

ELECTRONIC GOVERNMENT

- How might ICT change Government?
- Deciding the pace of change.

Information and communication technologies (ICT) have revolutionised many businesses and transformed relationships with customers. In the public sector however, effects have been less dramatic, raising the question whether the full benefits of ICT in delivering public services are being realised. The potential of ICT also inspires visions of a more open Government with greater public participation.

POST has reviewed 'electronic government' and how ICTs might be used to transform the relationships between government and the citizen. This note summarises the full report¹.

BACKGROUND

We are surrounded by reminders of the growth in the capabilities of information and communication technologies (ICT) - whether in new applications such as the Internet and the imminent digital television (DTV) services, or in the way that commercial enterprises use ICT to reach out to their customers, providing dramatic improvements in service. By analogy, governments have the opportunity to harness ICT to:

- improve the efficiency and effectiveness of the 'executive functions' of government including the delivery of public services;
- enable governments to be more transparent to citizens and businesses giving access to more of the information generated by government;
- facilitate fundamental changes in the relationships between the citizen and the state, and between nation states, with implications for the democratic process and structures of government.

The full report measures UK progress at local and national levels in each of these areas against other national and international developments, exemplified in **Box 1**.

The main focus of UK policy development for electronic delivery of Government services has been through the Cabinet Office's Central IT Unit (CITU) **government.direct** programme - part of the wider Information Society Initiative (ISI). **Government.direct** was initiated as a Green Paper in November 1996,

1. The full report "Electronic Government - Information Technologies and the Citizen" (100pp) is available from POST, 7, Millbank, London SW1P 3JA. Free to Parliamentarians; £15 otherwise (contact Parliamentary Bookshop; 0171-219-3890). Also at <http://www.parliament.uk>



POST
REPORT
SUMMARY

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available from the PARLIAMENTARY
OFFICE OF SCIENCE AND TECHNOLOGY
(extension 2840).

Box 1 EXAMPLES OF THE USE OF ICT IN GOVERNMENT

- Nationally mandated adoption of ICTs by government departments to improve access to information, reduce paperwork, and require departments to facilitate electronic access (USA).
- A policy of free dissemination/ access to government information (USA).
- Numerous examples of electronic services and transactions (e.g. applying for licenses, comprehensive government information) in many states (USA).
- One-stop government shops allowing access to all transactions (such as all necessary permits and licences when starting a business) at one location (Canada).
- IT used for social security fraud detection (Australia).
- Creation of an 'intelligent island' (Singapore).
- Smart cards and fingerprints used for access to social security benefits (Spain).
- Experiments in 'local electronic democracy' (USA).

Box 2 THE GOVERNMENT.DIRECT PILOT PROJECTS

- Public access terminals giving information about Inland Revenue, Customs and Excise duties, and National Insurance contributions.
- An Internet service (Direct Access Government), providing access to government forms and leaflets relevant to businesses.
- Demonstrator of a comprehensive land and property information service for Scotland.
- 'Geodata' project makes available geographical and geological data from 6 different Departments and Agencies.
- An 'intelligent form' (notification of self employment) completed securely on the Internet, and automatically forwarded to three Departments.
- A Charter Unit /BT Touchpoint pilot to make Citizen's Charter information available.
- Benefits information in a kiosk in a rural sub post office.

followed by a consultation phase with a Government 'response' in March 1997. A principal output of **government.direct** was a series of pilot projects (**Box 2**) to demonstrate the underlying technologies, investigate public and business response and stimulate experimentation in new uses of ICT for the delivery of services. The new Government is continuing this initiative, but is fitting the concept into a much wider set of initiatives encompassing 'better government', parliamentary and constitutional reform. Some of these initiatives (e.g. the Scottish Parliament and Welsh Assembly) are already underway, and the Government plans to issue a White Paper early in 1998 to bring the other aspects together.

THE POTENTIAL OF ICT

The full report reviews the use of ICT in government and asks if IT would be organised differently if designed 'from scratch' today - in contrast to the current system which has evolved from structures and functions laid down before computers were even imagined.

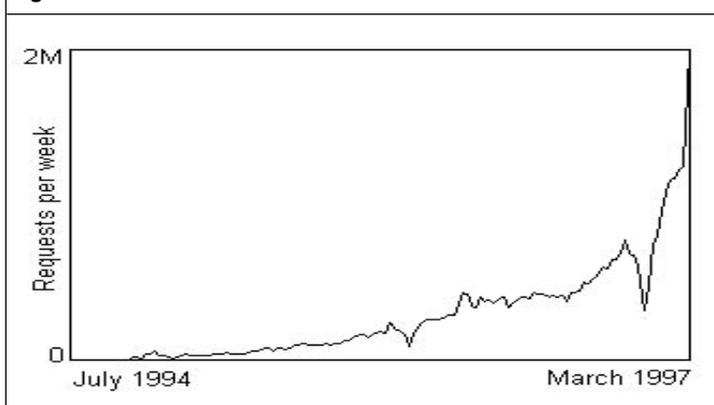
Currently, Government uses ICT in many ways, ranging from traditional **centralised** 'mainframe' computers (each running a specific task such as payroll, client records), to the latest applications of **intranets** and external links to the **Internet and World Wide Web**. Some Departments have created their own unified electronic systems for internal communications, and semi-automated routines such as ministerial correspondence. **Data matching** is being pioneered to help in tackling benefit fraud. ICT also has potential to support the **policy-making process**, by sorting, analysing and summarising large amounts of information and presenting the results in an understandable form. Many Departments and Agencies have out-sourced their IT support through the **Private Finance Initiative (PFI)**.

The full report also looks at the ways in which **Government and citizens use information** and the ways in which it can be communicated (via e-mail, Internet, etc.). The **Government Information Service (GIS)** on the Internet (<http://www.open.gov.uk>) has grown rapidly (see **Figure 1**), but outside the areas where Government wishes to disseminate information free, pricing policies for its data are a source of contention, where the pressures for more open government and maximising financial returns for Agencies conflict. Such tensions concern the Lords Select Committee on Science and Technology, and are relevant to consultation on the recent Green Paper on Crown Copyright.

Also important are the many **transactions** which take place with Government - exchanges of information and payment to obtain licences or permits, register for a service, claim a benefit, etc. These processes are still mostly based on paper - in contrast to the commercial world, where there is considerable growth in the number and quality of electronic transactions with clients. **The Prime Minister has, however, set a target of 25% of transactions with Government to be electronic by the Year 2002.**

The full report looks at possible technical means of increasing electronic transactions including **telephone call centres**, the ability to **submit forms and other information on-line**, DTV interactive services in the home, **'one stop shops'** in government offices, and **integrating government functions with infrastructure of other businesses** - bank ATMs, supermarket checkouts, etc. Realising such applications requires several key problems to be overcome, including the

Figure 1 GROWTH OF THE GOVERNMENT INFORMATION SERVICE



need to **uniquely identify individuals** who use electronic links to Government (**a 'digital signature' on a smart card is a preferred option**), and **encryption** to ensure security.

NEW MANAGEMENT MODELS

If commercial experience is valid, ICTs offer the possibility of improving government activities by re-engineering them along wholly different lines - just as ATMs and telephone banking have changed the ways in which banks and their customers interact. Possibilities considered in the full report are to re-organise along **process lines** (receipt of revenue, etc.) or repackaging government services in relation to a citizen's **life events**. Taking such analyses to their logical conclusion could lead to Government being organised as:

- **A set of small 'policy' Departments** providing policy-related services to Ministers and senior officials.
- **A set of Agencies to deliver process-based services** to the citizen and business².
- **A technology-based interface** between the citizen/business and the Agencies.

An alternative would be to see government as a means of **adding value** to services for the citizen, and to reorganise from the viewpoint of this **'citizen's supply chain'**. This could involve moving away from the traditional measurement of **inputs** such as departmental budgets to measure **outcomes**, for example by tracking individuals' progress through school, continuing education and into employment; or by measuring patient's health outcome rather than procedures carried out.

SETTING A CLEAR VISION

The full report concludes that in the main areas of 'electronic government', there are different possible speeds of progress.

- The slowest would be to carry on with 'business as usual' and **allow Departments and Agencies to adopt ICT to meet their own needs**, responding to

2. Primarily revenue receipt, regulation enforcement, grants and benefits, procuring goods and services, providing information.

their various external and internal pressures. Such a policy would, however, risk entrenching existing inefficiencies into new ICT-based systems.

- The 'middle way' is for Government to seek **better co-ordination and use of resources between Departments and Agencies** through joint implementation of ICT projects such as 'one stop shops' for small businesses, and other measures. This is broadly the current approach, with CITU acting as a central think-tank/enabler to facilitate effective uptake of ICTs³.
- The most radical approach would be to '**re-engineer**' **Government Departments and Agencies** as described above. Illustrative scenarios derived from these models are developed in the full report, where integrating the currently separate key services could lead to local access akin to a '**Government General Practitioner**' (GGP).

The full report concludes that it is still unclear how far the public would accept or welcome each option. Consultation may thus need to **encourage a wider national debate over the future structures envisaged. For example, on-line discussions fora could collect and develop ideas, while consensus conferences could address different models in more detail to illustrate their strengths and weaknesses.** Major re-engineering would require strong leadership from the 'top' and it would thus be important that a clear vision of the changes desired be fully 'market-tested' before being implemented.

ICT AND DEMOCRACY

In terms of their contribution to the processes and institutions of 'democracy', ICT could 'merely' **improve the communication of facts and policies** within the Government and with citizens, businesses and other governments. A more fundamental change would be to use ICT to **facilitate greater participation and deliberation** through formal consultation and informal debate using electronic means. Even more radical, '**re-inventing democracy**' postulates that the combination of globalisation and local autonomy enabled by ICT will challenge the entire *raison d'être* of national government. In practice most experiments in using ICT in the democratic process have started at the community level, and could well comprise the type of community initiative supported by Lottery funds. In this, the full report notes that **the current National Lottery 'Distributing Bodies' could give a higher priority to local ICT-based community strengthening initiatives.**

At the national level, the full report describes the present situation in the UK Parliament, and the leeway

which exists for integrating ICTs into the 'national' democratic process in the Scottish Parliament and the Welsh Assembly. **One option would be to embrace these and seek to maximise the benefits of ICT from the outset, in both locations.** Ideas which could be developed first in these 'new' democratic institutions include:

- 'teledemocracy' which could enable people to participate in debate and decision-making from their homes or community centres (e.g. 'citizens juries');
- 'fully wired' MPs with public e-mail, homepages, electronic voting and electronic links into information and administrative systems;
- much improved electronic links between different tiers of Government to provide citizens with a coherent view of their Government and Parliament.

IMPLEMENTATIONAL ISSUES

Several fundamental issues exist whichever 'vision' of electronic government is followed. Key 'building blocks' addressed in the full report include:

- The **Government Secure Intranet** to provide a firm footing on which Government Departments and Agencies can base services. Currently however, the GSI is limited to central government.
- The optimum **configuration for data storage and processing** - options range from centralised databases (e.g. a single national name and address register for Government use) to various forms of distributed databases.
- Efficient **external access to Government information systems.** Here, the current success with increasing Internet access should not divert attention from the need to develop more universal means of access - for instance **dedicated 'government' and/or 'citizen' interactive channels on DTV.**
- Electronic identification and authorisation - probably a 'digital' signature on a 'smart' card. Options discussed in the full report include the government providing an official '**citizens card**', or the need being met by private means (e.g. bank or credit card) for storing digital signatures, etc.

Turning to finance and management, PFI has brought in large and complex new ICT systems, sharing the risks of delay and poor performance with the private sector. In future however, the fact that PFI contracts are negotiated by individual Departments and Agencies may lead to '**freezing**' **departmental demarcations into the system** and could **seriously curtail the ability of Government to engage in holistic re-engineering for many years.** To help any transition to more efficient reorganised systems, Departments could start to **shape their ICT contracts to create a long-term supply of services capable of adapting to change.** Other more practical issue affecting the future success of PFI are addressed in the full report.

3. The Ministers' digital red box is one example; advice to Departments not to sign away their rights to data without considering the full consequences is another.

Most visions of electronic government envisage changes in the ways that information is collected, handled or processed, and thus inevitably interact with **data protection legislation**. The full report reviews areas where the Data Protection Registrar has worked with data users to ensure that new initiatives (such as the 'intelligent' multi-agency form being developed by CITU) comply with the UK Data Protection Act. However, with the increasingly advanced capabilities of ICTs, **future debates over the rights of the individual may need to be conducted within a wider framework to take into account the interests of the State in delivering efficient services and combating fraud. An opportunity to do this exists in the debate over the Data Protection Bill now before Parliament**, and flexibility could be sought which continues to protect the rights to privacy but minimises obstacles to future innovation in a climate of rapid technological change. One technical approach put forward is to 'anonymise' personal data using 'Privacy Enhancing Technologies'. Much data pooling and sharing could then be conducted without risking individual's privacy, while only specifically authorised user Departments or Agencies would be able to access the personally sensitive information.

Another Bill to be considered by Parliament, which will have crucial implications for the use of ICT in Government is that on **Freedom Of Information**. Here ICT will both be a benefit - providing an efficient means to access Government information - and present new challenges, such as how to deal with dynamically changing documents which may never exist in printed form. A more general question is whether there potentially will be **too many separate regulatory bodies** involved in the various aspects of electronic government. **Some have suggested that the roles of the Data Protection Registrar, Oftel, proposed Freedom of Information Commissioner and even media and financial regulators should be re-examined, with a view to streamlining the regulatory environment for the information age.**

AVOIDING PITFALLS

The full report also looks at some of the possible pitfalls of going too fast along the road of electronic government. Concern over risks of failure follow from past large IT project *debacles*, but **such problems are usually the result of poor planning and management of procurement, implementation and commissioning**, rather than dysfunction of the technology itself. The main **uncertainties are over how fast the public wish to proceed**. The report discusses evidence that the public can be quite resistant to change and still prefer the traditional ways of doing business. Government would thus need to encourage people to support new systems

through familiarity and incentive rather than compulsion. One option might be for **Government to organise a series of consensus conferences** on issues such as smart cards, data matching and fraud prevention - both to raise awareness and to identify fundamental and practical problems well ahead. Another option would be to **build on public familiarity with existing information sources** such as teletext and telephone help-lines, to bring in new services. In particular, the potential for **interactivity of Digital Television is seen by many as the key enabling technology for electronic government**. Whichever channel of communication is implemented, one way of encouraging use is to create **electronic 'bus lanes'** by ensuring improved access, speed, or efficiency for those using the new methods.

A more fundamental limitation on the speed of advance of electronic government is **availability of the skills** needed. Here, the supply of trained ICT professionals is already 'stretched' with the demands of resolving the 'Year 2000' problem and EMU conversion work, on top of which there is already a shortage of ICT-familiar staff in Government to plan and manage new ICT projects.

Finally, some observers argue that the information age calls for a new system of social ethics (**'information ethics'**) to apply to what information people collect, how they collect it, what they use it for and how they use it, and how people behave when human contact is mediated by ICT. Currently, many people do not have a highly developed sense of 'right' and 'wrong' in the digital world⁴. This raises the question of how to engender a moral code appropriate to the information age.

IN CONCLUSION

The issues of how to manage ICTs in government are complex, and the full report finds (as described above) that there are already several major key policy questions which will require attention in the immediate future. It is hoped that this analysis, by examining in detail what electronic government might come to mean, will assist Members of both Houses to participate in the debate on how to shape the future use of ICT in government and the democratic process.

4. For example, many people do not equate 'hacking' to breaking-and-entering, nor breaching copyright to theft.