for many questions Directgov is a good alternative to search engines, and could improve still further considering the intensive programme of content development for the site currently underway.

The supersite strategy is ambitious and will need to be carefully managed

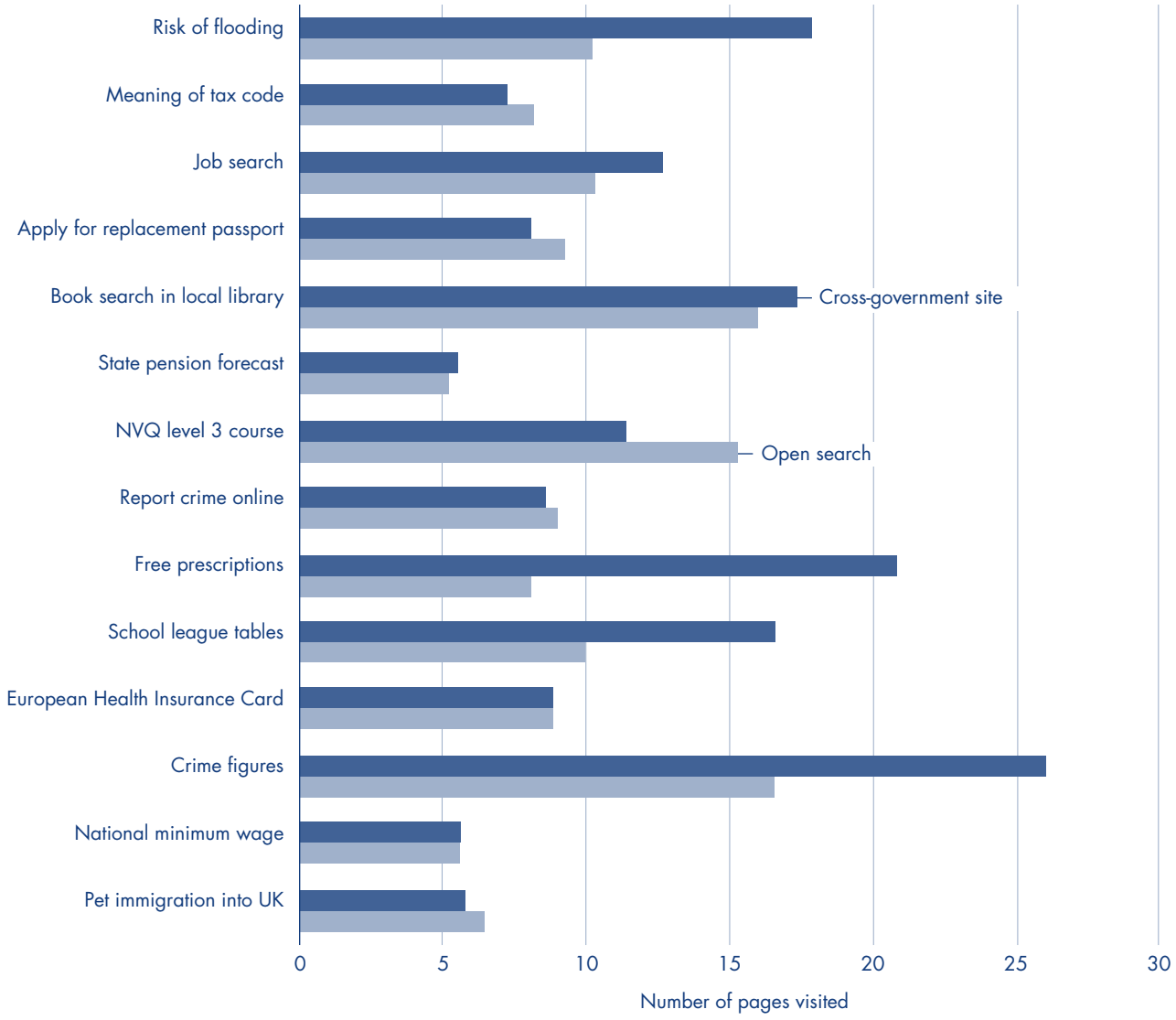
3.17 Directgov and businesslink.gov.uk are set to grow in size significantly over the coming years. The size of their teams are small compared to those managing commercial sites and other large sites such as the BBC. This has raised concerns amongst some departments about moving their business critical processes over to the supersites. Directgov has developed a Comprehensive Spending Review plan that allows for significant scaling of the business to cope with the anticipated growth in content and usage of Directgov. Although funding in financial year 2007-08 is not sufficient to enable such growth to start, from April 2008, funding for both sites will be put on to a secure basis, with central funding provided to cover its operational and development plans. Both look set to grow in size significantly over the coming years. At present the Directgov site operates with around 5,000 pages and it remains to be established in detail how many of around 750,000 pages currently on government websites will move across to the supersite. A rationalization and re-purposing exercise will seek to ensure that both sites grow no larger than strictly needed.

22 Directgov and independent research undertaken by Tickbox in February 2006.
23 See *Research Report (Section D: Figures 5 to 8)*.

3.18 The content on the Directgov website is to be managed by cross-departmental teams, placed within different departments across government. These teams are structured according to themes on the site such as "Education and Learning" and "Money, Tax and Benefits". While this presents an innovative and potentially effective model for future cross-government working, the challenge will be to manage the many and competing demands and priorities of different departments, requiring an improved funding and governance model.[24]

3.19 The content on the businesslink.gov.uk website is currently managed by a central team, working in partnership with a professional publishing company. Businesslink.gov.uk takes a thematic approach to organising information similar to Directgov's. The challenge for businesslink.gov.uk will be to retain the editorial coherence given by this centrally managed approach alongside a massive expansion of the content and the expectations that departments place on the service.

22 The average number of pages visited to answer questions in the user experiments



Source: Web-based user experiments

NOTE
The full questionnaire for the user experiments can be found in the Research Report.

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

APPENDIX ONE

Study Scope and Methodology

1 We used a range of methods to examine in detail the progress made in the provision of government websites and services since the previous *Government on the Web II* report was published in 2002. These included four methods focusing on government provision, and six methods focusing on how the public use government websites and how they perceive online services. Further details on all of the study methodologies are included in Research Report available online on the NAO website.

Methods looking at government provision

2 **Web Census.** Between September and December 2006 a census of all central government websites was conducted to establish firm data on the online services and facilities made available by government organisations to citizens over the internet. The sites covered included those for all ministerial and non-ministerial departments, executive agencies and non-departmental public bodies, covering 300 organisations in all. The census replicated a core of facilities searched for in the 2001 census, plus many new variables to reflect more recent advances in technology and internet practices. Sites were coded by post-graduate students based at the London School of Economics, who were trained in implementing the survey, and used consistent equipment in an LSE computer classroom and Internet Explorer version 6.0 to access the sites. Pilot forms were replicated and results from coders were cross-checked to ensure consistency. We would like to thank Claire-Marie Healy, Natalia Leshchenko, Paola Lopez-Rosero, Dorlin Muresan, Dorthe Weimann and Maha Younes for their research assistance on the web census.

3 **Survey of central government organisations.** Between October and December 2006, we asked 153 of the largest central government organisations to complete an online survey for this study. We received 131 survey returns, a response rate of 85 per cent. The survey asked relevant web managers or IT managers within organisations about their websites' usage levels, the costs and staffing involved in these websites and how they saw provision of central services fostering website use within government. In reporting this data, in some Figures we have separated out departments from agencies and non-departmental public bodies, so that figures from these smaller organisations do not obscure the findings for the large core departments with which citizens are more likely to interact.

4 **Web Crawling** is a technique for objectively mapping a set of websites. A computer programme on a dedicated server worked its way through 26 websites, covering all central government departments and selected agencies, counting the number of links, pages and documents that it could find. We systematically crawled in total about 750,000 web pages and their related link structure (using the Open Source crawler Nutch). The data was analysed for key properties likely to enhance the findability and usability of websites, such as the number of links pointing into the site and the average number of clicks required to navigate between pages on the site (using Pajek). We also assessed the extent to which the sites were 'outward looking' by measuring the external links pointing to other sources. In addition, we used the application Yahoo Site Explorer API to analyse the origins (in terms of country and sector) of links pointing into these government sites. Web-crawling creates a composite snapshot of a website, each part taken at one point in time. If an organisation redesigned or updated their site and the crawl was repeated, the results would change.

5 **Interviews with UK government officials and private sector IT experts.** We conducted a range of 17 interviews and brief visits with senior officials across the civil service in major departments and agencies, mainly speaking to web or IT managers and with Chief Information Officers. We also met with senior staff in the Cabinet Office and interviewed senior staff in the e-Government Unit (now called the Delivery and Transformation Group), the E-Delivery Team and managers responsible for Directgov. Finally we visited and interviewed personnel from major IT firms and corporations with experience of running large websites and some voluntary sector organisations, including Friends Reunited and Patient Opinion.

6 Comparator Studies. We looked at three comparator countries – the United States, Canada and Sweden - with different approaches to government web provision from the UK. We surveyed website development in the three countries, accessed policy documents, visited the USA and Sweden and conducted a programme of phone interviews with Canadian officials and some US and Swedish officials not seen on our visits. Appendix Two gives more details of these governments' policies. We also undertook a series of interviews with private sector firms and voluntary sector organisations in the UK, looking at areas where government websites might have lessons to learn. We thank all those named in the List of Study Contacts below for their generous help and co-operation. We would also like to thank Mads Mathiesen and Jonna Meyer-Spasche for their assistance with some comparator countries.

Methods looking at public use of government websites

7 Focus Groups. In January 2007 we undertook four focus groups with internet users, two in Watford and two in Birmingham, with one group for people aged under 45 and one group for those aged over 45 in both locations. Each group included between 9 and 11 people and all participants were paid for attending. The sessions lasted for 90 minutes. For the first 30 minutes of each session we asked participants to use PCs or laptops with internet access to look online for 15 specific items of government-related information and complete brief details of what they found. We gave them no prompts as to how to go about this but asked them to record where they had found the information and how useful they found it. The discussion part of each session first picked up on their experiences in completing tasks and then worked through a set of broader issues about how participants use government websites, what they wanted from them, how they compared to other websites they used and how they thought government websites could be updated or improved. We are grateful to the 39 people who attended the focus groups in Birmingham and Watford.

8 National Survey. In February 2007 we designed a set of questions, formulated from the experience of the focus groups. The questions were included in a national omnibus survey undertaken by ICM Research, with 1,006 adult respondents across the UK interviewed by phone.

9 User Experiments. We conducted two internet use experiments, one in London (in December 2006) at the University College, London ELSE lab and one in Oxford (January 2007) in the Oxford Internet Institute experimental computer lab (OXlab). In all, 70 subjects took part in the experiments of which around half were general internet users from a range of occupational backgrounds, ethnic groups and age and half were students. Only results from the sample of general internet users are reported here (for full results see the Research Report). In each experiment, subjects were provided with a questionnaire asking them to find government-related information, and small payments were given as incentives for participants to answer as many questions correctly as possible. We used two experimental 'treatments' to explore differences in subjects' behaviour when using search engines and when using the Directgov website. First, in an open access treatment, subjects were allowed to use search engines or any other means to find the information, to replicate the conditions under which individuals would normally use the internet. Second, subjects were provided with the direct.gov.uk website and could use internal search and navigate links to other sites but were not allowed to use external search engines. We recorded the answers of our participants to the questions and logged all the web addresses they visited during each search made. We thank the 70 people who took part in the experiments.

10 Web based Public Survey. We designed a short survey that was hosted on the NAO website (www.nao.org.uk) so that anyone interested in the area of e-government could participate in the study. We advertised the survey on the NAO home page, and on those of the LSE and the Oxford Internet Institute. We also had post-graduate students email the link to the survey to a large variety of individuals and organisations who we thought might be interested in contributing to the study. The survey was live from November 2006 to February 2007. During that period, we received 205 completed survey returns. As the returns to this survey were self selecting, the results have been used in the report only to provide illustration or extra illumination of particular points or findings, and not as a primary source of evidence.

11 Research on digital inclusion and exclusion. We reviewed the literature on digital inclusion/ exclusion, interviewed senior staff from UK online centres and met with third sector organisations whose clients are at risk of digital exclusion. We visited three UK online centres in different locations and met with their users.

List of Study Contacts

12 We are also grateful to two internal NAO referees and to our Expert Panel members who gave comments and suggestions to the study team at two stages in the study:

- Professor Peter John, University of Manchester
- Professor Angela Sasse, University College, London
- Professor Roger Burrow, York University

13 We would like to thank all the people who gave us interviews from Sweden, Canada and the USA, and our interviewees from outside government in the UK, who are listed overleaf.

Sweden interviewees

Name	Position	Organisation
Bengt Andersson	Audit Director	Swedish National Audit Office
Eric Gandy	Head of Department	Swedish Agency for Public Management
Gustaf Johnssén	Special Adviser	Ministry of Finance, Sweden
Pär Karlsson		Swedish Bankers' Association
Anna Kelly		Swedish Administrative Agency (VERVA)
Kay Kojer	e-Delivery	Swedish Tax Agency
Karin Lindstroem		Computer Sweden
Agneta Nord	Business Developer	Swedish Tax Agency
Olle Österberg		Swedish Administrative Agency (VERVA)
Madeleine Siösteen-Thiel		Swedish Governmental Agency for Innovation Systems
Björn Undall	Audit Director for Performance audit/IT	Swedish National Audit Office
Christina von Greyerz		Swedish Administrative Agency (VERVA)

United States interviewees

Name	Position	Organisation
Richard Burk	Director, Federal Enterprise Architecture Program	Office of Management and Budget
Karen Evans	Director, Office of e-Government and IT	Office of Management and Budget
Gwynne Kostin	Director, Web Communications	Department of Homeland Security
Christine Liu	Chief Information Officer	Small Business Administration
Mary Mitchell	Associate Administrator, Technology Strategies	General Services Administration
Glenn Schlarman	Chief, IT and Policy Branch	Office of Management and Budget
John G Sindelar	Acting Associate Administrator	General Services Administration

Canada interviewees

Name	Position	Organisation
George Arsenijevic	Deputy Assistant Commissioner, Benefit Services Branch	Canada Revenue Agency
Nancy Desormeau	Chief Operating Officer, Information Technology Services Branch	Public Works and Government Services Canada
Marcie Girouard	Executive Director	Industry Canada
Michele Goshulak	Director General, Web Channel Office, Business Integration Branch	Service Canada
Robert L Hawkins	Senior Director, Web Information Services, Services to Business Branch	Industry Canada
Nabil Kraya	CIO, Information Management/Information Technologies Directorate	Infrastructure Canada
Barbara Slater	Assistant Commissioner, Benefit Services Branch	Canada Revenue Agency

Interviewees in the UK private and voluntary sectors and other areas

Name	Position	Organisation
Stephen Beesley	Software Development Manager	Disability Rights Commission
David Butcher	Director of Transformation	British Telecom
Jon Clarke	Head	Friends Reunited
Ian Clifford	Business Development Manager	UK online centres
Graham Colclough	Vice President, Global e-Government	Capgemini
Jason DaPonte	New Media and Technology	BBC
Stephen Darvill	Government Relations Director	LogicaCMG
Melissa Echalier	Public Policy Manager	Royal National Institute for the Deaf
John Fisher	Chief Executive	Citizens Online
William Heath	Chairman	Kable
Paul Hodgkin	Chief Executive	Patient Opinion
Hugh Huddy	Director Digital Policy Development	Royal National Institute for the Blind
Frances Irving	Director	Mysociety
Tom Jackson	Professional Section	Guardian
Phil McCarvill	Head of Public Policy	Commission for Racial Equality
Helen Milner	Managing Director	UK online centres
Ernst Nilsson	Administrator, e-Gov Taskforce	OECD
David Paget	Head of Business Consulting	Detica
Tom Steinberg	Director	Mysociety
Malcolm Taylor	Director of Information Systems	Citizens Advice Bureaux
Leonnie Vlachos	Digital Inclusion Manager	Age Concern
Jo Wickremasinghe	Product Manager, Windows Live	Microsoft

APPENDIX TWO

Comparator Studies

1 For this study we looked at the experiences of e-government services and online information development in three other advanced industrialized countries with generally well-performing e-government systems that have attracted positive international evaluations – namely, the USA, Canada and Sweden. We give a short synopsis of some key aspects of these countries' experience and practices here.

The USA

2 The United States has long been a dominant country in the development of the internet, with high levels of household internet access, and the federal government has been a key adopter of internet technologies as a useful way of integrating services across distant locations. Online information and transaction services were historically developed separately by many different departments and agencies and many thousands of federal websites have been established.

3 A leading central department in setting American e-government policy has been the Office of Management and Budget (OMB). Under President Bush, OMB's management agenda has assigned importance to 'expanded electronic government' and the development of 24 government-wide e-service initiatives plus 9 Lines of Business. The federal government spends $65 billion a year on e-government and IT systems as a whole, and OMB has been keen to oversee the attainment of value for money, for example by collecting full IT cost data and ensuring that departments and agencies do not duplicate innovations or efforts already made elsewhere within federal government.[25] OMB sets some technical standards for websites and indexes information and services available online. It is advised by a Council of Chief Information Officers, the role of CIOs being longer-established in the US federal government than in the UK.

4 A second influential central department in the US system is the General Services Administration (GSA) which has around 40 staff working cross-agency on initiatives and government-wide e-services projects, especially in procurement areas. GSA has developed a 'touchpoint' approach to count in a comprehensive way how citizens interact with the Administration (for instance, publications, phone calls, web visits, and emails). The Administration then tries to estimate the costs of handling different kinds of touchpoints.

5 A key central initiative has been the development of the portal site www.usa.gov (previously named www.first.gov but newly rebranded) and its Spanish language counterpart GobiernoUSA.gov which aim to help users connect easily with government information and services. USA.gov and GobiernoUSA.gov are small sites (of around 1,000 pages in total) that point citizens and businesses to federal, state, local, tribal and territorial government information online. Costing around $21 million per year to run (a very small proportion of overall federal spending), USA.gov has seen rapid growth in its user numbers, from 14 million visitors in 2001 to 84 million in 2006. A particular strength of the site has been the development of a strong internet search engine, which looks across all federal, state, local, tribal and territorial government sites for information to respond to users entering search terms. The smaller site www.business.gov is developed by the Small Business Administration, and other federal departments, to provide small and medium-sized businesses with a single access to easily find government information, including forms and compliance assistance resources and tools.

25 For more information on OMB's non-duplication policy see http://www.whitehouse.gov/omb/memoranda/fy04/m04-08.pdf

6 Overall United States policy still assigns most weight to decentralized web and internet services development by separate departments, offices and agencies. But there is enough central co-ordination to maintain a good statistical, budgetary and regulatory overview of federal websites and online developments as a whole.[26] And the USA.gov site provides American citizens and businesses with a useful government shop window and strong search capabilities for finding information they are looking for. Congress has recently voiced some scepticism about the further development of cross-government services.

Canada

7 Like the USA, Canada is a federal state covering a massive land area, much of it thinly populated. The internet took off rapidly as a means of proving information and services online to Canadians, at the time and place of their choosing to counteract the long internal distances and provide better and faster services to citizens. The country has long been a pioneer of excellent federal government online services and for many years was ranked top or close to the top in e-government rankings from a range of sources. With a 'Westminster model' political system and a much more integrated civil service system than in the USA, the long standing hallmark of Canadian e-government policy has been a collegial style of developing e-services and managing channel strategies so as to connect across departments and agencies by providing the government's entire suite of services through a single point of access. Major departments generally host sub-sites for their agencies within the departmental domain names or in purpose-built and well-marketed sites, like the main site for Industry Canada which is called Strategis and has high public recognition.

8 A major portal site called Service Canada was set up in autumn 2005. Service Canada has grown as an organisation to 22,000 staff whose goal is to provide Canadians with one-stop, personalized service they can access however they choose – by telephone, internet, or in person. By mid 2006 Service Canada had around eight million visitors to its website, but this number has begun to rapidly grow following the coming on-stream of new and direct services on the site, including facilities for people to claim benefits. The Canada Site is the complementary primary portal of the Government of Canada and provides a wide range of information services and is well used, both within and outside Canada.

9 The Canada Revenue Agency runs a large site that attracts high levels of interest by businesses and individuals for both its information services and its account-specific portals. For the latter, customers gain access by using the Canadian government's e-pass system of identification. Both individuals and businesses can carry out a wide range of transactions and can look at their own specific tax account, giving extensive details of their transactions with the Agency.

10 As the management board of government, the Treasury Board provides overall policy guidance to departments but with specific or tagged Government On-line funding now at an end, it relies more on collegial collaboration between departments for new developments. Current central policy-making on e-government focuses on the further development of an integrated channel service delivery capability and on the development of common and shared services, with the Department of Public Works and Government Services Canada providing the operational aspects for departments.

Sweden

11 Although Sweden has a large land area, again much of it sparsely populated in the north, it is a smaller country in population terms. Its system of government is a parliamentary one and there is a strong separation between the government and ministers and the large administrative agencies which carry out service delivery on behalf of the ministries. Ministries allocate budgets and set some limited strategic goals for agencies, but in terms of e-government there has never been any strong or mandatory e-government strategy. The current government has indicated a concern to ensure more effective use of e-resources, but the development of online services and information remains highly decentralized to the agencies and local authorities.

26 More details on OMB's general guidelines for federal websites can be found here http://www.whitehouse.gov/omb/memoranda/fy2005/m05-04.pdf.

12 Sweden has a strong reputation in e-government, with much higher levels of citizens and small businesses reporting using government online services than in the UK. Partly this reflects the existence of well-developed identification numbers for individuals, businesses and third sector organisations which facilitate the easy use of electronic identification for online services. The Swedish government agencies rely chiefly on identification systems operated by the Swedish banks, with agencies paying the banks' central body a fee for using their system for their transactions. Along with easy electronic identification Swedish citizens are required to register their address with the Swedish Tax Authority, which runs a separate population register as well as its tax functions. Privacy issues are much less contentious in Sweden than they have been in recent debates in the UK, partly because Sweden has very strong data protection laws.

13 The Swedish government also benefits from the existence of strong national databases, which predated the internet era but have developed in recent times. The Swedish Tax Authority (STA) is able to issue citizens with completely populated (that is filled in) tax forms very shortly after the end of the tax year, showing income received from all sources and taxes due or overpaid. Citizens with simpler tax affairs are able to sign off their acceptance of the calculations via text message or online.

14 Other well developed e-services in Sweden include a strong labour-market site, providing links to the CVs of would-be employees, CVs that can make full use of multi-media facilities. In some social policy areas there have been developments of innovative services allowing (for instance) the families of person A who needs social services care to track how care workers have found A to be when they visited him or her, and to ensure that family members and care workers can effectively co-ordinate their efforts to look after A, even where the family members perhaps live some distance away. In areas like transport there are also facilities for road users to access motorway cameras online so as to check on traffic conditions for their journey.

15 Sweden has a small and not particularly strongly developed government portal site, for which some further limited investment is planned. However, there is a different climate of government information in Sweden – with for instance a system of 'open book' government and an ability for citizens to email officials means that problems of finding government information have been less acute than in some larger countries.

APPENDIX THREE

Recommendations from the Public Accounts Committee's sixty-sixth report in the 2001-02 session on *Progress in Achieving Government on the Web* and the Government's response

PAC Main conclusions	Cabinet Office Response	Action since the PAC report
The Office of the e-Envoy (OeE) should be more active in monitoring and reporting departments' progress in putting services online, their take-up by the public, and the quality and use made of departments' websites.	The Government agreed with this point, though argued that the OeE regularly monitored departments' progress in meeting the 2005 target for all services to be available online. They recognised the need for more to be done in three main areas: i) The OeE has developed a Government Web Traffic Monitor which allows all central government websites to register details and provide traffic performance data. ii) The 2005 target had a substantial impact in focusing departments efforts on online services. iii) The OeE does not audit government websites but instead concentrates on developing and implementing services that meet users' needs. They concentrate on practical measures to set standards and encourage consistent good practice.	The OeE was wound up and its successor body is the Transformational Delivery Unit in the Cabinet Office. i) The Government Web Traffic Monitor was not mentioned to the study team by any senior interviewee. Departments run their own web data collection. ii) The 2005 target for making services available online was reached in 92 per cent of cases according to the Cabinet Office (2006). iii) From web census evidence reviewed here, the standard of government websites still varies, it would seem consistent good practice is not yet reaching throughout government.
More websites need to be designed around specific services that cut across organisational boundaries so that people can access all the information they need on services such as transport, housing and education from a single source.	The Government agreed with this point. i) A number of key services were cited which it was felt held the most potential for significant benefits should online take-up be maximised. These formed part of a core e-Government Delivery Programme (e-GDP) which would focus resources towards those services where high take-up would have the greatest impact. ii) The relaunch of the UK Online portal in January 2002 led to a steady increase in visitors. iii) The OeE is focusing on building a central infrastructure designed to host multiple government sites.	The UK Online portal design and portal never prospered. It was wound up in March 2004 and its users transferred to a differently designed website, direct.gov.uk. Directgov has shown appreciable usage growth from 2006 on. Some transaction services have moved on to the Directgov site and it aims to solve more of users' information needs without them needing to click through to other government sites. Current strategy is that it should become the main government 'supersite'. In other ways, a central infrastructure for government sites has not progressed. However, Directgov is now run on a shared infrastructure through a cross-Departmental programme called 'the Club' that uses robust, industry-standard technology.

PAC Main Conclusions *continued*	Cabinet Office Response *continued*	Action since the PAC report *continued*
People are only likely to use online services if they are easier and most cost-effective to use, more accessible and more convenient.	The Government response highlights the allocation of just under £6 billion over three years in the 2002 Spending Review to confirm its commitment to e-government as a powerful catalyst to transforming service delivery. The e-GDP focuses on enhancing the delivery of key services to meet the public's needs.	Take-up of online services from government in the UK now lags behind many European countries, including in Scandinavia and Germany. For instance, Eurostat 2005 found that within the EU as a whole, 14 per cent of people had used the internet to download official forms, whereas in the UK this proportion was only 7 per cent.
Simply converting conventional processes to internet-based applications will not realise the significant improvements in efficiency which IT can make possible.	The Government agrees that it is important to measure the success of e-government. The OeE has been working with the Treasury to improve government techniques for measuring the efficiency improvements of e-government.	Following the winding up of OeE, the development of e-government services is now mainly bound up with the *Transformational Government* initiative launched in 2005 and the working out of the Varney report on achieving more customer-centred services.
PAC Detailed Conclusions	**Government Response**	**Action since the PAC report**
The OeE has a strategic responsibility for promoting electronic service delivery and should identify good practice examples as beacons for other organisations.	The UK Online Annual Report served to address this. The OeE works with a range of bodies to develop guidance on a range of issues.	Under *Transformational Government* the Cabinet Office now works through the Council of Chief Information Officers (set up in 2005) and related bodies to further encourage the sharing of expertise and information throughout government.
Departments can only enhance their online services if they have reliable and regular information on how they are used. As a minimum, take-up of services should be monitored and their impact on quality of service which users receive.	The OeE's Government Web Traffic Monitor will be used here. This will enable all central government websites to register details and provide traffic performance data. The OeE is working with departments to segment audiences in order to provide tailored messages and services for these different users.	As above, the Web Traffic Monitor does not now exist under this name. A substantial number of departments and agencies do not have a formal channel strategy.
The public must trust that personal information they provide online is confidential and adequately safeguarded. Departments must meet the appropriate security standards.	The OeE published a comprehensive set of framework documents for security policies in online services. A draft e-Trust charter was incorporated into the Public Service Trust Charter in 2001.	Security standards across government have been generally successful but each department uses slightly different ways to authenticate users. In our 2007 national survey 39 per cent of respondents said they could trust government sites.
Digital certificates are used by some organisations for authentication but they can be costly and time-consuming for citizens and business to obtain. The OeE should work with IT industry to ease this process.	The OeE will work to remove as many barriers as possible to the development of these products. It will also look for alternative ways of providing strong authentication to avoid these difficulties with digital certificates.	Digital certificates have made little further progress. But simpler password-protected identities have grown in use, for instance for self-assessment income tax. Government-industry collaboration on facilitating online identification is much less than in some comparator countries, such as Sweden.
Significant sums are being invested by departments in developing online services. But there is little reliable data as to the extent of value for money being achieved by these services. Government organisations need to set out the intended benefits in business cases justifying their expenditure and monitor and report on achievements.	Departments should consider the potential for savings before investment decisions are made. Potential savings should be looked for in front-end e-delivery as well as back-end and end-to-end enablement. Departments should also consider the possibility of closing existing channels.	Results from our online survey showed that many departments and agencies do not have a good view of the costs of their web activities. Hardly any can estimate the value to them of their websites or associated electronic assets. Nevertheless, Interviews suggest that financial cost cases for website developments remain important.

GLOSSARY

Broadband	A transmission medium that can carry signals from multiple independent network carries on a single cable, by establishing different bandwidth channels. Broadband technology is used to transmit data, voice and video over long distances, and because many different frequencies operate concurrently, more information can be transmitted more quickly than conventional telephone lines.
Channel strategy	A planned approach to how an organisation will develop the ways in which it interacts with different types of customers, that is, using different channels.
Chief Information Officer (CIO)	The leading person in an organisation who oversees all IT responsibilities, including the technical aspects of web provision and online services.
Click-throughs	A visitor 'clicks-through' a website when she opens a web link which transfers her to another page of the site or to another site.
Domain name	The standard address name for a website. It uniquely identifies a page which is where the files on the web for that website are located (for example: http://www.direct.gov.uk). The components of a domain name (or Universal resource Locator, URL) are: protocol//domain:port/path/filename.
E-commerce	Selling products or services to customers using the internet as the main means for communication and accomplishing transactions.
Electronic (or online) forms	Forms available on a website or intranet, which a user can complete on the screen and then either print off and post back, or submit online or via email.
Electronic (or online) transactions	Dealings between people and organisations (such as finding out a piece of information, filling out a form, or making a payment) that take place using the internet and the web.
Email	A service that enables people to exchange documents or messages in electronic form.
Encryption	A mechanism for coding or 'scrambling' electronic documents or messages, to enable them to travel between networks securely without risk of them being read by third parties.
Government Secure Intranet (GSI)	A secure intranet linking together UK government departments and other public agencies, which also provides controlled access to the Internet, inaugurated in February 1998. GSI offers inter-agency e-mail without need for encryption for material up to and including 'Restricted' status, e-mail to the Internet, browser facilities, file transfer and directory services.
Home page	The first page of an organisation's website which users see, and the central page for directing people to different parts of the site.

HTML	HyperText Markup Language, the main language used to create web documents.
Inlinks	Links from an outside organisation's website to the website of the organisation being discussed are called 'inlinks'.
Interaction	A two-way exchange of information or transaction.
Internet	A worldwide collection of computer networks sharing common standards and protocols of communication, in particular a common addressing scheme.
Intranets	A network linking computers within a given organisation, which is closed to outsiders. Its structure and user interface are based on those of the internet.
Link	A graphic or piece of text on a web page which refers to another web page on another website. When the link is 'clicked', that page will be retrieved and displayed.
Nodality	This is a measure of how central an organisation or government is to society's information networks.
Online (or electronic) forms	Forms available on a website or intranet, which a user can complete on the screen and then either print off and post back, or submit online or via email.
Online (or electronic) transactions	Dealings between people and organisations (such as finding out a piece of information, filling out a form, or making a payment) that take place using the internet and the web. Within British government circles alone, 'electronic' transactions are still often more broadly defined to include in addition to web dealings, systematic dealings by citizens with web-enabled call centres, electronic data interchange, electronic payments, use of electronic 'kiosks' and a number of other means of contact.
Outlinks	Links from an organisation's website to other external organisations' websites are called 'outlinks'.
Page impressions	A page impression (or 'page request') occurs when a user's browser shows a complete page from a website. Page requests provide a better measure of site traffic than recording hits.
PDF	A format of document that allows a file to be downloaded from the web, using Adobe's proprietary Acrobat viewer, which can also be downloaded free.
Podcasts	This is an audio file that has been labelled 'pod' as many users download these onto their ipod in order to listen to them.
Portal	Any well-used gateway to the Internet, especially those sites designed to serve as a 'front door' and thus the first page that users see when accessing the web. Portals typically provide large catalogues of other sites, powerful search engines for locating information, and e-mail facilities or other attractive Web services.
Search engine	A database of web page extracts that can be queried to find references to a person, subject or topic across the World Wide Web as a whole. Many websites and intranets provide similar but smaller search facilities for finding material on their site alone.
Server	A computer or network of computers that makes services available on a network (for example, access to a website).

Supersite	A concentration of websites or online resources into one main website with multiple rich facilities for users to do things directly. It goes beyond being a portal by providing access to many facilities without leaving that site. Directgov regard a supersite as a website which becomes one of the handful spontaneously cited by its target audience. Directgov will achieve supersite status when it reaches this level of user awareness, and when it is spontaneously associated with public services by its primary audience of UK citizens.
Take-up	The extent to which electronic government services are available online and are currently used by citizens or customers.
The web	The World Wide Web, see below.
Transactions (or transactional services)	A transaction with an agency is an interaction with it. This interaction could be the receipt or dissemination of information, the completion or submission of a form, the sending of a payment, the inspection of an account, or more complicated sets of dealings.
URL	Universal Resource Locator. A domain name, a unique identifier of a page which is the standard address of files on the web (for example: http://www.direct.gov.uk). The components of an URL are: protocol//domain:port/path/filename.
Version control problem	A mismatch which occurs when more than one version of a document is in circulation simultaneously.
Visit	Any occasion when a person clicks on to a given website or intranet. 'Unique visits' refer to distinct persons coming to the site: here first-time users are recorded while repeat users (those returning to the site for a second or subsequent time) are not.
Web 2.0	A range of more advanced features that are now found on some websites, such as playing back users' own responses, facilitating online communities (called 'social networking') or allowing the easy communication of users' rich content, such as photos, audio files or videos.
Web crawling	Using a computer programme to work its way through each organisation's site, counting the number of links, pages and documents that it finds.
Web page	A single document on the Word Wide Web.
Website	A collection of web pages located on a common server and published on the Internet by a single organisation or individual. The pages can be accessed by outside users without any special authorisation.
Web trends	Collecting data on a number of measures about how a website is working, it might include page impressions and number of visitors.
Webcasts	A live or delayed broadcast of a video clip via the internet.
Wiki	A website or online resource that allows all users to add and edit text.
World Wide Web	The complete ensemble of graphics and text documents published on websites and inter-connected via the Internet through clickable 'hypertext' links.

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Government on the internet: progress in delivering information and services online

A report by the Comptroller and Auditor General

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