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OECD e-Government Studies

The e-Government Imperative



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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Foreword

While most studies of e-government focus on the provision of online services, OECD countries have emphasised that reforming the back office is just as fundamental to achieving effective government as updating front office service delivery channels. By focussing on the challenges and obstacles that must be overcome for successful e-government, and on the importance of co-ordination and collaboration between agencies for seamless service delivery, “The E-Government Imperative” provides a unique perspective on the problems facing governments today when implementing e-government. The report is intended as a practical tool for decision makers.

Ministers from OECD countries recognised the importance of e-government at their annual meeting in June 2001 as a major enabler of good governance practices. This report, based on the work of the OECD E-Government Working Group, identifies how governments can embed good governance principles into solutions that exploit 21st century information and communications technologies (ICTs) to achieve public policy goals within a context of changing social, economic and political circumstances.

The report was written by Tim Field, Elizabeth Muller and Edwin Lau of the OECD E-Government Task Force of the Public Governance and Territorial Development Directorate. Hélène Gadriot-Renard and Christian Vergez are the co-ordinators of the Project. The report was prepared under the direction of the E-Government Working Group and the OECD Public Management Committee, and is published on the responsibility of the Secretary-General of the OECD.

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Executive Summary

Introduction

E-government is more about government than about “e”

The rise of the information society has led to major changes in citizen expectations and organisational structures, cultures and working processes. Governments will have to follow suite and adopt information society tools and working practices if they are to remain responsive to citizen needs. The OECD defines “e-government” as “the use of information and communication technologies, and particularly the Internet, as a tool to achieve better government”. The impact of e-government at the broadest level is simply **better government** by enabling better policy outcomes, higher quality services, greater engagement with citizens and by improving other key outputs identified. Governments and public administrations will, and should, continue to be judged against these established criteria for success.

E-government initiatives refocus attention on a number of issues: how to collaborate more effectively across agencies to address complex, shared problems; how to enhance customer focus; and how to build relationships with private sector partners. Public administrations must address these issues if they are to remain responsive.

The case for E-government

E-government improves efficiency

ICTs enable **efficiency improvements** in mass processing tasks and public administration operations. Internet-based applications can generate savings on data collection and transmission, provision of information and communication with customers. Significant future efficiencies are likely through greater sharing of data within and between governments.

E-government improves services

Adopting a customer focus is a core element of member countries’ reform agendas. Successful services (both online and off line) are built on an understanding of user requirements. A customer focus means implies that a

user should not have to understand complex government structures and relationships in order to interact with government. The Internet can help achieve this goal, by enabling governments to appear as a unified organisation and provide **seamless online service**. As with all services, e-government services must be developed in light of demand and user value, as part of an overall service channel strategy.

E-government helps achieve specific policy outcomes...

The Internet can help stakeholders share information and ideas and thus contribute to specific **policy outcomes**. For example, online information can boost use of an educational or training programme; sharing of information in the health sector can improve resource use and patient care; and sharing of information between central and sub-national governments can facilitate environmental policies. The sharing of information on individuals, however, will raise privacy protection issues, and the potential trade-offs need to be carefully assessed. Timeframes for initiatives need to be realistic, as there can be considerable lags before benefits accrue.

... and can contribute to economic policy objectives

E-government's facilitation of reduced corruption, greater openness and trust in government contributes to **economic policy objectives**. Specific impacts include the reduced government call on funds through more effective programmes, and efficiencies and improvements in business productivity (through ICT enabled administrative simplification and enhanced government information). Given the reach and influence of government, e-government initiatives act to promote Information Society and e-commerce objectives. Government consumption of ICT products and services can also support local ICT industries. However, impacts in these areas are difficult to quantify.

E-government can be a major contributor to reform

All OECD governments are facing the issue of public management modernisation and reform. Developments – globalisation, new fiscal demands, changing societies and increasing customer expectations – mean that the **reform process must be continuous**. ICTs have underpinned reforms in many areas, for example by improving transparency, facilitating information sharing and highlighting internal inconsistencies.

E-government can help build trust between governments and citizens

Building trust between governments and citizens is fundamental to good governance. **ICT can help build trust** by enabling citizen engagement in the policy process, promoting open and accountable government and helping to

prevent corruption. Furthermore, if limits and challenges are properly overcome, e-government can help an individual's voice to be heard in the mass debate. This can be done by harnessing ICT to encourage citizens to think constructively about public issues, applying technology to open up the policy process and adopting policies on information quality and accountability. Integration with offline tools is required, and few expect e-government arrangements to completely replace traditional methods of information provision, consultation and public participation in the foreseeable future.

External barriers to e-government

Legislative and regulatory barriers, financial barriers, technological barriers and the digital divide, among others, can impede the uptake of e-government. While internal obstacles (such as collaboration for seamless services) are important, external barriers need to be addressed on a whole of government basis in order to be overcome.

Legislative and regulatory barriers can impede the uptake of e-government

In order for e-government processes to be adopted, they must have the same standing as the equivalent paper processes. Additionally, current frameworks based on the assumption that agencies work alone (*e.g.* performance management, accountability frameworks and an interdiction of data sharing) inhibit collaboration. Privacy and security also need to be ensured before online services can advance. Complexity of requirements is another problem. Agencies may need clarification on what they can and cannot do, particularly in the areas of data security and technical standards. This clarification is particularly important in the case of small agencies.

Budgetary frameworks can restrict e-government initiatives

To finance seamless government services and shared infrastructure, budgetary regulations should **facilitate co-operative funding mechanisms** such as co-ordinated bids for new funds and the pooling of funds. Additionally, appropriate ICT expenditure should be treated as an investment, recognising future benefits and providing a degree of certainty for future funding. This would focus ICT spending on developing cost-effective solutions.

In many OECD countries, existing **budgetary arrangements act against** efficient e-government. Organisations need incentives for cross-organisational projects and tools for measuring returns on investment. This can be achieved through a government-wide approach to the assessment of e-government benefits and the sharing of savings.

Governments need to prepare for technological change

Sharing data across legacy systems, developing shared infrastructure and dealing with fast moving technological change can inhibit progress in putting e-government initiatives in place. These issues can also increase implementation and support costs and increase risk of failure. Such issues will not abate, but will continue to require attention as technologies change. E-government co-ordinators can facilitate agency efforts through the adoption of whole of government standards and software integration technologies and the development of shared middleware and other infrastructure. Broader approaches for adapting to emerging technologies include: technology neutral legislation and regulation; performance requirements rather than technical specifications when procuring new technologies; and increasingly looking to international co-operation to harmonise approaches.

The digital divide impedes the benefits of e-government

Online access has advantages that are impossible to replicate offline, such as the drawing together of information, independent search capacity and interactive policy consultation. However within OECD countries there are significant differences in access to ICTs and the Internet. Generally the most disadvantaged have the lowest levels of access, yet they also often have high levels of interaction with government (for example the unemployed). If these individuals cannot access e-government services, they will **miss out on many of its benefits**. Improved online access for the public at large will increase the pool of potential users of e-government services; in itself this justifies pursuing policies to reduce the digital divide.

Implementing e-government**E-government challenges existing ways of working**

ICT needs to be incorporated into a package of modernisation, organisational change and related reforms (including greater teamwork, flexibility in working arrangements and remuneration and enhanced knowledge management practices) that challenge **public governance frameworks**. There will not be a single model of an e-government enabled organisation. E-government co-ordinators should use ICTs as a tool to facilitate change, and should not attempt to restructure public administrations around current technology.

E-government requires leadership

The leadership and enthusiasm of individuals and organisations has driven many e-government advances. Leadership requires consistent vision,

commitment and action. In the early stages of e-government, leadership is needed to gain acceptance of concepts, and to put implementation frameworks in place. At a more advanced stage, leadership is needed to manage change and sustain support for initiatives, especially as benefits may take time to emerge.

Indeed, leadership is necessary at all levels, from the political to the administrative. Political leadership makes e-government a priority and guides transformation by putting it in a broader context. Within administrations, leading implementers help translate political vision into an action plan.

Seamless government services will draw agencies closer together

Seamless government services require different agencies to work closely together. Their **collaboration** cannot be merely technical, but must involve a deeper engagement in terms of shared customers. As services become more complex (and expensive), collaboration will also be driven by the need for efficiency. E-government co-ordinators should facilitate planning for seamless services, fund catalyst projects, clarify data-sharing arrangements and address accountability issues. When current ways of working make it difficult for agencies to collaborate, barriers to co-operation need to be overcome.

Yet co-ordinators must resolve a central dilemma: how to capture the benefits of co-ordinated action and shared approaches while maintaining individual agency responsibility and accountability for operations and results. Approaches adopted include whole of government governance structures, interoperability standards, shared infrastructure and key pathfinder projects. Reviewing the requirements governing ICT use on a regular basis is required.

Managers need e-government skills

E-government increases the need for ICT-related skills in government. The skills required for e-government are **not simply technical**, as general managers also need broad skills to engage in the ICT decision-making process. Necessary skills include a basic technical understanding (IT literacy), but also an understanding of information management and the information society. Managers must be able to lead (and not be led by) the organisation's IT department and outside partners, and must be able to integrate the organisation's ICT strategy with its broader goals.

Furthermore, traditional management skills need to be updated and strengthened to deal with the impact of e-government. Additional competencies are needed in areas such as performance management, accountability frameworks, co-operation and collaboration across departments, and public-private partnerships. Governments should take

steps to identify and ensure (through training or outsourcing) the skills needed for effective e-government.

E-government involves public-private partnerships

Working with the private sector is a feature of almost all e-government activity. Governments work with private partners to access skills and products, reduce risk, draw in private capital and integrate provision of government services with private-sector channels. More innovative arrangements, involving flexible, longer-term relationships with partners sharing risks and rewards, can help respond to changing technologies and opportunities. E-government co-ordinators, in collaboration with procurement authorities and key agencies, should develop an **e-government public-private partnership framework**. As part of this framework, an examination of audit and accountability arrangements covering ICT partnerships would be helpful.

Implementing e-government can be risky, expensive and difficult

Implementing e-government can be risky, expensive and difficult, and **requires change**. Organisations tend to resist pressures for change, leading to wasted opportunities and unnecessary expenditure. Development of e-government implementation is also hampered by ineffective project management, technology failures, problems of first mover disadvantage, funding discontinuities, and unrealistic political demands. When ICT projects go wrong, cost overruns and service delivery failures can be highly visible.

Monitoring and evaluation are essential to effective e-government

E-government implementers must **articulate the impacts and benefits** of initiatives in order to justify continued political and public support. Assessment should be realistic and within timeframes that are useful to decision-makers. Priority should be given to the assessment of demand, benefits and service quality. Assessing demand remains a major weakness in OECD countries' e-government programmes, and as services become more complex and expensive this issue will become increasingly important.

Conclusions and future challenges

Governments are under pressure...

Pressures will continue for governments to be responsive to social changes, find efficiencies and address concerns about security and privacy. Both citizens and businesses expect governments to adapt, and their expectations will grow as the information society becomes more widespread.

Governments must rise to the challenges of new technologies as these technologies continue to evolve. Decisions taken today will determine future capacity. The initial impressive visible results of e-government (government websites, a number of sophisticated transactional services, and the development of portals) contrast with the next stage of e-government, which requires the development of hidden infrastructure, connected back office arrangements, and more complex services. Greater collaboration across levels of government, higher funding levels and deeper organisational change will be needed. However, governments adapt slowly, and tend to treat the information revolution and e-government as only one among multiple challenges with which it is confronted.

... but must continue the e-government enabled reform process

The term “e-government”, as used by the OECD E-Government Project, applies to the use of ICT as a tool to *achieve better government*. E-government is not about business as usual, but has a focus on using ICT to transform the structures, operations and, most importantly, the culture of government. Modernising government structures, governance frameworks and processes to meet the e-government imperative will have fundamental impacts on how services are delivered, how policies are developed and how public administrations operate. As the impact of e-government becomes more profound, governments will have to strike equilibrium between protecting citizens’ rights and better meeting their needs with more efficient, integrated services and policy engagement processes. What starts as a technical exercise aimed at developing more responsive programs and services becomes an exercise in governance.

The Internet and related technologies have laid the groundwork for a richer sharing of information between government and citizens, and for the introduction of the much heralded “webbed” or non-hierarchical administration. While there is no single model of an e-government enabled organisation, and public administrations will continue to evolve as the use of ICTs deepen, e-government can create networks of information flow among the different parts of the administration, irrespective of legislative or administrative boundaries and/or hierarchies. In fact, one can question whether or not government agencies can maintain their current internal divisions and territories while trying to maintain a single, simple interface with the citizen through e-government. The need for collaboration also extends beyond central administrations to encompass local and regional levels of government. What may have commenced as a technical approach to enhanced services may result in seamless government, cutting across the boundaries that separate different structures and functions in the public administration, to provide a seamless interface to both users of services and to citizens.

Capturing the benefits of e-government will be difficult, and require coordinated action across the range of topics analysed in this report. The **Guiding Principles for E-government** below set out a framework for such future action.

GUIDING PRINCIPLES FOR SUCCESSFUL E-GOVERNMENT

Vision/political will

1. **Leadership and Commitment:** Leadership and commitment, at both political and administrative levels, are crucial to managing change. Committed leaders are required to deal with disruptive change, to persevere when benefits take time to emerge, to respond when things go wrong, and to establish visions and plans for the future.
2. **Integration:** E-government is an enabler, not an end in itself. It needs to be integrated into broader policy and service delivery goals, broader public management reform processes and broader information society activity.

Common frameworks/co-operation

3. **Inter-agency collaboration:** E-government is most effective when agencies work together in customer-focussed groupings of agencies. Agency managers need to be able to operate within common frameworks to ensure interoperability, maximise implementation efficiency and avoid duplication. Shared infrastructure needs to be developed to provide a framework for individual agency initiatives. Incentives can help encourage collaboration.
4. **Financing:** ICT spending, where appropriate, should be treated as an investment, with consideration of projected streams of returns. E-government requires a level of certainty of future funding to provide sustainability to projects, avoid wasting resources and gain maximum benefit from given funding levels. A central funding programme could help foster innovation and allow for key demonstration projects.

Customer focus

5. **Access:** Governments should pursue policies to improve access to online services. Many advantages of online government information and services are not replicable offline, so that those who lack access will be excluded unless action is taken.
6. **Choice:** Customers should have choice in the method of interacting with government, and the adoption of online services should not reduce choice. A principle of “no wrong door” to access the administration should be adopted. Services should be driven by an understanding of customer needs.
7. **Citizen engagement:** E-government information and services should be of high quality and engage citizens in the policy process. Information quality policies and feedback mechanisms will help maximise the usefulness of information provision and strengthen citizen participation.
8. **Privacy:** E-government should not be delivered at the expense of established expectations of privacy protection, and should be approached with the goal of protecting individual privacy.

Responsibility

9. **Accountability:** E-government can open up government and policy processes and enhance accountability. Accountability arrangements should ensure that it is clear who is responsible for shared projects and initiatives. Similarly, the use of private sector partnerships must not reduce accountability.
10. **Monitoring and evaluation:** Identifying the demand, costs, benefits and impacts of e-government is crucial if momentum is to be sustained. E-government implementers cannot expect support if they cannot articulate potential benefits.

Chapter 1

Objectives, Scope and Context

1.1. Introduction

This project takes as its basic premise that e-government provides the capacity to reform the way public administrations operate and can result in more customer-focused, responsive government. This requires overcoming major challenges. This publication examines the potential and impact of e-government and the changes required to maximise its benefits.

Governments are major users of information and communication technologies (ICTs). In OECD countries, government use of ICTs is now well established and an integral part of how governments do business. From an initial focus on mass processing tasks, using mainframe computers in areas such as collecting national statistics and processing taxation returns, government use of ICTs has widened to encompass a full range of technologies and applications. For almost a decade, governments have used Internet-based technologies, particularly the World Wide Web and e-mail. There is scarcely an aspect of government activity that does not involve the use of ICTs.

It would be surprising if this were not the case. ICTs have become a crucial element of national infrastructure, underpinning economic and social activity in all OECD countries. Given the scale of their activities and the diverse nature of their business across all forms of economic activity, governments have derived significant benefits from embracing ICTs. They have often been at the forefront in the adoption of specific applications and have used their scale and position in local markets to foster the development of ICT production industries.

Governments have embraced the Internet. The emergence of the Internet and parallel developments in processing capacity and data storage over the 1990s have significantly altered the environment for ICT use across society and in government. While the longer-term effects of this digital revolution are likely to be profound, these developments have already increased pressure on governments to perform and provided them the capacity to do so.

Governments were not immune to the attractions of what is now seen as the dot-com bubble. However, they now understand better that real value can be obtained through the use of ICT, but that the need for basic assessments of benefits and costs, risks and opportunities remains.

In response to these new capabilities, OECD governments have issued e-government strategies, set targets and established e-government co-ordination bodies. In a number of countries, e-government is the specific responsibility of a minister; in others, it is part of the information society or other ministerial responsibilities. These responses suggest that, primarily owing to the emergence of the Internet, there has been a qualitative shift in the role governments assign to ICTs. This parallels similar responses in the broader economy, where the Internet's potential had led to the information society and e-commerce policies, initiatives and co-ordinating structures.

1.2. Definitions

Defining e-government. There are many definitions of e-government, and the term itself is not universally used. The differences are not just semantic and may reflect priorities in government strategies. The definitions fall into three groups:

- E-government is defined as Internet (online) service delivery and other Internet-based activity such as e-consultation.
- E-government is equated to the use of ICTs in government. While the focus is generally on the delivery of services and processing, the broadest definition encompasses all aspects of government activity.
- E-government is defined as a capacity to transform public administration through the use of ICTs or indeed is used to describe a new form of government built around ICTs. This aspect is usually linked to Internet use.

Definitions and terms adopted by individual countries have shifted, as priorities change and as progress is made towards particular objectives. This is as it should be; the area is a dynamic one and policies and definitions need to remain relevant. In the context of the OECD E-Government Project, the term “e-government” is defined as:

OECD Definition of E-Government

**The use of information and communication technologies,
and particularly the Internet, as a tool to achieve better government.**

While the relative importance of the Internet in the overall framework of ICT use in government will be a matter for debate for a long time to come, this report focuses more on use of ICT that involves the Internet than other, more established ICT applications. This is in recognition of the fact that use of the Internet is in its relative infancy, and as such raises more issues for public

administrators and governments generally than the use of more established technologies. The Internet, building on the established base of ICT use by governments, offers new opportunities for governments to do their job better, and it is primarily for this reason that governments are focusing on it. However, e-government is more than Internet use or online service delivery. Internet use by governments cannot, and indeed should not, be isolated from the broader digitisation of government activity as a whole; the issue is therefore one of emphasis.

1.3. Objectives

As will become clear in the course of this report, it is well recognised that changes involving ICTs need to be accompanied by broader organisational change if they are to be effective. Merely introducing ICTs into existing organisations and work processes will not produce the desired improved outcomes. This report aims to identify what needs to change if e-government benefits are to be maximised. It is designed to assist e-government practitioners and those concerned with the modernisation and reform of public administrations. It analyses country experiences and good practices, identifies key challenges and impacts, and sets down possible strategies and guidelines as a framework for action by individual countries. There is no single path to good governance outcomes via e-government, and each country's action will reflect its individual governance and economic and social circumstances and priorities.

The OECD Project's priorities were to analyse e-government within the framework of public governance, so this report does not evaluate countries' e-government activity, nor does it attempt to rank or undertake a comparative analysis of progress in advancing e-government objectives. A number of organisations have undertaken statistical analysis of e-government initiatives, and some of this analysis is included in Annex 2. However, countries participating in the OECD study are sceptical about existing statistical studies, as they give only a superficial picture of e-government and do not usually take into account country priorities, service quality, or any of the back-office changes that this report argues are essential for e-government. Moreover, existing data cannot measure the degree of co-operation between services nor the quality of user friendliness – two essential aspects of this study. The OECD is currently laying the groundwork for further analysis of these issues, including eventual quantitative evaluations (see the section on Monitoring and Evaluation).

Instead, this report seeks to be **forward looking** and to consider the longer-term vision by addressing the following questions:

- Where are we now, and where are we going?

- How can governments meet future challenges?
- What are the pathways to the longer-term vision?

More specifically, for the purposes of this report, the **full range of government public administration activity** is addressed – planning and policy making, service delivery, e-consultation and internal management. Particular attention is paid to experiences at national government level, although relations between national and other levels of government are examined insofar as the latter are partners in meeting national policy objectives.

The study **focuses on governance issues and impacts**. E-government can help administrations do their job better by reinforcing good governance objectives and administrative reforms are necessary if e-government is to be successful. E-government and reform are therefore mutually reinforcing. This study takes the perspective that the value of e-government initiatives can be assessed against long-standing governance principles, such as efficiency and accountability. It recognises that introducing e-government initiatives will challenge existing governance frameworks, such as those dealing with how public administrations operate, and considers potential solutions.

1.4. Methodology

The findings and observations presented in this study emerge from the deliberations and guidance of the OECD E-Government Working Group. This group consisted of 12 countries: Australia, Canada, Denmark, Finland, France, Germany, Italy, Japan, Korea, Mexico, Netherlands and the United States. The findings of the report also stem from the series of Project seminars, involving commissioned papers and the seminar deliberations; from papers and information prepared by member countries; and from analysis of countries' e-government strategies and other material. As will appear, there are major deficiencies in data on e-government activities, so that it has been impossible to carry out a detailed analysis of comparable quantitative information.

The examples and information used in this text come largely from the OECD E-Government Working Group. The OECD also undertook an in-depth pilot study of e-government in Finland, and many examples and case studies stem from the report of that study, "E-Government in Finland". Country examples in the report are taken from all levels of government.

Chapter 2

The Case for E-Government

Public management reforms to enhance performance continue to be an important issue for all OECD governments. The need to respond to changing pressures resulting from globalisation, fiscal demands, evolving societies and customer expectations has meant a continuing process of reform, notwithstanding significant changes over the last two decades. While common elements can be identified, particularly the need to do more with less, the timing, pace and nature of reforms have been diverse, reflecting the conditions for reform and the strategies adopted in each country.

Reforms have addressed the full range of good governance objectives, seeking legitimacy, rule of law, transparency, accountability, integrity, effectiveness, coherence, adaptability, participation and consultation. In many areas, ICTs have been an important enabling tool for reform. While the pursuit of efficiency gains and the effective delivery of programme outcomes have been main drivers of ICT use in government, the focus has turned more recently to other good governance objectives, such as improving services, increasing accountability and transparency and facilitating consultation and engagement.

This Chapter looks at the reasons for embracing e-government as a means of reforming public management and contributing to broader policy objectives. In practice, while a specific e-government initiative can be driven by a single major goal, such as cost savings, most aim to achieve a number of often competing objectives. Drawing on information submitted by Working Group members, this Chapter discusses the case for e-government:

- **E-government helps improve efficiency in government.** ICTs are a necessary enabler of reforms to the ways in which public administrations work. Improving internal operating systems – financial systems, purchasing and payment arrangements, internal communications and sharing of information – and programme processing and delivery arrangements can generate operating efficiencies and improve performance.
- **Enhanced quality of service** has been a major component of public administration reform over the past two decades, and the use of ICTs to generate improvements in services has been a primary driver for e-government activity. In particular, the use of the Internet has given a major boost to customer-focused, seamless services, which aim to transcend the structure of public administrations. Online services are increasingly seen as part of a broader services strategy, with important customer and efficiency benefits. As users of public services

are often obliged to interact with government, user dissatisfaction with the quality of government services can quickly become a major political issue.

- ICTs can support **more effective outcomes** in key policy areas such as health, welfare services, security and education. Ultimately, governments and public administrations exist to deliver policy outcomes, and ICTs are a major enabler across all major policy areas. The use of the Internet to deliver value in these areas is a major preoccupation in member countries.
- Better governance arrangements in themselves will **promote economic policy objectives**. More specific effects may range from impacts on ICT production, e-commerce diffusion and business productivity to indirect effects such as reduced fiscal requirements owing to more effective programmes and efficiencies flowing through to the broader economy.
- E-government can help **forward the reform agenda**. When aligned with modernisation goals, implementing e-government can help administrations focus on the additional changes needed to meet service delivery and good governance concerns. At the same time, it provides some valuable reform tools and builds support from high-level leaders and government employees for achieving those objectives.
- Through citizen engagement, e-government can **improve the overall trust relationship** between government and public administrations. E-government, by improving information flows and encouraging active participation by citizens is increasingly seen as a valuable tool for building trust between governments and citizens.

These objectives may involve trade-offs between efficiency and effectiveness, efficiency and openness, accountability and customer focus. When this is the case, priorities will need to be set, but it should not be assumed that such trade-offs are inevitable. Several Nordic countries have put in place specific offices (ombudsmen) to handle citizen complaints with regard to privacy and citizen trust, this supports both privacy protection and efficient use of data.

2.1. E-government and efficiency

The search for **efficiency gains** is a major driver of ICT use in government, and most national strategies specifically address this goal. ICT use in government has often been driven by the need to reduce the call on resources, either to reduce overall spending or to allocate funds to higher priority areas. Mass processing tasks, distributed networks of service outlets, payment processes and internal public administration operating processes such as procurement, payroll and human resource management all depend on ICTs to operate and will continue to be targets for efficiencies.

Box 1. Italy: Transforming the relationship with business suppliers to government

In order to increase programme efficiency, effectiveness and to stimulate e-commerce, in 2000, the Ministry of Economy and Finance adopted an e-procurement system. This was the result of a study which identified areas in which procurement processes could be made more efficient. It reflected one of the goals of the Italian E-government Action Plan to improve economic development, promote change and modernisation in the public administration and develop the Information Society.

In the new e-procurement system, the approach to procurement has been transformed, and ICT applications and re-engineered business processes have been introduced. Three procurement channels or “platforms” have been introduced: online product catalogues, e-auctions and e-marketplaces.

In order to introduce the new procedures, new legislation had to be introduced to provide a legal basis for the e-procurement project. Based on this, a new organisational model for procurement management and a new online website were introduced. While reforming and centralising policies and procedures, care was taken to respect the budget autonomy of agencies – purchasing decisions remain within the authority of the respective agencies, while the e-procurement system simply enables a more effective process for the authority to be exercised. A new online procurement website was also introduced, based on the platform model, which provides a fully transactional and e-enabled capacity that allows bids and purchases to be made online.

The e-procurement system has meant a 30% reduction in the total cost of goods and services procured for the government. The end-to-end transactional capacity has meant that suppliers wanting to secure government business have had to adopt e-commerce business practices, and the increasing use of e-procurement will eventually provide further business opportunities, such as collaboration with suppliers on inventory requirements and new applications to automate purchasing.

Source: Culbertson (2002b).

More recently, Internet-based applications have been deployed, using online filing to cut down costs of data re-entry and checking, to save on communications costs with customers and within government, to use scarce resources such as skilled staff or facilities more efficiently by improving booking arrangements, to replace paper-based application processes and to reform payment and procurement.

Box 2. Improved efficiency in statistical offices

One example of improved efficiency as a result of e-government can be seen in international and national statistical institutions.

Changes have occurred in national statistical offices (NSOs) in response to growing citizen demand for more statistical data, disseminated on a more cost-effective basis, in order to take decisions or evaluate the performance of governments. The developments have been made possible by recent technological advances in ICT. Changes in work practices have been so fundamental that NSOs are usually to the fore of the e-government process in their countries in providing information, interactive services for data manipulation or information sharing with other agencies.

Advanced technology, and the Internet in particular, has enabled national statistical authorities to disseminate data more rapidly, and more cost-effectively. It has provided new opportunities to create national knowledge bases by placing large data bases on the Internet, as well as to create and manage very large databases. These databases are accessible through the Internet and allow products to be tailored to individual users which are updated in real time. Many governments have also developed national one-stop statistical portals, which offer statistical information to users without them having to know the agency that produced them, providing integrated information across administrative boundaries. They often operate within the framework of a wider government portal.

National statistical offices also use ICT to use the expanding range of statistical tools to elaborate elementary data and to make ready-to-use products available to clients, to respond to the requirements of international bodies and comply with international standards regarding both data and metadata, and to disseminate more data free of charge in recognition that official statistics can often be a key public good. Due to ICT, as well as a commitment to change, many statistical offices are now using data sourced from administrative records instead of direct collection. This reduces the compliance burden on citizens and businesses, and has achieved budget savings. ICT has also enabled NSOs to use different variations of legal, administrative, methodological and technical measures to collect and disseminate data in a way that protects the privacy of respondents by preventing primary and secondary disclosure. It also provides efficiency gains when disseminating data that may require enhanced security measures. While there is no such thing as zero-risk of disclosure, NSOs are now able to minimise this risk while at the same time making better quality data available.

Statistical offices are using ICT advances to make efficiency gains in the area of public service delivery for which they are responsible, i.e. the collection, compilation and dissemination of statistics. But success has been achieved as much due to issues such as leadership, commitment, planning, and involvement of many different actors as to the use of ICT.

Source: Finn and E. Giovannini (2002).

Box 3. The Nordic “Green Corridor” – international data sharing for increased efficiency

An example of increased efficiency is the Nordic “Green Corridor” system, in which electronic sharing of information has helped customs officials manage processes with greater speed and at reduced cost. In co-operation with Swedish trade, Finnish customs, Finnish trade and Russian customs, Swedish customs have developed a system to facilitate border crossing when entering Russia for compliant operators. The Green Corridor is based on the accreditation of customs processes and a fully electronic chain of information, starting with the Swedish or Finnish trader and ending with the Russian customs officers at the point of entry. Via the Internet, Russian customs has access to the trader’s customs declaration submitted online and thus can better plan and perform control measures. This makes mutual risk analyses possible and ensures that control measures are performed only when high risk is perceived.

An approved Swedish or Finnish trader joining the Green Corridor enjoys a release time of a maximum of two hours when entering Russian territory, since all necessary information is already available when the merchandise appears at the border. Special measures ensure the authenticity of submitted information and electronic signatures guarantee consistency from consignor to consignee.

The Green Corridor promotes compliance on the international level and makes use of the e-solutions implemented within the Virtual Customs Office of Swedish Customs. True partnership applies since the services of the Virtual Customs Office are also available to approved traders in Finland and the information submitted is available for the three customs administrations in Sweden, Finland and Russia.

Source: OECD E-Government Working Group.

With the increasing introduction of seamless online government services, significant future efficiencies are likely as a result of greater sharing of data within government and between government and private sectors such as health care and welfare services. Arrangements which allow for re-use of data (ignoring for the moment service quality and greater effectiveness) can create efficiencies by reducing the need for multiple collections from the same customer, data reconciliation and checking, and indeed, from the point of view of the customer, for the need for some services at all. If progress is to be made, the key issues are privacy protection and the need for agencies to operate in a common framework to enable interoperability.

Additionally, major savings can be obtained by transforming business processes. More recently, the focus has turned to the Internet and online applications in areas such as online data collection to reduce data entry costs, the use of e-procurement and other e-commerce applications, reductions in government publication and distribution costs and data through online publication. Sharing of common data within and between agencies to reduce collection and data reconciliation costs is emerging as a major focus of efforts to reduce costs within government. It also provides considerable benefit to customers of government services.

It is generally thought that greater efficiencies are generated from ICT projects that involve a major transformation of business process than from those that do not. While this is broadly true, the cumulative contribution of **micro-efficiencies** should not be ignored, even though the absolute amounts involved may not be significant.

While improvements in efficiency are a major factor in the decision to implement e-government programmes, a focus on efficiency through the use of ICT requires consideration of the following:

- Assessments of efficiency in government are difficult. **Government outputs are difficult to quantify**; as with other service industries increases in quality

Box 4. **Germany: Online services and the Federal Education Assistance Act (BAFög)**

BAFög is aimed at promoting schooling and higher education. It enables children of low-income families to finance their education through a loan. Beneficiaries have to repay their loans upon completion of their studies. Currently, some EUR 650 million are provided annually in the form of loans for the education of school and university students. For the first time, students repaying their BAFög loans are given the opportunity to obtain information on their applications, questions and requests over the Internet. This includes early repayments, performance-related partial remission of debts as well as release from or deferment of loan repayment. Using BaFög online, beneficiaries can apply online for performance-related or social reductions before paying off their loans.

The aim is to develop co-operation between the federal, Länder (federal states) and municipality levels on BaFög matters, and to further standardise relevant management processes. The electronic processing of repayments has already led to savings of EUR 4.5 million in the first year of operations. These savings are primarily due to process optimisation efforts, and investments in this e-government service paid for themselves in less than one year. Further savings can be achieved across the various administrative levels.

Source: OECD E-Government Working Group.

are difficult to measure; the political satisfaction of particular projects or policies may legitimately outweigh more mundane considerations of cost and savings

- These concerns apply to the assessment of efficiency gains as a result of e-government, as do issues around assessing the impacts of ICT use more generally. At the individual project level assessments of potential efficiencies are often made at the project initiation stage, although it is not uncommon in government for an ICT enabled process to be introduced within tight time lines to meet a specific policy and political imperative, with efficiency concerns of lesser importance. However, while individual project-level efficiencies can be identified, at the aggregate level the **lack of an accepted methodology and comparable data** make it difficult to draw conclusions as to the scale of the aggregate impact of e-government on efficiency.
- Notwithstanding these problems, at the project level efficiencies need to be able to be identified and estimated prior to the endorsement of the project, to enable the assessment of competing proposals. As part of this, the **need** for the particular service or process should be examined. Invariably such assessments are made within an agency, but should take place on a whole of government basis. It may be possible for an agency to remove the need for users of a service to contact government by re-using data already collected by a different agency, or to build on existing processes.

2.2. E-government improves service quality

The improvement of government services is an objective of all e-government policy statements examined in this study. Indeed, given the emphasis in both policies and in commentary more generally on online service issues and online service targets, one might assume this to be the sole objective of e-government. It has been useful as a way of raising public interest in e-government, by articulating a vision (for example, services online by a specific date) often with the broader aim of engagement with information society initiatives more generally. Online service targets have also been effective in mobilising public administrations to examine the potential of the Internet and related technologies by applying them to existing services.

Specific service delivery policies have been developed by governments to improve the quality of their services to customers. Key elements here have comprised quality charters, incorporating timelines for specific services, agency/customer service standards, benchmarking with private sector service organisations and customer surveys. While a certain desire can exist to have online services for their own sake or for their demonstration effect, such services are increasingly being developed in the context of broader, multi-channel service policies.

A core element of member countries' reform agendas and e-government strategies is the adoption of a **customer focus**, with the specific objective of providing citizens and businesses with a coherent interface with government which reflects their needs rather than the structure of government. This customer focus has long been an element of broader public management reform, and predates the generalised use of the Internet as a service delivery mechanism. One-stop offices, advice bureaux, whole of government telephone call centres and services such as information kiosks have attempted to bring together information and services from different governmental agencies. The provision of case management services, drawing together a range of programme resources to address individual needs also reflects this approach.

The availability of the Internet has led to a quantum leap in efforts to provide a cross-government customer focus, and Member countries are active in developing initiatives that draw together information and services for specific customer groups. Citizens benefit from online services because they can learn about policy changes that may affect them or specific community activities or proposals at local level and can carry out routine transactions with government, such as payments, on a more convenient basis.

From the point of view of users, ICTs have made it easier to integrate the services of individual agencies. To date, this has overwhelmingly concerned Web-based information services, such as overall government portals and sub-portals focused on a particular subject or customer group. Such services require co-ordinated activity across agencies, with agreement on standards for metadata, for example. Integrated cross-agency transaction services are starting to emerge, and are under active consideration in many member countries.

Specific online initiatives adopted to improve customer focus include:

- Development of **online portals** focused on particular topics or groups which bring together information and transactions relating to that particular topic or group.
- Measures that provide **targeting** within customer groupings, such as the ability to select information by size of business from a business portal, which helps small businesses find relevant information more readily, or access to information by geographical area.
- Use of **e-mail listings** to provide information, for example release by national statistical agencies of new statistical information customised for specific groups of customers.
- Services that allow individual **identified users** to access customised information and services. This could involve, for example, access to targeted information and capacity to submit taxation or other forms, to apply for assistance and to file compliance-returns online. Such services

Box 5. Canada: Guide for the Service Improvement Initiative

This guide is a managerial tool for implementing the Service Improvement Initiative. It is directed to programme managers responsible for service delivery in federal departments and agencies. It offers a detailed, holistic method for planning and implementing service improvement, based on the client's perspective and the establishment of service standards. It includes step-by-step descriptions of suggested activities with associated evaluation tools, questionnaires and guidelines in the appendices.

Source: Service Improvement Initiative: www.cio-dpi.gc.ca/si-as/howto-comment/hottwo-comment00_e.asp

require some form of authentication related to the confidentiality and security requirements of the transaction involved. Many countries have realised the benefits of cross-agency authentication systems, and the United Kingdom's Gateway and Ireland's Vault projects aim to provide a common authentication point for a range of services. They also provide an important enabler for online mass customisation of services.

Box 6. Mexico: Customer-focused portals

The Government of Mexico recently launched www.gob.mx, a government-wide portal that organizes information and services in a thematic, rather than institutional, fashion. The system concentrates more than 1 500 informative and transactional services from over a hundred government institutions. Under the theme "work", for example, users will not only find the expected matchmaker service between employers and prospective recruits, but also information about labour rights, taxation on labour services, public housing and soft financing for low income workers, and so on. Furthermore, contents are linked among themselves to produce contextual connections such as "youth" and "drug prevention", or "household" and "security". The bundling of information and services in thematic channels has been possible thanks to the horizontal coordination of sixteen leaders – one for each thematic channel – and the work of several dozen agencies.

Source: OECD E-Government Working Group.

2.3. E-government increases policy effectiveness

Although access and convenience are important drivers of much e-government activity, there is increasing awareness that e-government initiatives can also help achieve important outcomes in major policy areas such as health, education, anti-crime initiatives and security. In fact, efforts to improve enhanced policy outcomes will encompass the full range of the policy sectors addressed by governments. The contribution of e-government to policy outcomes may take many forms, but a characteristic of effective initiatives is the use of the networking potential of the Internet to share data more effectively among a range of dispersed stakeholders.

E-government initiatives may involve online services that interact directly with end users, for example to provide information and enrolment facilities to boost take-up of a welfare payment programme or online information on education and training options. Initiatives may also involve sharing information among various units of governments and intermediaries, for example in the health sector, where arrangements are made to capture and share more efficiently information on pharmaceutical use and medical services in order to reduce aggregate costs and provide better care to individuals. Such initiatives are being developed in countries such as Finland and Australia.

Improved collection of taxes, reduced demand for health services through better use of health information or reduced unemployment payments owing to better matching of the unemployed to vacancies via online job registers can also have a significant impact on government's fiscal position.

Additionally, e-government can help improve social policy. For example, e-government can help administrations promote the use of native languages and provide information about indigenous peoples. It can help form communities of interest around public issues and provide information to specific and disenfranchised groups.

An increase in programme effectiveness through the use of ICT will require attention to the following:

- A framework for identifying and assessing the potential contribution to the relevant policy target. Many e-government initiatives have been developed from a supply-side “build and they will come” focus. While this is understandable in the early stages of online service rollout, initiatives need to meet a clear business need if they are to be effective. There is a need to be able to measure potential demand, policy outcomes and quality improvements that can result from e-government initiatives.
- Recognition of the fact that capturing the benefits of better information flows and networking in general is complex in sectors such as health and

Box 7. Denmark: User benefits expected from health portal

A collaborative effort to establish a common public health portal on the Internet is a fundamental element of the introduction of digital administration in Denmark. Based upon the initiative of the Danish regions, the health portal initiative became a part of the 2002 economic agreement between the government, the regions and certain local authorities and stressed the project's importance as a framework for electronic communication in the area of healthcare. Phase one of the portal is expected to be launched at the end of 2003 and run through 2004.

The health portal's overall purpose is to support the general aims of Danish National Health Service (NHS), including better information and service, quality assurance and improved use of treatment and care resources. It is intended to give targeted access to the NHS, affording users opportunities for information and communication in order to gain insight when necessary into their possibilities for treatment. At the same time, the principle that healthcare problems must as far as possible be solved at the primary treatment level (typically general practitioners – GPs) must be respected.

As a means of facilitating communication between the parties involved in the NHS, it is crucial for the health portal to be seen as a tool capable of being integrated into clinical work in such a manner as to allow healthcare professionals to solve the tasks supported by the portal in a quicker and/or better way.

Security is the first concern for the health portal. Patients may only access their own data following individual authentication via digital signature. Healthcare professionals may access patient data after obtaining the relevant consent and local authentication.

The search engine is expected to be the most frequently used access mode. The quality of search results for the large amounts of varied data that the portal will contain will be highly dependent on the accessibility and quality of metadata. Automatic generation of metadata and use of classifications that match the NHS's usage are therefore essential.

The portal must support a coherent patient treatment process, including supporting patient opportunities for attending to their own healthcare and their own treatment and for contacting relevant healthcare professionals, and supporting transfer procedures between healthcare professionals involved in the treatment process. Support of patients with chronic illness through home monitoring and telemedicine is envisaged.

To avoid duplication, the portal where possible use information produced under the auspices of the public healthcare authorities. This principle will be reinforced through the establishment of a central editing function and through regional editing environments. The editors will be responsible for further developing and updating a range of information, including profile areas for NHS actors, national waiting list information, patient guidelines, information on healthcare and prevention, etc.

Box 7. **Denmark: User benefits expected from health portal** (cont.)

During the first two years, selected counties' electronic patient medical records are to be integrated. In addition, to ensure more appropriate use of medicines and remedy inappropriate polypharmacy, personal medical profiles will contain a review of the use of prescription medicines. This information will be adapted and used for communication between health-care professionals.

Patients will also be able to communicate with their GPs through electronic appointments, e-mail consultations and ordering of repeat prescriptions. There will also be a pilot project on GPs' receipt of test results from medical laboratories. The health portal will also support communication between general practitioners and hospitals concerning examination information, clinical guidelines, etc.

Source: Denmark Country Paper (2002).

welfare services and will require both patience and full engagement by stakeholders. Timeframes must be realistic, and there may be considerable lags before benefits accrue.

- Sharing of information about individuals between different units of government and between governments and non-government organisations and enterprises raises issues of privacy protection. The need to justify such sharing reinforces the need to articulate clearly the benefits to be reaped.

2.4. E-government contributes to economic policy objectives

The New Economy: Beyond the Hype (OECD, 2001f) assessed the impact of ICTs on economic growth and indicated that assessment is difficult in this area, particularly for activities within the government sphere. E-government activity may generate savings for governments by reducing the need for outlays, but the economic impact will depend on how these savings are used. Accordingly, no firm conclusions as to the scale of aggregate impacts can be drawn; moreover, as will be seen, assessment of impacts at the specific project level presents significant difficulties.

Online services have already played a strong role in **improving business productivity** and assisting in the start-up of new enterprises. In many OECD countries, administrative simplification is a priority, especially as regards policies and services for small businesses, as government requirements can have a major impact on their viability. Initiatives have involved reducing compliance burdens by making business registration requirements accessible

Box 8. Spain: The tourism portal: a market place for tourist products and services

Developed by the government and launched in June 2002, the Spanish tourism portal *www.spain.info* aggregates information and services from public and private sector databases (i.e. the central government, the 17 regional autonomous administrations, local authorities, private tour operators, travel agents, individual hotels, restaurants, etc.). It shares information and services with vertical and horizontal portals, such as municipal websites, commercial portals, travel sites and government tourist offices. The portal provides tourists and travel agents with quantified and co-ordinated information to plan, organise and book trips in nine languages and a wide range of formats (e.g. multimedia and 3-D virtual imagery), and allows tourist office staff to deliver up-to-date information tailored to each tourist's needs. The portal allows regions, municipalities and private operators to pursue their own tourism strategy without having to duplicate efforts. An e-commerce extranet allows tourism businesses and communities to buy and sell their products, and provides a reservation system, with financial transactions conducted at the point of sale.

Source: Holmes (2002b).

online, enabling online filing of taxation forms directly from accounting software used by businesses. They also concern providing online access or filing of forms relating to unemployment insurance or statistical reporting and sharing data collected from businesses among different agencies. Governments have also developed online business portals to provide more efficient access to information produced by business assistance agencies on issues such as market trends, export opportunities and assistance programmes. Portals have been used to draw together information from a range of agencies, often at different levels of government.

E-government is also seen as a means of promoting broader **information society and e-commerce policies**. Government use of online applications for service delivery and government business processes can provide a demonstration effect which can help lead to the take-up of e-commerce and the Internet across the economy more broadly. This is a common goal of countries' information society and e-government strategies, though its success remains difficult to assess. Elements of this policy may include:

- Government acting as a **leading-edge user**, adopting emerging applications to assist in their broader take-up across the economy. For example, governments have been urged to adopt smart card or specific security

applications in the hopes that this will provide a critical mass for broader use. In a context of promoting innovation, these approaches can be worthwhile, particularly if specific funding is forthcoming.

- Developing or adopting **policies and standards** which can be applied across government and broader public sector applications, in order to promote common standards and influence the potential market. Sweden and Australia, for example, have adopted policies to share authentication infrastructure between government and the banking sector to defray costs and promote take up, and thus improve the business situation for both parties.
- E-government services can be seen as a rationale for **take up of the Internet**, thus contributing not just to social policy objectives to reduce the digital divide but also, more broadly, to the value of online access in the community (the network effect) and thus to the demand for online services and e-commerce.
- Government **direct consumption of ICT goods and services** can be significant and is often more stable than private-sector demand. Government demand for communications capacity, particularly in non-metropolitan areas, can influence market decisions to roll out capacity. Additionally, government demand for ICT can increase demand for locally produced ICT products and services, and government ICT procurement policies often take into account this objective. Governments can also help develop ICT skills in the economy.

2.5. E-government can help forward the public reform agenda

The promised benefits of e-governments do not take place simply by digitising information and placing it online. E-government services continue to be embedded in the environment of today's public administrations and therefore remain limited by what these administrations are capable, and willing, to do. The term "e-government", as used by the OECD E-Government Project, applies to the use of ICT as a tool to *achieve better government*. Thus, e-government is not about business as usual, but should instead focus on using ICT to transform the structures, operations and, most importantly, the culture of government.

Reform of the public administration has been on the agendas of most OECD governments well before the advent of the term "e-government". But e-government is an important component of today's reform agendas because it: 1) serves as a tool for reform; 2) renews interest in public management reform; 3) highlights internal inconsistencies; 4) underscores commitment to good governance objectives.

As a reform tool, ICT use in government makes it easier to monitor the efficiency and effectiveness of service delivery, tying individual output to overall project objectives. It has been used to simplify and make more transparent financial, case management and human resource management processes. Such tools are only effective, however, if they are linked to public management objectives and used as part of an overall change management strategy.

E-mail and electronic communications technologies have laid the groundwork for the much heralded “webbed” or non-hierarchical administration by allowing collaborative editing of documents, broader sharing of information and the tracking of documents waiting for clearance. One of the most important implications for e-government is its potential for integrating services and processes in order to achieve more seamless government. Seamless government cuts across the boundaries that separate different jobs or functions in the public administration. E-government can create networks of information flow among the different parts of the administration, irrespective of legislative or administrative boundaries and/or hierarchies. In fact, one can question whether or not government agencies can maintain their current internal divisions and territories while trying to maintain a single, simple interface with the citizen through e-government.

E-government has also helped to renew interest in public management reform by capturing the imagination of political leaders and government employees alike. While there is a danger of overselling the benefits of e-government, there is interest in both the potential for service improvements and the participatory aspects of e-government. Public sector trade unions in many countries have been supportive of e-government initiatives. Especially in the context of shrinking working populations, e-government may offer more skilled employment for some even as some less-skilled jobs are eliminated. Government interest in ICT has also renewed focus on developing employee skills and on recruitment and retention.

E-government also increases pressure for reform by promising service improvements. Once countries begin implementation, they realise that technology alone is insufficient and that workplace practices and structures need to be reformed as well. E-government raises citizen expectations putting further pressure on government. For example, Statskontoret, the Swedish Agency for Administrative Development, notes that serving citizens 24 hours a day, seven days a week is not simply about having a web presence: “the 24/7 agency, must, through its choice and implementation of service channels and electronic services, become part of the larger context that is central e-government. This calls for voluntary collaboration between agencies or government-led development and strategy throughout the central public administration.” (The 24/7 Agency. Statskontoret, 2000.)

Box 9. **Switzerland: “Live+” – Internet transmission of parliamentary debates**

Live+ transmits the live debates of the National Council (lower house) and the Council of States (upper house) of the United Federal Assembly (the Swiss Parliament), along with supplementary information to put the debates into context. Web users follow debates live in one window of their computer screen and, on a second and third window, interactively call up information about the speaker and the issue being debated. It is up to viewers to decide how deeply they would like to investigate a particular subject.

Live+ is an audiovisual Internet relay system, produced by the Swiss Parliamentary Services in conjunction with Swiss Television. It was launched in 1999 as a result of demands for greater transparency in the work of both houses of Parliament from citizens, the media and cantonal authorities who increasingly wanted to follow the debates. Live+ makes the debates accessible to a wider audience than television. For instance, Swiss embassies and citizens living abroad can now follow the debates live. From the same website, users can also call other parliamentary information, such as the schedule of sessions, the Official Bulletin of the Federal Assembly, and data relating to committee work.

Parliament's website: www.parlament.ch

Source: Holmes (2002b).

Finally, e-government raises good governance issues that are at the heart of many current debates on how to improve relations between government and citizens. As noted by the OECD Ministerial Council (2001), good governance is an essential ingredient of the mix of policies that underpin economic growth and development. By contributing to reduced corruption, greater openness and trust in government institutions, e-government can help to meet economic policy objectives and build citizen trust in government.

Much has been made about the potential for new technologies to increase the transparency and accountability of government. One cannot assume, however, that making services available online will automatically increase the transparency of the public administration. Undeniably, the enhanced information dissemination capacity of the Internet increases the pressure on government to be more transparent. But it is up to governments to decide, in dialogue with citizens, business and civil society, how best to safeguard the public interest, reconciling the search for better knowledge management with the demand for data privacy and responding to pressures for greater transparency and disclosure at reasonable cost.

It is worth keeping in mind the incentives, opportunities and constraints of the public administrations that are being asked to carry out e-government initiatives. In the wake of the events of 11 September 2001, for example, legitimate policy objectives of security have, in many instances superseded concerns about transparency. The question is not whether one is more important than the other, but rather have countries laid out the appropriate criteria for deciding among diverse governance concerns?

Modernising government structures and processes to meet e-government demands will have some fundamental impacts on how services are delivered. The current model of the public administration in most OECD countries, for example, restricts information sharing because the collection and use of data is segmented along with the structure of government. This separation according to functions, however, also serves to protect privacy of citizens' data. In creating a more seamless government, government will have to strike an equilibrium between protecting citizens' privacy and better meeting their

Box 10. United Kingdom: Engaging the citizen in a “new” government – The Scottish Parliament

Since 2000, the Scottish Parliament has committed to using ICTS to advance its principles of openness, accountability and citizen engagement in the parliamentary process, and implemented an innovative e-government strategy to engage the citizen and assist the operations of the new parliament and the government administration.

The use of the web by the Scottish Parliament www.scottish.parliament.uk is an innovative and evolving model for how ICTs can be used to inform and engage citizens in the democratic process, with an open approach to information and reporting on parliamentary processes, which helps to strengthen the transparency and accountability of parliament to citizens. It includes public education about Parliament's functions and mandate. It uses web casting to broadcast parliamentary session and committee meetings. Parliament also uses ICT to better engage citizens directly in the democratic process, by enabling citizens to petition parliament online. The website contains extensive material and resources on petitioning, including: how to petition, a registry of petitions, and actions taken. Direct citizen participation is also encouraged through interactive “Discussion Boards” on the website. Other web-based resources enable citizens to contact their Members of Scottish Parliament (MSP), and lists the portfolios and committees in which the MSP serves and links to them.

Source: Culbertson (2002b).

needs with more efficient, pro-active services. What starts as an exercise aimed at developing more responsive programs and services becomes an exercise in governance (Lenihan 2002).

2.6. Citizen engagement and trust

Citizen engagement can help build and strengthen the trust relationship between governments and citizens. This is fundamental to the achievement of good governance and in turn to fulfilling broader economic and social goals. In the absence of trust, the rule of law, the legitimacy of government decisions and specific reform agendas may be called into question. While the overall relationship involves a complex web of factors, ICTs can act as an enabler to engage citizens in the policy process, promote open and accountable government and help prevent corruption. Citizen engagement at a basic level includes information, consultation and feedback by service users. At a more advanced level it includes citizen engagement for policy making.

Access to information, consultation and participation mechanisms can have a pervasive impact on promotion of good governance. In themselves, they identify a willingness by governments and administrations to not only accept public scrutiny and accountability, but to actively facilitate it, by improving the scope and efficiency of these processes. This makes good sense: opening up decision-making processes can improve the quality of decisions by improving decision makers' understanding of the context and impact of options before them.

The nature of online services facilitates the collection of information on user experiences. At one level, data on Web use can provide information on pages accessed, user pathways through information and points where users abandoned the application. More active feedback from short online questionnaires or feedback contacts, while not representative, can provide qualitative information directly based on user experiences. Fine-tuning the presentation of online information can reduce the number of costly follow-up contacts, for example if applications are not filled in correctly. Transactions that can be completed online effectively can generate considerable savings.

Feedback from users can help refine service arrangements to make them more effective. For example user feedback on the design of forms or the way information is presented can help ensure that citizens are aware of entitlements and requirements.

Opening up decision-making processes can improve the quality of decisions by enriching decision makers' understanding of the context and impact of the options before them. Consultation and informed participation can help lead to policies that better address constituents' needs and also increase support for, and trust in, public institutions and their policies.

Governments are actively developing online applications in these areas, and many countries are also developing e-democracy policies, which may include e-voting and political engagement issues.

However, while new ICTs offer significant opportunities for greater stakeholder engagement in policy making, they also raise a host of new questions for government. How are citizens' rights of access to information to be ensured in the online era? What aspects of government's current structure, organisation and resource allocation need to change to respond to new standards for their interactions with citizens? What is the status of civil servants' online responses to citizens' queries or their submissions to an electronic discussion forum?

Box 11. Korea: Improving transparency by building an electronic procurement system

In the past, suppliers for government procurement projects obtained bid information through personal networks and placed bids that were prearranged by the supplier and procuring organisation. In addition, this involved many visits to the procuring organisation to receive payment. This kind of interaction, which depended on direct contact between the supplying firm and procuring public entity, always meant the possibility of corruption.

System G2B (Government to Business) makes possible total online processing of government procurement, from placing bids to final payment. The procurement portal gives access to procurement information in one stroke (www.g2b.go.kr). Through the use of this system, direct contact to place bids and receive payment has been drastically reduced and the procurement process has been disclosed to the public, thereby improving transparency and the credibility of procurement practices.

Source: OECD E-Government Working Group.

Box 12. Mexico: Preventing corruption in procurement

The site www.compranet.gob.mx was created to handle all purchases by the federal government and has expanded to include states and some cities. The system has been crucial for ensuring the transparency of the government's procurement process. It includes capabilities for electronic tendering, special searches, and research on both vendors and buyers. Citizens can readily find out who has bought what, from whom and at what price.

Source: OECD E-Government Working Group.

Chapter 3

External Barriers to E-Government

Identifying potential gains from e-government is one thing; actually realising them is another. Implementing ICT projects, particularly large-scale projects that can have a major impact on service quality improvements or efficiencies, can raise a number of problems, many of which relate particularly to operating within government. External e-government barriers often concern breakdowns, missing components or lack of flexibility in the government-wide frameworks that enable e-government. The result is oftentimes the inability to achieve a whole-of-government perspective in e-government implementation. Legislative and regulatory barriers, financial barriers, technological barriers and the digital divide, among others, can impede the uptake of e-government. While internal obstacles (such as lack of collaboration for seamless services) will be covered in the chapter on Implementation, these external barriers need to be addressed on a whole of government basis in order to be overcome.

3.1. Legislative and regulatory barriers

The success of e-government initiatives and processes are highly dependent on government's role in ensuring a proper legal framework for their operation. A requirement for e-government processes to be introduced and adopted is their formal legal equivalence and standing with the paper process. Additionally, current public governance frameworks based on the assumption that agencies work alone (in terms of performance management, accountability frameworks, data sharing for example) can act to inhibit collaboration and information sharing between organisations. Complexity of regulations and requirements on agencies can be another barrier; if agencies are unable to determine what is required of them, they are likely to be unwilling to invest in a project that may not conform with requirements. Finally, privacy and security need to be ensured before e-government initiatives can advance.

The rules and regulations around ICT use can build up, and impose resource obligations on agencies. Given the pervasive nature of ICT use in government, these requirements can cover acquisition and financing, network operations and security, staffing and skills issues, service design, monitoring and reporting. They are likely to have been issued by a number of agencies, rather than a single agency or the central e-government co-ordinating unit. It would be of value to regularly undertake a review of the

overall regulations and requirements that govern ICT acquisition and use. As a first step, identifying these would help indicate areas where redundant or overlapping regulations were in place: an agreed process of regular examination would provide an opportunity to get rid of requirements that have outlived their usefulness.

Recognition of e-government processes

The introduction and uptake of e-government services and processes will remain minimal without a legal equivalence between digital and paper processes. OECD governments are aware of the need for a framework to provide for enforceable electronic transactions, both in the e-government sphere and for electronic commerce, and have taken action.

For example, the legal recognition of digital signatures is necessary if they are to be used in e-government for the submission of electronic forms containing sensitive personal or financial information. As of 2002, 26 of the 30 OECD countries have passed legislation recognising digital signatures, though a much smaller number have actually introduced applications beyond a pilot phase. Many are waiting for the private sector to fill the void.

In response to a Ministerial mandate, the OECD Working Party on Information Security and Privacy (WPISP) is preparing a survey to assess cross-jurisdictional challenges and impediments associated with authentication services. From this survey, information will be compiled on domestic legislative/legal/policy frameworks for electronic authentication and findings gathered on regulations applicable to entities providing authentication services. On this basis, the exercise will help determine how varying legislative/legal/policy frameworks can be bridged to provide for cross-jurisdictional acceptance of authentication services and provide for legal effect of electronic signatures.

Complexity of requirements

Confusion about what exactly are the requirements on agencies implementing e-government is another problem. Agencies may need clarification on what they should and should not do, particularly in the areas of data security and technical standards. Especially in the case of small agencies with few resources, the cost of re-developing an e-government project which has adopted the wrong standards is potentially prohibitive. A vicious circle may occur when ignorance of current regulations leads to incorrect development of e-government projects and to waste of resources, and in turn results in more regulation.

The web of government requirements around ICT procurement, industry support, contract requirements, compliance with security requirements and

Box 13. Digital Signatures in OECD Countries

	Status of e-signature legislation
Australia	Enacted
Austria	Enacted
Belgium	Enacted
Canada	Enacted
Czech Republic	Enacted
Denmark	Enacted
Finland	Draft bill
France	Enacted
Germany	Enacted
Greece	Enacted
Hungary	Enacted
Iceland	Enacted
Ireland	Enacted
Italy	Enacted
Japan	Enacted
Korea	Enacted
Luxembourg	Enacted
Mexico	Proposed draft
Netherlands	Pending
New Zealand	Enacted
Norway	Enacted
Poland	Enacted
Portugal	Enacted
Slovak Republic	Enacted
Spain	Enacted
Sweden	Enacted
Switzerland	Experimental regulation ¹
Turkey	Draft bill
United Kingdom	Enacted
United States	Enacted

1. Though Switzerland has made major efforts to catch up with the development of e-government related legislation, the process towards the recognition of a full legislation on e-signature is still ongoing. A law recognizing the equivalence between traditional and electronic signature has not yet been enacted. An experimental regulation (decree) has been issued regarding the conditions under which certification service providers may be recognized on a voluntary basis. The scope of the decree is to promote the provision of secure electronic certification services to a wide public and encourage the use and the legal recognition of digital signatures.

Source: OECD based on data from www.bmck.com/home-transactions.htm

other standards can increase costs and drag out implementation timetables. Seamless government services involving a number of agencies unavoidably add to the complexity of implementation.

Combining existing requirements with clear informal/regulatory guidance is a primary challenge to e-government co-ordinators. Government should address how existing regulations should be clarified and explained to e-governments implementers' and in turn impact the implementation of services.

Collaboration frameworks

E-government has the potential to improve collaboration across agencies and organisations, but there are a number of regulatory barriers to collaboration. For example accountability rules, designed to ensure responsible use of public resources by clearly identifying who does what, can impede collaboration as it may be unclear who is accountable for shared projects. Similarly, performance management follows clear distinctions of who did what, and there is little flexibility for evaluating shared projects. Finally, legislation enacted in order to protect the privacy and security of citizens' data can impede data sharing across government (see below).

Privacy and security

Citizens are unlikely to use e-government services without a guarantee of privacy and security. Governments also have a strong interest in maintaining citizens' trust (*e.g.* that information provided will not be misused). The difficulty of protecting individual privacy can be an important barrier to e-government implementation. Ensuring that e-government initiatives are in step with society's expectations in this area is a crucial means of building trust. The challenge facing e-government coordinators and implementers is to respect accepted privacy principles while allowing the benefits of the Internet and other technologies to flow to citizens. This balance is of particular importance when considering seamless government services involving data sharing among agencies.

Government has a responsibility to provide leadership in developing a culture of privacy protection and security. IT should provide this leadership through its roles in the development of public policy, as owner and operator of systems and networks, and as a user of such systems and networks. As a user of information systems and networks, government shares a role with businesses, other organisations and individuals for ensuring secure use of the system and network.

The OECD was the first intergovernmental organisation to issue guidelines on international policy for the protection of privacy in computerised data processing. In 1980, the Guidelines on the Protection of Privacy and Transborder Flows of Personal Data (Privacy Guidelines) were adopted as a Recommendation of the OECD Council. They were followed by

Box 14. France: Protection of privacy with regard to the need for links between electronic files

France's chief priority has been to protect privacy in response to the threat posed by the expansion of electronic files and the potential uses of new information and communications technologies (NICT), and in particular the possibility of matching files which contain personal data. At the same time, some countries have sought to use NICT to simplify administrative formalities by connecting various files so as to minimise the need to ask citizens to supply the same personal data several times. Other countries have sought to make their administration more efficient by authorising it to match information on the same individual. France is not opposed to endeavouring to deliver administrative services more efficiently to the citizen, nor to simplifying administrative formalities; it requires only that constant care be taken to ensure that the rights of the individual are safeguarded when automatic processing of personal data is introduced.

The Law of 6 January 1978 "*Informatique et libertés*" recognises that individuals have a number of rights in regard to the automatic processing of personal data by the public and private sectors, as does most of the legislation on data protection, and the Council of Europe Convention No.108 for the protection of individuals with regard to automatic processing of personal data, which was ratified by France. These rights are: the right of individuals to ask anybody whether it holds information concerning them, to have knowledge of that information, either directly or indirectly through an intermediary in the case of data concerning national defence or public safety for example, the right to rectify data, to refuse that a file be kept on them when such a file is not obligatory by law, or the "right to be forgotten", which allows individuals to request that certain non-permanent personal data concerning them be removed from a file.

Another fundamental right is that bodies wishing to introduce the automatic processing of personal data must inform individuals in advance of the use that will be made of the data concerning them. Prior to implementing any computerised data processing project, an administration must submit it for an opinion (or declare it, in the case of the most routine processing) to the *Commission Nationale de l'Informatique et des Libertés* (CNIL www.cnil.fr/index.htm), a body set up by the Law of 6 January 1978. The CNIL examines the proposed uses of the data and ensures that there is transparency, so that the individuals concerned can exercise their various rights.

The administration responsible for processing personal information must inform the CNIL of the aim(s) of the processing it wishes to introduce, in order to obtain its opinion. It must also specify the data that will be recorded for the purpose of that aim, how long they will be stored and the categories of persons who will have access to them. The content of the processing must correspond to the declared aim and must not be used for other purposes, under pain of constituting a criminally punishable offence. This means that the purpose of a file that would be shared several administrations must be clearly specified and receive a favourable opinion from the CNIL.

Box 14. France: Protection of privacy with regard to the need for links between electronic files (cont.)

One of the government's priorities is to facilitate citizens' access to the administration by reducing the number of agencies they have to deal with, by simplifying administrative formalities, by reducing the time it takes to deals with requests, and by making the administration more user-friendly. In accordance with the measures of the Law "Informatique et libertés" of 6 January 1978, a personalised citizen's portal is being launched "mon.service-public.fr." This portal will eventually allow the user to obtain a personal set of information and online services, either anonymously or personalised as the case may be. The objective is to support the development of e-government by progressively building personalised portals and electronic user accounts so as to allow citizens to access records containing their personal information and to facilitate citizens contacts and relations with the administration.

Source: OECD E-Government Working Group.

the 1985 Declaration on Transborder Data Flows, and more recently by the Ministerial Declaration on the Protection of Privacy on Global Networks, adopted by OECD Ministers at the 1998 Ottawa conference, "A Borderless World: Realising the Potential of Global Electronic Commerce". At that conference, OECD Ministers reaffirmed "their commitment to the protection of privacy on global networks in order to ensure the respect of important rights, build confidence in global networks, and to prevent unnecessary restrictions on transborder flows of personal data".

The revised *OECD Guidelines for the Security of Information Systems and Networks: Towards a Culture of Security* that were adopted by the OECD Council in July 2002, respond to the ever-changing nature of the security environment by promoting the development of a culture of security – that is, a focus on security in the development of information systems and networks and the adoption of new ways of thinking and behaving by all participants when using information systems and communicating or transacting across networks.

3.2. Budgetary barriers

OECD governments operate within vertical funding structures, in accordance with the core public management principle of holding an agency accountable for achieving organisational objectives and giving it the resources to accomplish those objectives. However, such budgetary frameworks may not take into account the specific needs of certain e-government projects, particularly those involving long-term funding requirements and

collaboration across agencies. In order to maximise the benefits of e-government financing issues must be addressed.

One commentator (Harvard Policy Group) considers there is a virtually inverse relationship between traditional government budgeting and ICT investments.

Table 1. **Traditional budgeting and budgeting for ICT investments**

Focus of traditional government budgeting	Characteristics of high-value ICT investments
Single-year (or biennial) expenditures	Multi-year investments
Programme-by-programme performance	Enterprise or cross-boundary performance
Financial cost/benefits	Financial and non-financial costs/benefits
Level of effort within existing work flows	Changes in the flow of work
Ongoing operations	"Start-up" operations
Control	Innovation

Source: Harvard Policy Group (2001).

Specific budgetary issues

A number of features of current budgetary arrangements in OECD countries work against efficient implementation of e-government. Current budgetary frameworks provide financing for individual projects, but do little to account for the shared responsibility inherent in many e-government projects.

E-government funding:

- To the extent that an explicit choice is made, the implementation of e-government is often unlikely to win out in competition with other compelling public policy objectives such as education, security and health. While most e-government proposals will be argued for in terms of programme outcomes rather than in terms of advancing e-government *per se*, the **level of resources** devoted to e-government is ultimately a matter for governments to determine in the light of their overall priorities.
- The difficulty of measuring costs and potential benefits for e-government projects makes it hard to develop funding cases for projects and compare alternatives in a budget-setting context.
- The treatment of certain ICT spending as capital rather than recurrent expenditure is a major challenge. Not all ICT expenditure is of a capital or investment nature, but involves maintenance, associated recurrent staffing costs, or small-scale projects. However, if major projects are not considered as investment, they will need to compete with other more pressing

recurrent funding proposals, and in this context will seem to involve large levels of expenditure.

- Budget time horizons can pose problems for e-government. Many e-government projects will be multi-year in nature, and thus require commitments to spend resources over a long period, sometimes well beyond the annual or multi-year budgeting horizon. Such projects represent a commitment to spend future revenues, and governments are understandably reluctant to tie up future spending. Projects that do not require such a commitment may be favoured.

E-government collaboration:

- There are a number of **budgetary rigidities** that prevent shared funding arrangements. The vertical nature of current arrangements means that it can be difficult to request joint funding, to pay into a project being done by another agency, or to pool funds. There are few mechanisms for shared funding, and it can be difficult to assess the extent to which agencies are benefiting from (and hence should contribute to) a shared project.
- The use of **performance-based budgeting** can create disincentives for collaboration, by rewarding independent behaviour at the expense of shared projects (see section on legislative and regulatory barriers).
- There is no framework for **profit sharing**. Agencies have no incentives to eliminate redundant systems by sharing systems with other agencies unless they can share in some of the savings generated.

Possible solutions

A number of steps can be taken to help overcome the aforementioned budgetary barriers. **E-government funding** can be assisted by the following measures:

- Major ICT projects could be usefully **classified as capital investment**, involving a single or a series of up-front capital outlays, with a consequent stream of benefits. This would enable a fairer comparison of such proposals with recurrent spending alternatives, or in some systems remove the capital project from recurrent budget frameworks. Classifying such major projects as capital investment help with funding of e-government projects. This will also help with problems of budget time horizons.
- In a number of countries, spending on e-government requires **separate** approval by the e-government co-ordinating office to ensure that there is no duplication or inconsistency with broader strategies and architectures. Clear rules and structured consultation processes will help maintain agency confidence in this approach.

- **Public-private partnerships** can be used to bypass budgetary constraints and thus respond to a number of barriers, including obtaining capital, budget-time horizons and disincentives for innovation and collaboration. For example, using a private partner to build the required infrastructure, and then leasing it, or otherwise paying on a user-pays basis will reduce the need for up-front capital, but with the risk of greater long-term cost.
- Specific central **funding for innovation** can be used to fund innovative and high-risk demonstrations that otherwise would not receive funding. Arrangements could be used to augment this funding through linked (or matching funds) from other agencies, private partners, or by using seed financing from a central fund with the expectation that the investment will be repaid (in part or in full).
- An agreed approach to the **assessment of costs and benefits** of e-government can help evaluate and fund successful projects (see section on Monitoring and Evaluation).
- The ability of agencies to **retain savings** generated from e-government initiatives will be important as an incentive for agencies to look for efficiencies.

The linked nature of many e-government projects across traditional programme and organisational lines means that shared budgetary arrangements are essential. On the basis that the bulk of funds for e-government will (and should) be provided through agency budgets, the budget process can be used to promote co-ordination of e-government initiatives. **E-government collaboration** can be aided by the following measures:

- A **central register** of e-government initiatives seeking funding would enable agencies and e-government co-ordinators to see the range of new proposals and identify potential duplication.
- **Central funds** can be used to encourage certain activities, such as collaborative initiatives by agencies.
- Under the **lead agency model**, an agency funds a project that benefits other agencies as well as itself.
- Another possibility is that a number of **agencies co-ordinate their approach** to obtaining funds. This may be done, for example, by dividing a project into segments. (However, this approach can lead to implementation problems regarding the division of the project, especially as some agencies may be successful in obtaining funding while others fail.)
- Under **pooled funding** arrangements, agencies share funding for a common project. It is important to be able to formalise such arrangements in quasi-contractual arrangements, to provide clarity for all parties and to allow for a unified project management and implementation approach.

Box 15. United Kingdom: Innovative funding mechanisms

In 1998, the government set up a Capital Modernisation Fund, separate from allocations to individual departments, to finance innovative investments based on project proposals. These funds, which were available as a result of under-spending of conventional capital allocations, have been used extensively for ICT projects. According to the Treasury Website, “the Capital Modernisation Fund was set up to support capital investment to improve public services. For 2000-01, GBP 200 million were added to the Fund as part of the Budget 2000 announcement to take the Fund to GBP 2.7 billion between 1999 and 2001-02”. Funding is allocated on a competitive basis and on the following criteria:

- Extent to which the project applies genuinely innovative approaches to service delivery.
- Quality and strength of the economic appraisal of the project.
- Impact on the efficiency and effectiveness of the service.
- How far the project contributes to the department’s objectives.
- How far the project is genuinely additional.
- Robustness of arrangements for delivering, managing, accounting, monitoring and evaluating the project.

Successful projects have included e-government initiatives. In the first round (1999-2000), e-government projects funded included: GBP 470 million as part of the National IT Strategy to provide 1 000 IT learning centres across the country; GBP 1.1 million in to leverage various e-commerce procurement initiatives, in particular to develop a government “shopping mall” to provide electronic tendering for low-value transactions to and from government which could save over GBP 10 million a year; and GBP 600 000 for electronic procurement by foreign and Commonwealth Office posts overseas. In the second round, GBP 23.3 million were allocated to transform the Crown Court and reduce delay in the criminal justice system by more effective management of cases through the Crown Court while improving the quality of service to court users. This involved: a PC-based system for electronic presentation of evidence, producing significant savings in court time in complex cases; electronic transcripts of court proceedings through a digital audio recording of the official record; and improved distribution of information by displaying relevant information on how cases are progressing on public information kiosks and a read-only access IT source.

Source: OECD E-Government Working Group.

- **Agency payment models** involve arrangements in which the co-ordinating agency funds the development of the project, and agencies that use the service then pay to use it. The advantage of operating on a voluntary basis

Box 16. Canada: Central funding criteria

The objective of the Canadian Government Online (GOL) initiative is to encourage the re-engineering and integration of services so as to better meet the needs of individuals and businesses, and to achieve operational and delivery efficiencies within government. Government Online is client-focused and takes a “whole-of-government” view for clients, with significant economies of scale, while still maintaining ministerial accountabilities and responsibilities.

Central funding has been the catalyst for horizontal co-operation among federal departments and extends into other jurisdictions. The ability to transfer incremental funding into departmental accounts has permitted the government to look for collaborative opportunities, sometimes more complicated and expensive up front, but which clearly promise an eventual return on investment stemming from the savings achieved by offering some common solutions, systems and infrastructure to link departments that need them. It has also allowed the government to insist on high standards of documentation, governance and reporting. The centralised approach has accelerated, the successful delivery of Internet-based services, including in departments where tight discretionary budgets did not allow for the early introduction of such capabilities. There is now a large and growing network of key personnel who co-operate outside of departmental boundaries and stimulate the efficient sharing of best practices, technical tools and key lessons learned.

Early projects were carefully screened by interdepartmental review committees and successful projects received appropriate central funding. In most cases, this central funding covered only part of the project's total cost, with the balance contributed by sponsoring departments and their contributing partners. Three examples of successful projects that have substantially benefited from the centralised approach to GOL are:

- Seniors Canada Online, a project led by Veterans Affairs Canada (VAC) and involving multiple partners and jurisdictions, responds to the need for more and better information specifically tailored to the needs and the realistic computer capabilities of Canadian seniors, their families, caregivers, service providers and supporting organisations.
- e-Client Application Status, a project led by Citizenship and Immigration Canada (CIC), allows individuals to check electronically on the status of their immigration applications. This project involves the safeguarding and transmission of personal information and was therefore a logical choice to act as a prototype for a highly secure electronic communications network.
- The Canada Site, a project led by Communications Canada which includes input from virtually all federal departments, is a layered portal comprising three “gateways” and a single point of entry to all information holdings that are pertinent to interactions between government and its various clients. This major undertaking has absorbed large amounts of funding for development, maintenance and marketing, amounts that only became possible with central direction, co-ordination and funding.

Box 16. Canada: Central funding criteria (cont.)

GOL supports a “whole-of-government” approach by funding departments to work with partners on common solutions. Incremental funding, even if on the margin, can influence the pace or approach to the re-engineering of services by departments. The approach has accelerated the move towards greater horizontal management across departments and opened a new channel for communication and collaboration.

Source: OECD E-Government Working Group.

Box 17. Italy: The co-ordination of financial resources for e-government

In 2002 the Italian Ministry for Innovation and Technology launched an initiative for the implementation of e-government at local level to co-finance, (up to € 120 million), projects proposed by the different local governments (regions, provinces, municipalities). A specific objective of the initiative was to co-ordinate the different financial sources so as to maximize the use of the limited financial resources available at central level. To this end, in the call for tender which was launched to select the local government projects to be co-financed, specific criteria were proposed to favour those projects which were coherent with the regional strategic plan for the development of e-government.

In response to these criteria, the proponents of the projects began to co-ordinate their initiatives with the strategic regional plans, while most regional governments provided additional financial resources for the selected projects. Through this mechanism, most of the projects selected were financed from three different financial sources: national funds, regional funds and local administrations funds

Each of these sources represents a specific commitment for the success of the projects. Furthermore, the regions in the South of Italy decided to use the European Union Regional Development structural funds, adding a further strong element of commitment.

To sum up: the use of a call for tender, as opposed to the traditional transfer of funds, brought about a stronger commitment by the local governments who were proposing e-government projects; the requirement for projects to be coherent with regional strategic plans (in addition to being coherent with the national e-government action plan) brought about a convergence of the different financial resources for e-government development.

Source: OECD E-Government Working Group.

is that agencies will join if they feel the service is of value. This approach also incites the co-ordinating agency to meet agency needs.

- **A mandatory levy** on agencies may enable some projects to proceed that otherwise would not. However such a levy could be difficult to negotiate.
- Performance-based budgeting should **take into account shared responsibility** in order to create incentives or shared projects.

Box 18. **United States: “Pass the hat” – pooled agency funding of projects**

The Clinger-Cohen Act (formerly known as the Information Technology Management Reform Act) implicitly encouraged multi-agency projects by directing the Office of Management and Budget (OMB) to issue “guidance for undertaking ... multi-agency and government-wide investments in information technology...”, thereby prompting the OMB to issue guidance on capital planning as part of its omnibus policy document on information resources, “Managing Information Resources” (OMB Circular No. A-130). The Act also gives OMB the authority to redirect funds from one agency to another to finance multi-agency projects. Finally, the Act permits joint agency funding of projects, known as “pass the hat” funding, a practice otherwise prohibited under most US appropriations laws, which tend to require single agency funding and accountability for projects.

The authority to redirect funds has, until recently, not been used. In May 2002, OMB did invoke this authority in support of an e-government initiative, online rulemaking management. In July 2002, OMB announced its intent to use its Clinger-Cohen authority to support the realignment of government functions envisioned by the Administration’s proposed Department of Homeland Security by limiting individual agency investments in projects that will need to be consolidated.

The “pass the hat” authority has also played a role in financing e-government initiatives in at least two important ways. It is being used to finance the activities of the federal Chief Information Officers (CIO) Council (www.cio.gov), the principal co-ordinating body for federal ICT activities, and to fund the FirstGov initiative.

Source: OECD E-Government Working Group.

Box 19. Mexico: Co-ordination of the government budget process

The Mexican government established SAETI, a system for planning, budgeting and evaluating ICT projects from all federal agencies. The system helps match ICT projects against overarching objectives, detects overlaps and aids in evaluating the performance of ICT investments.

Source: OECD E-Government Working Group.

3.3. Technological change

A number of technological difficulties can impede the implementation of e-government programmes and initiatives. This is a very complex issue, and this section will identify only a few key issues and very broad solutions. Key issues include legacy systems, shared infrastructure, and lagging behind the rapid pace of new technological developments.

Legacy systems

Governments continue to make considerable ICT investments and at any point in time will have a wide range of ICT systems in place. However, legacy systems (systems that were designed for specific purposes) can be inflexible, and incompatible systems make it hard to deploy new applications that involve the need for data sharing or other interaction between disparate systems. Legacy systems can also lead to increased costs, for example related to data transfer. In fact, the difficulty of integrating legacy systems with new initiatives can be a major barrier to e-government. Integrating back office information management and information processing systems with the Internet to provide an online interface to clients has been a major preoccupation of e-government efforts.

This issue is a complex one, and solutions advanced will develop and change over time. Currently, the need for integrated transactional seamless government services has helped promote the development of middleware solutions and web services, a software integrating technology incorporating standards such as Extensible Markup Language (XML) which facilitate the exchange of data between different systems. The promotion of whole of government frameworks, standards and data definitions by e-government co-ordinators will facilitate specific proposals to develop cross agency integrated services.

Shared infrastructure

A lack of shared standards and compatible infrastructure between departments and agencies can impede inter-agency collaboration and the uptake of e-government. But the expense of implementing modern infrastructure can be a major barrier to the implementation of e-government initiatives. Shared infrastructure among agencies is one way of overcoming this problem. However, the development of shared infrastructure can be difficult because of budgetary constraints (see section 3.2), and the difficulties of collaboration.

Government can help by providing a technological framework for delivering electronic services. Establishing common technical standards and infrastructure can pave the way for greater efficiency within government. Important economies can be gained through a whole-of-government approach, both in terms of reducing redundant systems and by lowering the legal and technological barriers for co-operation across organisations. A national approach may range from shared systems to common rules and/or standards governing separate, but connected systems. For example, governments can benefit from scale economies for some common back-office processes, such as human resources management and payroll.

Box 20. Finland: Shared infrastructure

Large-scale or cross-agency e-government initiatives in Finland have usually been planned by or at least have had heavy involvement and/or support from either the Ministry of Finance or the Ministry of the Interior. These ministries can act as a catalyst as well as a formal or informal mediator for the interests of the participating agencies. For example, the JUNA project, the citizen ID card, the citizen portal and the TYVI project all originated in either the Ministry of the Interior or the Ministry of Finance.

In Finland, interoperability work is carried out through JUHTA, the Advisory Committee on Information Management in Public Administration. So far, JUHTA has set over 40 IT standards. There is bound to be frustration, however, as there will always be a lag between the changes in the technical system, services and technological possibilities and the rules governing them.

Source: OECD report on E-Government in Finland (2003).

Preparing for technological change

Governments face the challenge of fostering the development of e-government while there is still great uncertainty regarding fast moving

technological change, and it is difficult to anticipate future policy impacts in detail. One approach to dealing with technological risk is to partner with the private sector. But such partnerships are difficult when governments are trying to establish standards that may not yet be established in the market (see box on Finland Smart Card Case, below).

Broad approaches to dealing with emerging technologies include (OECD 2002a):

- Technology neutrality in legislation and regulation to avoid closing off promising options.
- Flexibility within broad regulatory frameworks and adaptation of current laws to a digital world.
- Involvement of all stakeholders in regulatory processes.
- Performance requirements rather than technical specifications when procuring new technologies.
- Increasingly looking to international co-operation to harmonise approaches to transborder issues.

Box 21. Finland: Smart card case

The Finnish electronic identity card is a smart card that replaces the existing citizen identification card with a smartcard that serves all of the identity card's previous functions while adding new electronic capacities: it can be used for electronic identification and digital signatures, as a tool for encrypting sensitive documents and as an enabler for information exchange among citizens, business and public authorities, as well as for secure electronic transactions.

One reason for the relatively weak uptake of the card is the lack of public-private collaboration in developing user solutions and interactive services for the card. Higher public security standards (stronger data encryption) did not take into consideration either the development of private market technologies or the desired and actual needs of the potential users. The result has been the fairly limited development of electronic service and the under-utilisation of the card.

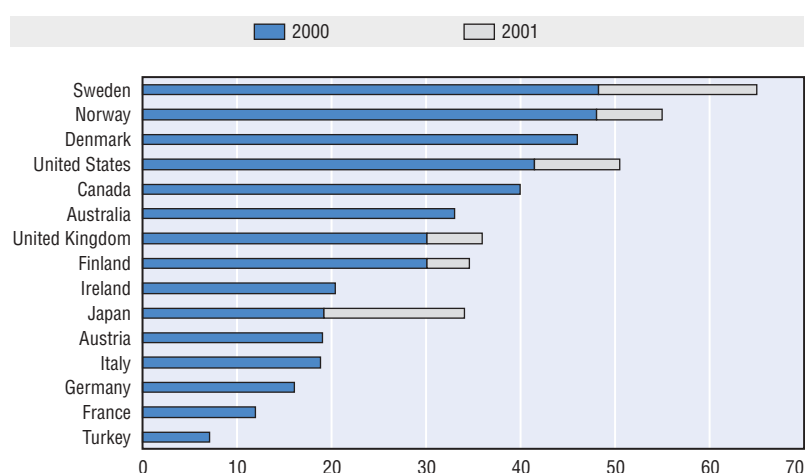
Co-operation with the private sectors in developing electronic applications for the card may have helped broaden not only the user base, but may have also brought the additional benefits of breaking up technological barriers and establishing a common framework for developing applications.

Source: OECD report on E-Government in Finland (2003).

3.4. The digital divide

The digital divide is a barrier to e-government in that people who do not have access to the Internet will be unable to benefit from online services (OECD 2002a). In OECD countries a growing number of people have access to the Internet, but there are still large numbers of people who do not (see Figure 1 and Annex 3). While e-government can also improve services to citizens through other channels (notably by improving back office procedures), the inability to provide online services to all citizens can hold back e-government projects.

Figure 1. **Households with access to Internet, 2000 and 2001**



Note: For Denmark, Ireland and the United Kingdom, access to the Internet via a home computer; for the other countries access to the Internet through any device (e.g. computer, phone, TV, etc.). 2001 for selected countries only.

Source: OECD IT Outlook 2002, based on ICT database and national sources.

Additionally, the groups in society with lower levels of access tend to be those that are already disadvantaged. For example, lower income groups have less access to the Internet than higher income groups. Such disadvantaged groups are often the targets of government interventions and have a higher level of ongoing interaction with government. Many of their interactions with government are complex – establishing identity, entitlement for assistance, complex medical or social intervention – and they are not all well suited to online provision. While access to government information and services would be important for such groups, they may not benefit from enhancements to service quality and greater choice through online services.

E-government services may by their very existence encourage individuals to access the Internet. However, for most citizens, transactions with government are relatively rare and will not generally provide households with the main incentive to purchase a PC and Internet connection. However, government information and opportunities for consultation and participation, particularly at the local level, may be important in conjunction with other factors such as educational uses, access to e-mail and messaging and home PC use. It is thus important, on e-government grounds alone, for governments to continue policies and specific interventions to reduce the digital divide. A specific focus on frequently used government services with value to groups with low access, along with overall marketing of online government services, could be an important element of digital divide policies.

Chapter 4

Implementing E-Government

Capturing the potential benefits of e-government is challenging OECD member countries to take a more co-ordinated approach to its implementation. Governments are actively engaged in developing policies and plans and rolling out e-government initiatives, as well as co-ordinating existing initiatives in order to improve the integration of services. The incorporation of the Internet into the mix of technologies has clearly provided an impetus to ICT use in government and provided new solutions, but has also raised new problems.

Most member countries have established or are establishing new organisational units to facilitate e-government implementation. Others have added these responsibilities to established structures. While actual responsibilities may differ, the relevant units face a central challenge of finding a balance between, on the one hand, meeting the need for improving co-ordination and shared approaches and, on the other hand, continuing to foster flexibility, innovation and individual responsibility.

Given the complexity and breadth of implementation issues, the OECD E-Government Working Group focused on issues faced by all members for implementing e-government. E-government places a high priority on improving services and increasing citizen engagement in the policy making process. But the related and essential reform of the administrative back-office (including issues such as organisational change, leadership, central co-ordination, collaboration and seamless government services, e-government skills, public-private partnerships, managing risk and cost and monitoring and evaluation) demands a whole-of-government approach and will be one of the most challenging areas for e-government.

4.1. Vision statement and plan

A vision statement and plan can help administrations set a course at the start, monitor progress forthrightly, help orient individual initiatives and make numerous mid-course corrections. Where possible, e-government should encompass a vision statement, broad objectives at national level, and a planning process with specific goals and targets.

Vision statements

A common vision is essential to e-government as a means to engage and co-ordinate agencies. A shared vision also serves to engage political leaders

and to impress upon them the importance of e-government. A common vision is not a goal in itself, but a means to achieve policy priorities.

In OECD countries, most advanced e-government organisations have a vision statement. Such a statement may be linked to political commitment at a higher level, or it may be dependent on a general manager or the head of an IT unit with sufficient determination and resources. Whether the vision is shared across the government or is limited to an individual organisation, however, makes a significant difference. No matter how advanced they are in terms of the services that they provide, organisations dependent on their own vision may not be aware of co-ordination problems that extend beyond their own services.

A government-wide vision helps to tie e-government initiatives with broader strategic and reform objectives. A vision statement can help promote inter-ministerial co-ordination, ensure balance and fairness and help to stay the course over a number of years. Having a clear vision of reform helps to maintain consistency and a sense of purpose. Towards this end, political leaders are key supporters of an e-government vision. Political leadership serves to diffuse the vision and to give it added weight. While a vision statement is needed, it is not enough, and the vision, the rationale and the validation for reform need to be communicated to the administration.

The most effective e-government visions depend on input from a variety of stakeholders. Increasingly, users (both citizens and business), non-governmental organisations, and government employees are being brought into the process of defining an e-government vision. This serves to ensure ownership of an e-government vision and to make sure that it can be translated into realistic action plans.

Box 22. **Mexico: Good government agenda**

President Vicente Fox of Mexico established a good government agenda with six major lines of action, one of them being e-government and all of them related to each other. Each year, the president negotiates with the head of every agency the performance targets for the agenda, which includes e-government objectives and targets, as well as the effect of the latter on savings, quality, innovation and transparency. After several decades of mistrust by the public and general corruption, the government of Mexico faces the big challenge of changing its culture rapidly and effectively. In 2001 it produced its code of ethics that has been taught online to practically all federal government middle and senior level managers.

Source: OECD E-Government Working Group.

E-government objectives

E-government objectives are distinguishable from the more general vision in that they translate the broad values contained in the vision into more concrete outcomes, usually with a stronger operational basis, reflecting actual programmes, procedures or outputs. They can either indicate a broad goal or desired programme direction (e.g. serve more citizens) or a more specific target (e.g. “serve all eligible citizens by 2005”). Objectives can therefore form a planning hierarchy in which organisations set specific targets in support of broader government goals that help to achieve the overall e-government vision.

The e-government planning process within the central government helps to establish and diffuse the vision and to translate it into goals and targets. Goals serve not only to provide a direction for action and achievement, they can also be used to prioritise and even advance action. Government-wide planning and the setting of objectives can also improve co-ordination between government organisations, serve to establish criteria for reconciling conflicting approaches and signal preferred approaches and shared resources for overcoming challenges.

Objectives can be set at the national, ministry, agency or project level, taking into account the specificity of each sector or organisation. For example, some countries have chosen quite specific goals at the national level in order to create pressure to advance their e-government initiatives. Objectives at the national level can be used to:

- Secure support, involvement and responsibility from the top political and management level in all ministries.
- Ensure the necessary legislation and central funding.
- Create useful co-ordination and co-operation mechanisms.
- Ensure motivation/incentives for cross-administration projects.
- Ensure that targets are integrated into performance and budget management processes to create/facilitate ministerial steering mechanisms.
- Ensure ownership/responsibility at the central level for overall co-ordination, monitoring and evaluation of national strategy.
- Ensure that the steering of the national vertical strategy is integrated with the horizontal steering of administrative fields (to address the decentralisation/centralisation dilemma).

Without milestones to measure the achievement of goals, there is less overall pressure for agencies to act. Without clear targets, ministries and agencies may have difficulty knowing what they need to do or how to

Box 23. Germany: The E-Government Manual as the way to effective and efficient e-government

The major focus of the German initiative “BundOnline 2005” (www.bund.de/bundonline2005) is an ambitious plan to develop a standardised and far-reaching e-government infrastructure in Germany. In order to achieve this demanding goal within a limited amount of time, Germany has preferred to rely on existing resources when developing and implementing e-government processes. More and more public administrations are moving towards electronic processes based on information and communication technology (ICT). In view of the specific requirements these processes must fulfil, especially concerning accuracy, IT security is increasingly important. Therefore, IT security requirements deserve special attention when public administration business processes are being (re)designed. Using ICT has the potential to optimise processes – but much depends on whether the existing processes and underlying structures are organised and optimised to meet needs such as effectiveness and usability. Hence, the driving force behind these activities is the people responsible for process redesign.

In addition to expert legal knowledge and skills in ICT disciplines, a crucial factor for success is managing e-government as a project within each government agency. As part of the German master plan for e-government, the E-Government Manual is an instrument to help train, qualify and increase the awareness of e-government teams. The manual focuses on best practices and pragmatic approaches to integrating security aspects at the beginning of an e-government project. One important target is to motivate all those involved in these activities to ensure a solid foundation for secure e-government.

The E-Government Manual consists of a set of modules written for different clienteles such as senior management, e-government officers and ICT security experts. It offers guidance on how to develop and implement e-government processes and describes several technical and non-technical solutions. Each of the various authors is an expert in his field.

Related Source: “E-Government Handbuch”, Bonn; Bundesamt für Sicherheit in der Informationstechnik/ Federal Office for Information Security, www.e-government-manual.de

prioritise their actions. If goals are the bridge between an overall vision and specific action, what is sometimes perceived as a lack of e-government vision and strategy may actually reflect a lack of clear goals and targets.

Many countries have issued targets as a central element of their e-government strategies, with common targets for placing services online by a specified date. These can be important as a way of generating momentum

Box 24. European Commission: eEurope objectives

The European Commission has played an important role in identifying the actual and potential benefits of the information society and acting as a stimulus to ensure that all members continue to advance in this area. The eEurope programme is a political initiative aimed at “bringing every citizen, home and school, every business and administration, into the digital age and online; creating a digitally literate Europe, supported by an entrepreneurial culture ready to finance and develop new ideas; ensuring the whole process is socially inclusive, builds consumer trust and strengthens social cohesion”.

In order to achieve these goals, the eEurope programme has defined priority actions and set targets for providing IT training to young people, providing cheap and fast access to the Internet, accelerating e-commerce, developing safe authentication systems for citizens (smart cards), enhancing e-participation for the disabled, improving health care online and strengthening e-government. As in other areas, specific targets for e-government have been set (i.e. simplify online public information) for electronic information and service provision, and indicators have been developed to measure countries’ efforts towards achieving these goals.

Source: eEurope, “An Information Society for All”, Communication on a Commission Initiative for the Special European Council of Lisbon, 23 and 24 March 2000.

and gaining public engagement. However, missing these targets, or even perceptions that they will be missed can sour public perceptions. Dealing with this can require much energy and attention. A problem can also arise from the necessarily long timeframes for meeting ambitious targets. Targets themselves may become somewhat outdated and cease to reflect newer thinking and policy development; the lock-in involved in such targets may be inconsistent with Internet time cycles of change.

In reality, many national targets are based on inadequate information about citizen demand, government resources and technological developments. Without a plan on how to achieve them, broad targets are not particularly useful and may even be counter-productive if too unrealistic. They should be distinguished, however, from more specific, short-term targets that build on each other and are negotiated with ministries and agencies or developed in consultation. Such targets can be useful tools to advance action, secure leadership buy-in and improve accountability.

Performance measures, within the framework of national vision and goals, can also serve to improve accountability by offering indicators against which to measure performance (see section on monitoring and evaluation).

Box 25. Finland: Explicit goals

Almost all agencies and ministries in Finland responding to the OECD survey used for the report “E-Government in Finland” reported including explicit goals in their e-government plans (90%), and most also include an explicit strategy on how to reach those goals (87%). Evaluation plans and frameworks for monitoring goals were less common. Over half of respondents reported that their plans stated how to monitor goals. Even fewer (50%) included an evaluation framework.

Source: OECD report on E-Government in Finland (2003).

4.2. Front office

The term “front office” refers to government as its constituents see it, meaning the information and services provided and the interaction between government and both citizens and business. Implementation of e-government initiatives concerns two areas regarding the front office: implementation of online services and engagement of citizens.

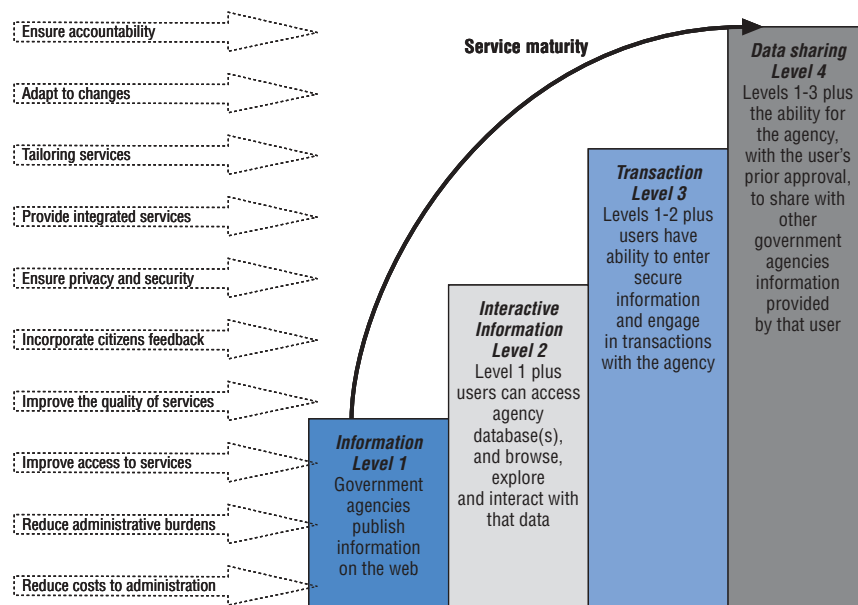
Online services

In order to survey online services, for the purposes of OECD country reviews such as the review “E-Government in Finland”, the OECD adapted a model for electronic service delivery from the Australian National Audit Office.¹ Several international surveys about e-service development have been carried out using a similar model, but there is no general agreement on how to define the stages of online service delivery. In particular, the definition of the last, and supposedly most advanced, stage, seems to cause the most difficulty. This is not surprising given the limited experience with online services at this stage.² The Australian model defines four possible stages of online service delivery:

Stage 1: Information. A Website that publishes information about service(s). Since this stage primarily involves the digitising of available information and making it available online, it has required, to date, the least investment in process re-engineering.

Stage 2: Interactive information. Stage 1 plus users’ ability to access organisations’ database(s) and to browse, explore and interact with that data. While stage 1 information tends to be static, developing services to stage 2 allows users to access an organisation’s database for publicly available information and to interact with the information to do electronic searches and

Figure 2. **Stages of online service delivery and core service delivery objectives**



Source: OECD.

calculations based on their own criteria. Both stage 1 and stage 2 services focus on providing information to users. However, stage 2 services necessitate a greater investment in thinking about how citizens and information will use that information, about the rules for making certain information public and accessible, and about the target audience and the types of tools that can add value to the user experience, making it easier to find what he or she is looking for and/or tailoring information searches.

Stage 3: Transactions. Stages 1 and 2 plus users' ability to enter secure information and engage in transactions with the organisation. Developing online services to stage 3 makes it possible for customers to enter secure information and engage in electronic transactions. This stage of service delivery requires real-time responsiveness by government agencies to the service demands of citizens and businesses. It requires therefore that agencies rethink online services standards, security and privacy protection, back-office processes and relations among agencies for seamless service delivery.

Stage 4: Data sharing. Stages 1, 2 and 3 plus the organisation's ability to share with other government organisations personal information, when

approved by law and/or with the user's prior consent. It is particularly difficult to define a model for e-service delivery with regard to such advanced online services. In certain countries, sharing data among ministries or agencies is limited because of privacy protection legislation (see section on barriers). Yet data sharing can create significant savings in public administrations and help ease procedures and the reporting burden for citizens and business. All data matching needs to be legally approved or explicitly permitted so as to prevent the unauthorised or illegal combination of data (including anonymous data collection for research). The level of transparency of data-collecting organisations and confidence in data protection authorities are critical both for the accuracy and quality of data and for the protection of citizens' rights.

Service quality

Ensuring service quality is important, both online and offline. Successful services are built on an understanding of user requirements. The initial rollout of online services has experienced some difficulties, but there is now an increasing amount of data on what works and what does not.

Effective services need not be complex. Information services can provide high levels of user value, with only a small additional value flowing from the ability to complete related transactions online. The various stages of online service may imply that it is obligatory to proceed to complex transactions as rapidly as possible and that a country's e-government rating will suffer if this does not occur. However, an understanding of user demand and preferences is necessary. Sometimes simple and correct information meets the needs of users, and moving to the transactional service stage will not necessarily add great value.

The adequacy for online services of existing administrative appeal and scrutiny mechanisms may need to be addressed. The argument that online services need to be integrated into broader frameworks support the view that existing arrangements for scrutiny should cover online service provision. A review of the adequacy of existing arrangements and, in particular, the competencies required for effective oversight may be useful.

Seamless services are likely to be more effective than delivering separate services to the same customer group. While online services provide greater opportunities for integration than other delivery mechanisms, the development of joined-up services within a broader service channel strategy can provide the opportunity for both effective and efficient service delivery (see below).

Box 26. Denmark: User feedback mechanisms

The project “Top of the Web” carries out an annual evaluation of all public sector Websites and users’ opinions on the services. Public assessments of Websites inspire government institutions to improve the quality of service they provide to citizens. Few public institutions want to rank at the bottom of the list. The Top of the Web evaluation uses a series of criteria to define the characteristics of a high-quality government Website. The evaluation is based on user friendliness, practical value and openness.

User-friendliness: Users should find their way around the site effortlessly regardless of their level of expertise.

Practical value: Users should benefit from the information given, which must be up to date and offer users relevant self-service options.

Openness: Users should understand who takes decisions and how they can influence a decision-making process. Promoting openness also involves meeting users’ needs, *e.g.* by enabling them to ask questions and receive answers electronically.

Source: OECD E-Government Working Group.

Channel strategy

E-government services clearly need to be developed as part of a broader service channel strategy, especially given the digital divide. Setting goals to place services online has helped broaden the choice of services available to users. However, implementing these services by integrating them with other channels as part of an overall transformation of a particular service makes it possible to take a structured approach to meeting the needs of particular customer groups. This approach is essential for customer-focused services. It also makes it possible to put the use of online services into context, with the online service channel a complementary access point rather than in competition with more established approaches. An integrated approach is also more efficient in the longer term, as more intensive use can be made of common infrastructure and data.

The need to preserve choice is fundamental to any customer-focused strategy. Providing alternative delivery channels (*e.g.* phone, kiosks, counter, etc.) and indeed choice of online access points will improve chances of ensuring access and effectiveness. Choice of approach is in itself valuable to service quality. The principle of “no wrong door” to access government services should be adopted.

Box 27. Finland: Channel strategy

Reactions to the Finnish government's experiments with limiting some traditional delivery channels in certain instances are being closely watched. Two examples:

- The hard copy and disk versions of the citizen's handbook, a Finnish information resource, were eliminated once it was made online. The reason was to ensure that information communicated was always up to date. In justifying this decision, the Ministry of Finance reports that it has more than doubled the number of users with online access to the citizen portal compared to those who had access to the citizen's handbook.
- As part of a 1999 agreement in the JUHTA project to expand the electronic collection of data, Statistics Finland now requires compulsory schools to answer a questionnaire by using the Internet and has developed a collection of Web-based forms for the questionnaire. The decision was taken in consultation with schools, taking into account their needs and Web access. The results have been positive and Statistics Finland is also likely to test a single-channel strategy for the collection of financial information from municipalities.

Source: OECD report on E-Government in Finland (2003).

Citizen engagement³

ICT can be used as tools for providing information, consulting and engaging citizens in policy making. The objective of technology-enabled information dissemination, consultation and participation is to improve the policy-making process through a range of devices (Macintosh, 2002):

- Reach and engage with a wider audience to enable broader participation.
- Provide relevant information in a format that is more accessible and more understandable to the target audience to enable more informed participation (for example, making online content available to the disabled, see box below).
- Engage with a wider audience through a range of consultation and participation technologies to take into account the diverse technical and communicative skills of citizens.
- Facilitate the analysis of contributions to support policy makers and to improve policy.
- Provide relevant and appropriate feedback to citizens to ensure openness and transparency in the policy-making process.
- Monitor and evaluate the process to ensure continuous improvement.

Box 28. Canada: Government-wide multi-channel service transformation

Initially, Canada's Government Online (GOL) project focused solely on the provision of electronic services via the Internet. However, to respond to individuals' and businesses' preferences and expectations, the initiative has adopted a broader vision focusing on client-centred service delivery across the range of service delivery channels (Internet, in person, telephone). This demands a much higher degree of co-ordination and integration across the whole of government, and Canada is now pursuing an approach that views the electronic channel as the enabler for delivering multi-channel service improvement. This also requires a number of government-wide strategies to ensure client-centred, responsive, cost-effective, accessible, trusted and secure service delivery. Changes have been made in the GOL and service initiatives' governance structure to promote the shift towards a broader multi-channel service vision and pave the way for long-term governance of more integrated service delivery. The interdepartmental committee structure that oversees GOL has been enhanced to include the multi-channel service concept, and the committees that support the senior level governance committees have received a broader mandate.

Work has been carried out over the past year to support multi-channel service improvement and delivery of key online services in five key areas:

- **Service transformation and multi-channel integration:** pursuing a user-centred approach to electronic, in person and telephone service delivery, driven by client priorities and expectations.
- **Common, secure infrastructure:** building the enterprise-wide electronic service platform that enables integrated services and supports secure Internet, telephone and in-person access.
- **Policy and standards frameworks:** addressing privacy and security with respect to information management to build confidence in online services and link transformation of services to client satisfaction.
- **Communications and marketing:** encouraging the take-up of electronic service options to fit the government's capacity to deliver high-quality services through consultation, public reporting and marketing, while assuring citizens of the government's commitment to respect their channel preferences.
- **Human resources:** developing the necessary skills in the government's workforce to adapt to change and operate effectively as a provider of client-centred services in technology-enabled, integrated, multi-channel services.

With a new governance structure in place, strategies in each of the five key areas are beginning to produce results.

Source: Canada Country Paper (2002a).

Box 29. **Spain: Catalanian government multiple service delivery channels – “.Cat”**

In 2002, the Catalanian government established a public company called “.Cat”, an Internet company and a single point of contact with the government. The shareholders are the Catalanian government (the *Generalitat*) and a consortium of the 800 Catalanian local authorities. .Cat does not produce services itself, but it packages offerings from across the public sector and delivers them to citizens and businesses. Services are delivered using multiple channels enabled by a .Cat portal. The company also acts as the government's customer relationship manager, using CRM and automated workflow to measure the quality of service delivery and provide the administration with a more complete view of the citizens and businesses that it serves.

The mandate of .Cat is to simplify citizens' relationships with government by creating new channels of interaction, and then interconnecting all the channels and procedures. The .Cat portal supports all the channels which will ultimately include 200 services, information and transactions, delivered as packages based around life events. No transactions are conducted through departmental websites; all interactions between government and citizen will be through the .Cat platform. .Cat management works with government departments to establish priorities for which services to put online, and has a free hand to manage all electronic service delivery. For example .Cat has the authority to reach into each department to pull out the common components, so as to deliver them as a whole package.

Cat portal: www.cat365.net

Source: Holmes (2002b).

However, the following design issues and trade-offs need to be explored (Macintosh, 2002):

- Balancing the need for straightforward access to systems with the need to collect personal data for various reasons such as authentication and evaluation.
- Balancing the need for standard, generic interface features with the need to reflect the expectations of a variety of target audiences.
- Supporting easy and flexible navigation through issues.
- Deciding how much information should be provided to help individuals to be adequately informed on issues and so have the competency to contribute.

Box 30. Japan: Guidelines for disabled accessible website contents

In order to facilitate increased participation in government, Japan has decided that it is important to enable the disabled to access government Websites easily. The guidelines give Web content makers (homepage makers, page designers) and developers of Website tools and methods for creating barrier-free Web content that can be converted to diverse forms. The guidelines involve:

- Need for alternative means of representing content using sound and images.
- Avoidance of dependence on colour information.
- Appropriate use of mark-ups and style sheets.
- Need for clarity in the use of natural language.
- Ensuring that tables created can be converted.
- Ensuring that users can convert new technologies where necessary.
- Ensuring that pages are accessible even if users have not introduced or do not use newer technologies.
- Ensuring that users can cope with content that changes over time.
- Accessibility of the user interface.
- Ensuring that the design does not rely on specific equipment (devices).
- Emergency countermeasures should be available.
- Technical standards and guidelines for the Internet must be respected.

The guidelines for creating content that can be understood and is navigable involve:

- Providing information on context and page structures.
- Explaining clearly the system of navigation.
- Clarity and concision of documents.

Source: Guidelines prepared by the "Study Group for the Improvement of 'Information Barrier-free' Environment" (held jointly by the former Ministry of Posts and Telecommunications and the Ministry of Health and Welfare in 1998) based on the Recommendation "Web Content Accessibility Guideline 1.0" issued in May 1999 by the Web Accessibility Initiative of the World Wide Web Consortium.

- Finally, balancing rights of access, protection of privacy and security with issues of transparency, accountability and trust.

Box 31. **Italy: Ensuring accessible government websites for the disabled**

The objective of this bill is to guarantee that products – typically office equipment, software and Web pages – meet the accessibility requirements of people with disabilities such as sight or hearing impairments or mobility or dexterity limitations. It requires, for the first time, the Italian public administrations' electronic information to be accessible to people with disabilities and prescribes that any new information technology that the public administration acquires should be accessible to everyone, including people with disabilities. Moreover the bill has been conceived so as to adjust to the development of all technologies that support disabled people.

Finally to avoid that the bill remains just a declaration of principles, the following provisions were introduced: solicitation and contract rules for technology purchases for the public administration; a timeframe for the implementation of websites for the disabled.

Source: OECD E-Government Working Group.

When, who and how?

The OECD report “Promises and Problems of E-Democracy: Challenges of Online Citizen Engagement” (OECD 2003b) examines a number of country case studies on e-consultation. The report raises three key questions that are rapidly emerging when approaching online engagement of citizens in policy making, namely: when? who? and how?

When? Most of the case studies in the report describe e-engagement exercises at the **agenda-setting** stage of the policy cycle. This is not surprising given that this stage of the process is most open to suggestions from citizens and is characterised by a significant degree of public deliberation, which new ICT tools are designed to facilitate. It may also indicate the exploratory or experimental nature of these online initiatives, given that this is the stage where e-engagement is most likely to complement, rather than disrupt, traditional methods of policy making. A few countries offer examples of online tools adapted for use at all stages of the policy cycle; others offer illustrations of e-engagement at a specific stage (*e.g.* policy formulation or monitoring). Whether the lack of examples of online engagement during the implementation and evaluation stages of policy making indicates that these are less amenable to e-engagement, or simply less widespread, remains an open question.

Who? The case studies illustrate the **wide range of public bodies** now exploring the use of new ICTs to engage citizens in policy making with local

governments, national governments and parliaments, and bodies operating at the intergovernmental or international level (e.g. the European Commission). Obviously, the objectives, scope and target groups of e-engagement efforts undertaken by these bodies differ considerably. Nonetheless, they all offer valuable insights into the opportunities, dynamics and limitations of online information, consultation and participation in policy making. The target groups addressed also vary and may include all citizens (e.g. within a given geographic area), all interested parties (e.g. independently of location) or specific sub-sections of the population (e.g. marginalised groups, businessmen, youth).

How? Most case studies illustrate the importance of ensuring the **integration** of online and traditional methods of citizen engagement in policy making both to provide information on a policy issue or the e-engagement exercise (e.g. through posters, printed brochures, local press) and to offer a range of options for citizens to provide feedback (e.g. post, telephone, fax, e-mail or co-ordinated traditional and online discussion forums). The importance of active promotion of online consultation exercises (e.g. through leaflets, stickers, Website advertising banners) is also important. Specific technologies chosen for e-engagement vary in their degree of sophistication – but most feature a dedicated Website with e-mail options. Others adopt specialised software to manage online deliberations or use password-protected discussion areas for registered users. It is also essential to ensure competent and constructive moderation of online deliberations.

Access to information

The Internet is the medium of choice when providing citizens with access to government information anytime, anywhere. ICTs offer powerful tools for searching, selecting and integrating the vast amounts of information held by public administrations as well as presenting the results in a form that can be used by individual citizens.

Access to information by citizens regarding government and administrative activities remains a basic precondition of government accountability, reinforcing formal representative arrangements. This opening up of processes, whether for policy decision-making, processing of applications or government procurement can, through external scrutiny by citizens and civil society organisations, reinforce ethical behaviour and the consistent application of laws and regulations.

Online information provision can also be an important element in preventing corruption. Information on entitlements and costs of services can open up decision making and reduce opportunities for arbitrary behaviour. Systems that guide applicants through complex entitlement procedures can be incorporated into information provision and can help reduce fears of

Box 32. Korea: Preventing corruption by improving transparency in administration

In the past, citizens not only had to worry about unreasonable charges arising from delays for civil applications; they were also unable to track the processing of their applications. To alleviate these problems, the Internet Procedure Enhancement for Civil Applications, which provides access to information on application, processing and result of civil services through the Internet, was adopted.

Currently, information on applications, review results and government employees responsible for civil applications is available on the Internet for all government organisations, including local governments and communities. (An example is the Seoul metropolitan government's OPEN system at <http://open.metro.seoul.kr>)

This system has made civil administration services highly transparent by eliminating unreasonable processing of civil applications and reducing processing time.

Source: OECD E-Government Working Group.

corruption by clarifying the decision-making process. Online tracking of the processing of an application can also be a mechanism to promote openness and reduce fears of corruption, particularly when linked to formal timeliness standards for approval processes.

Decision-support systems that guide applicants through complex processes or legislative entitlement provisions can also, through use, improve the confidence of citizens that laws and regulations are being applied fairly. This can reduce administrative and judicial appeals, which impose costs on both administrations and customers. Take-up of entitlements will also be facilitated by helping potential applicants and their advocates better understand the options available.

Government information can also be seen in broad terms as a common resource of value for a range of individual social and economic processes that, in the great majority of cases, do not involve engagement with government. The online environment provides the opportunity for government to act as an authoritative source of information, and to this end, many governments build on existing business and other information programmes. Some of the most popular government Websites deal with the weather and genealogy, hardly a major policy focus of government.

Access and accessibility are two key issues in enabling citizen to obtain online information, as defined in a recent report on online consultation by the Government Online International Network (Poland, 2001, p. 9):

- **Access:** “the real possibility of consulting or acquiring government information electronically”.
- **Accessibility:** “the ease with which one can actually make use of the possibility of consulting government information electronically”. This definition usefully emphasises the perspective of end users of government information and their capacity to find, digest and use relevant information. The report proposes seven criteria to determine the degree of accessibility of online information: recognisability and localisability; availability; manageability; affordability; reliability; clarity; and the ability to cater for special needs (*e.g.* persons with disabilities).

Improving the accessibility of online information can be achieved by: providing the information in terms of specific life events or policy issues; search engines; software for style checking and improving the intelligibility of government texts; multilingual translations of official documents; provision of online glossaries. Measures that facilitate access of **the disabled** to web-based information and the provision of information in a range of **community languages** are also necessary on equity grounds.

Consultation

The unprecedented degree of interactivity offered by ICT has the potential to expand the scope, breadth and depth of government consultations with citizens and other key stakeholders during policy making. At the same time, these new tools pose significant challenges to governments in terms of their technical, political and constitutional implications. Among the questions raised are: How can government ensure an equal hearing and assured listening to so many individual voices? How will such inputs be integrated into the policy-making cycle? What is the role of traditional mediators (such as civil society organisations) and elected representatives (such as parliamentarians)?

A number of tools are available to governments intent on collecting citizens' views and suggestions on issues proposed for online consultation, including: government consultation portals or Websites; e-mail lists; online discussion forums; online mediation systems to support deliberations; ICT support for off-line consultations. Current experience in OECD countries clearly shows the importance of ensuring competent, independent and effective moderation of online public deliberations.

In the interests of transparency and accountability, governments also need to develop ICT-supported tools for the analysis of public input and to

provide feedback to citizens on how their comments and suggestions have been used in reaching decisions on public policy.

Among the issues to be addressed when launching online consultations are (Macintosh, 2002):

- Who defines the criteria by which citizens' inputs are analysed?
- How can e-contributions be incorporated into decision-making?
- How are judgements made about the relative weight of e-contributions with respect to other inputs?
- How and to what extent can technology support or highlight areas of agreement and disagreement?
- Can technology adequately support the summarising and content analysis of contributions?

As has long been the case in traditional off-line consultations, the earlier e-consultation takes place in the policy cycle the better its chances. Online consultation also faces some specific challenges, such as its in-built self-selection of participants with access to the Internet; this raises the risk of over-representation of a small cross-section of the population. However, such risks can be obviated by efforts to enable wider access (through public kiosks, cyber-cafes and community centres, as well as TV and other digital platforms) and an adequate investment by government in promoting and supporting online consultations.

Public participation

As defined in the OECD's *Citizens as Partners* (2001e), active citizen participation in policy making is "a relationship based on partnership with government in which citizens actively engage in defining the process and content of policy-making. It acknowledges equal standing for citizens in setting the agenda, proposing policy options and shaping the policy dialogue – although the responsibility for the final decision or policy formulation rests with government" (Citizens as Partners, OECD 2001e). Few concrete examples of this strong formulation of government-citizen partnership are to be found at national level, whether online or off-line.

Options for online public participation are currently being explored in OECD countries. They include the use of e-petitions (to government or parliament); online referendums and shared online work spaces for deliberations and development of policy options. Additionally citizen participation includes proactive engagement in the provision of public services, such as community-based activities.

Only a very few OECD countries, however, have begun to experiment with online tools and discussion formats that leave citizens much latitude for

proposing opportunities for participation, setting the agenda for discussion, submitting their own proposals and shaping the final outcomes (OECD, 2001, p. 58). While many of the barriers to innovative forms of e-engagement may be technical, others are more closely related to cultural resistance in policy making to new forms of partnership with citizens and civil society and factors that shape the traditional policy process in representative democracies.

Future challenges

The main challenges for e-engagement include (Macintosh, 2002):

- **Scale.** From a citizen's perspective, the question is how technology can ensure that an individual's voice is not lost in a broad debate. One approach is to design technology to give individuals the electronic means to find others with a similar point of view. There is a need for technology to make available virtual public spaces in which an individual's voice can develop into a community (public) voice. From a government perspective, there is the challenge of how to listen to and respond to every individual. Fostering online communities and developing e-engagement tools to support such communities could enable a more collective approach.
- **Capacity.** The second challenge is harnessing ICTs to encourage citizens to think constructively about public issues and listen to, and engage in, argument and counter-argument. There is therefore a need for accessible and understandable information and an opportunity to debate using tools such as next-generation mediated discussion forums. Related to this challenge is the effort to involve otherwise disenfranchised groups in policy making (e.g. the socially excluded, youth). There is a need for e-engagement tools that provide citizens with an opportunity to participate in, and to understand, collective decision making and develop the skills of active citizenship.
- **Coherence.** Governments need to take a holistic view of the policy-making cycle and design technology to support the processes of informing, consulting, participating, analysing, providing feedback and evaluating. Inputs received at each stage in the policy-making cycle need to be made available at other stages of the process so that policy is better formulated and citizens are better informed. Consideration should be given to addressing if, and to what extent, knowledge management techniques can support the policy-making cycle.
- **Learning.** Online engagement in policy making is new and examples of good practice are scarce, hence the need to build on the experience of others and the need for comparative work. National governments should take advantage of innovative e-engagement work under way at the local level, in parliaments and in other countries. Of course, any e-engagement system

that proves successful in a given context must be adapted to the culture, traditions and objectives of other government units that might wish to replicate their experience.

- **Evaluation.** Tools are needed to assess what value added online engagement has, or has not, brought to policy making. There is a need to understand how to assess the benefits and the impacts of applying technology to open up the policy process to wider public input. As governments increasingly support the development of ICTs to enable citizen engagement on policy-related matters, there is a corresponding need to know whether e-engagement meets both governments' and citizens' objectives (see also section on Monitoring and Evaluation).

4.3. Back office

The term "back office" refers to the internal operations of an organisation that support core processes and are not accessible or visible to the general public. The implementation of e-government goes hand-in-hand with a number of back office reforms. On the one hand e-government will help bring about these reforms, while on the other hand e-government requires such reforms in order to be successful. The back-office operations described in this Chapter include:

- Organisational Change.
- Leadership.
- Central co-ordination.
- Collaboration.
- Ensuring skills.
- Public-private partnerships.
- Managing risk and cost.
- Monitoring and Evaluation.

In this Chapter, each of these areas will be discussed in turn.

Organisational change

ICTs have been changing the way public administrations operate since they were first introduced in the 1950s and 1960s. ICT influences both overall efficiency and organisational change as it increases the capacity to implement work flexibility, provides tools for more effective and collaborative decision-making and service delivery, and creates opportunities for rethinking traditional business processes.

The use of ICT has an impact on operations efficiency by transforming mass as well as internal business processing tasks such as personnel record

keeping and payments to officials and contractors. Further savings may accrue from benefits of scale, for example, in the case of e-procurement and from reduced corruption when ICTs are used to promote transparency. In the government environment, however, while a specific process may be improved, **productivity gains may not result in programme savings**. The bulk of savings due to process improvements generally come from a reduction in staff resources, as routine tasks are automated. However it may not actually be possible to actually reduce staff numbers. In such cases, efficiencies gained from improving a routine process may be reallocated to enhance service quality by freeing staff no longer required for routine processing to provide more individual assistance to those with more complex problems.

The introduction of ICT into the public workplace also requires accompanying process changes in order to make the most of e-government. All too often, ICTs are overlaid on an existing organisational structure without any thought to how those structures can be improved. Governments have tended to use technology as a patch to provide a seamless interface with users to a complex administrative structure. The creation of national portals, for example, has often consisted of the rearrangement of existing information without implying a fundamental change in processes and procedures or the creation of collaborative frameworks. Within agencies, incentives for greater information sharing and collaboration would help the implementation of organisational change.

Introducing ICT has created opportunities to rethink organisational processes for improving service delivery. Evidence from both private and public sectors reinforces the view that ICT needs to be seen as one aspect of a reform package that allows organisations to achieve greater efficiency and other governance objectives. Member countries understand the need for a series of changes, involving both ICT and non-ICT elements. The benefits sought – more effective outputs, greater efficiency – require more than just introducing ICT into existing organisations and work processes.

ICT can foster the adoption of new organisational practices through increased interactions and information sharing. This has had an impact both on the use of ICT to perform tasks within government, but also more broadly on the expectations and working habits of a new generation growing up in the information society. While efforts are only now beginning to look at the long-term impact of these changes, many expect that improved communications will lead to flattened hierarchies and increasingly networked and collaborative work models.

For e-government to deliver benefits, the ways in which public administrations work will have to change. This process has already begun. This section of the report looks at the broad organisational changes that are needed

to build sustainable change around e-government and at organisational features that may be emerging in response to the rollout of e-government initiatives.

Types of organisational change

Small-scale ICT activity, such as the development of a Website as an additional publication and service channel, may not initially require complex supporting changes. However in the long-term this will require far reaching organisational change, especially as websites begin to offer deeper, more complex types of services.

The challenge of providing seamless services entails a certain blurring of roles and functions within the administration as organisations are asked to work together to deliver services according to the needs of citizen and business and not their own internal structures. The necessary sharing of information and tasks makes it much more difficult to ensure internal accountability within the public administration. While the need for checking or direct supervision of achievement of individual tasks may diminish, new challenges will emerge such as the performance management of teams within and across agencies, the prevention of abuses arising from shared data and the motivation of individuals who are either tele-working or part of virtual teams.

Re-engineering processes may require a shift in the balance of roles and responsibilities between different functional areas or between the agency's central office and local offices. Increased data sharing within an organisation may upset individual arrangements, by making particular data holdings (and their operators) redundant, and require concerted management effort to gain acceptance of the new arrangements. Greater sharing of data, enhanced communication and more consistent decision making can facilitate a devolution of decision making to an organisation's lower levels. It can also foster either the creation of specialised units at local level or of units focused on specific customer groups, while maintaining overall policy coherence.

From a government-wide perspective, organisational change is needed to harmonise working processes and to improve co-ordination and collaboration between organisations. Effective service delivery requires different organisational units across government to be able to interact and co-operate efficiently. Cross-government projects, involving different agencies, should be based on knowledge sharing and led by agency experts willing to share expertise.

Internal resistance to change

To date, government structures have been resilient in the face of technological change. Traditional bureaucracies still hold sway in public administrations, albeit in an environment of reform that has seen greater use of devolved agencies, the elimination or outsourcing of non-core activities and increasing performance flexibility for public administration managers.

When planning organisational change, two basic issues need to be addressed: the willingness and ability to adopt new ways of working and the need for understanding and support by senior management. Internal resistance may prevent the adoption of the workplace practices necessary to make the best use of ICT.

Within agencies, successful e-government requires helping government employees to understand their role and expectations as part of ICT-enabled processes. Introducing successful reform requires coherent change management strategies. For example, new work processes need to be accompanied by job redesign, training programmes and structured

Box 33. Canada: Creating an agile work force within existing and evolving structures

The public expects governments to provide high-quality service across all channels, including the Internet, and to use the most effective practices and technologies. Meeting these expectations requires a more agile workforce capable of adapting government processes rapidly in response to changing needs and circumstances. This involves fundamental changes in cultures and a commitment to creating “learning organisations”.

The Organisational Readiness Office in the Chief Information Officer Branch of the Treasury Board of Canada Secretariat has adopted a community-based strategy to address human resource issues related to service transformation in the information technology, information management and service delivery communities. Members of these communities are public servants who play strategically crucial roles in transforming and “e-enabling” service delivery.

Community-led initiatives such as competency-based staffing, greater use of pre-qualified pools, generic competitions for executive-level positions, repositories of work descriptions and the e-Learning Gateway are demonstrating that existing legislation and regulations are not insurmountable barriers to the modern management practices needed to implement a service transformation agenda.

Source: Fine (2002).

communications strategies. Establishing ownership of reforms can also keep employees from attempting to bypass organisational reforms by replicating traditional processes informally. Dialogue with stakeholders both within and outside the organisation is an important element for success.

As with the introduction of e-government across the whole of government, support from senior management is a pre-condition for successful organisational change. This requires more than statements of principle and good intentions. Crucially, it involves senior management time and understanding, factors which can be in short supply. Examples of successful major reforms involving ICTs indicate that senior management's understanding of the impacts of proposed reforms and their risks and benefits, is required if the reforms are to be sold to staff and to key external stakeholders such as political leaders. Such a commitment provides assurance that actions will be consistent with rhetoric.

High-level commitment will be determined by the willingness of senior management to commence the process of changing the organisational culture by adopting new ways of working. It will also depend on the willingness and ability of unions and individual staff to adopt new work practices, such as more decentralised decision making, teamwork, information sharing among peers, new recruitment arrangements and remuneration and incentives to support the desired changes.

Challenges

OECD analysis of the use of ICTs by firms has highlighted the importance of flexible labour markets and the legal frameworks covering ICT-based activity and the need generally to reduce barriers to initiative and innovation (Murphy 2002). While governments need to balance a full range of factors, public administration frameworks will need to allow ministries and agencies to adopt new practices arising from e-government.

In order to achieve a sustainable organisational change, public governance frameworks should be improved. While frameworks differ greatly across OECD member countries, key aspects are likely to include the following:

Human resource management policies should allow for flexible remuneration and working conditions, for the development of teams, for performance management in the context of virtual and/or cross organisational teams, for flexible working hours to deal with demand peaks and for job redesign to cover a broad range of customer needs and government programmes.

Legal frameworks should provide public officials with certainty regarding their use of ICTs, for example regarding liability for advice provided online, the status of electronic decision-making processes, of authentication and of online business processes.

Privacy and data protection frameworks should clarify the situation as regards the sharing of information within and between agencies, officials' rights and responsibilities, and the rights and entitlements of citizens.

On the basis of the foregoing, some tentative conclusions can be drawn:

- Government use of ICT should be seen as an enabler rather than as an end in itself, with the objective of facilitating the achievement of policy and business goals. ICT use will thus be driven on a case-by-case basis, according to specific requirements and objectives. The resulting shape and operation of specific organisations will **reflect particular applications** and the changes adopted to carry out their functions and achieve their objectives.
- The incorporation of new technologies will be an **ongoing process**, reflecting new technological developments and the maturing of existing technologies to the stage where they can be applied in an operational government context. While the current focus is on the Internet, and its current functionality, this is a dynamic process, albeit with phases of different rates of development and change.
- While individual processes may be transformed, changes will occur less quickly for organisations. The larger and more complicated the organisation, the longer it will take. For public administrations overall, the rate of change will be slower still.
- While certain ways of working may become more pervasive in the future, with greater data sharing and networking, greater process automation and greater collaboration among and within agencies, there will be **no single model** for e-government organisations. Even if there were, it would soon be out of date.
- Those dealing with public management organisational issues should act as **facilitators** rather than developing grand plans to restructure public administrations around technologies. Frameworks are required for ICT use, and they need to be reviewed to ensure their continuing relevance. Broader internal governance frameworks for public administration need to be reviewed to ensure that they support, rather than hinder, the adoption of ICT-enabled reforms.
- Senior management commitment is essential for carrying out complex organisational changes. Major changes are disruptive by definition and in particular may raise broad managerial and political issues that go beyond the organisation involved. Dealing with potential job losses as a result of ICT initiatives is particularly challenging. E-government co-ordinators can provide support to senior managers by ensuring the sharing of experiences and good practice approaches (see section on leadership).

- The involvement of front-line staff at the project initiation stage is increasingly seen as an effective way of reducing the conception-reality gap between the initiation of reform projects and final deliverables.

Leadership

E-government implementation can be difficult, risky and expensive. Governments are increasingly asked to translate a general vision into effective public services while facing time constraints, lack of resources and political pressures. The cost of losing the reform momentum can be high.

Leadership is not just about motivating people and creating incentives and opportunities for actions. E-government is also about change, and many e-government advances to date have been driven by the enthusiasm of individuals and individual agencies. But there can be considerable resistance to change particularly to the level of change required if some of the more significant efficiencies and service enhancements through seamless online services are to be realised. While the form and arrangements adopted will be very much determined in the context of each member country's political and administrative environment, and will continue to evolve as lessons are learnt, leadership is an essential ingredient of e-government in order to **motivate and break down barriers to change**.

Sustained leadership is important at all levels of the e-government cycle. At the early stages, there is a need to gain acceptance of concepts and benefits, and to put in place frameworks to sustain momentum and structure implementation in an efficient manner. As more complex transactional services are implemented, the need for leadership and support will continue, particularly as benefits may take time to emerge.

Leadership is a catalyst for innovation. Broad reforms require perspectives and pioneers able to translate the vision into action. E-government leaders should learn how to put in place the right administrative mechanism to support agencies in the e-government implementation.

Types of leadership

There are many styles of leadership. Different kinds of leadership may co-exist and be a key to success, depending on the stage of the e-government process. In a very early stage of e-government development the leader may obtain views on what needs to change, share a common vision with the personnel and evaluate new ideas. In a more mature stage, selling the benefits of a vision and creating personnel commitment to it are required.

Leadership can be exercised at **all levels of the organisation**. Political leadership has an important role in shaping and backing e-government initiatives. Political leaders contribute to the establishment of the e-government

Box 34. Estonia: Mobilising with a unifying concept and presidential leadership

Presidential leadership in Estonia declared Internet access a human right, thus creating strong national support for the implementation of the Tiger Leap Forward Initiative, a multi-sector programme with the overall objective to create an e-society. The Estonian President was an outspoken advocate for the Internet, and this greatly influenced the success of the initiative.

The concept of the Tiger Leap was initiated at a high political level, when Ambassador of Estonia to the US and the Minister of Education initiated an exchange in 1996. This exchange was based on the idea that the new information and communication technology will alter not only the general life arrangement but the whole educational paradigm. Symbolising the radical changes and technological spurt proposed for Estonia, the programme was called Tiger Leap upon the example of the economic giants in Asia.

The programme was defined to include participation of the President of Estonia as patron of the programme. On February 21, 1996 the President declared the Tiger Leap project officially open in his address on the national television.

The Tiger Leap project has been successful, in part because of strong, high-level leadership:

- A key feature of Tiger Leap was a commitment to connect every school in Estonia to the Internet, a goal that was achieved in 2000. The Foundation is currently giving support to about 720 primary and secondary schools, including about 100 schools that serve the Russian-speaking minority in Estonia.
- As a result of these efforts, the generation of Estonians now in school are 100% computer literate. Teachers report that students are highly motivated to learn computing, both out of personal interest and because they know it will lead to better job opportunities.
- Tiger Leap has also had an impact in publicising the Internet: the media attention given to the programme ensured that Estonians heard about the Internet even if they had never used it themselves, and it reinforced the feeling that Internet access was something important.

Source: The Tiger Leap Foundation.

vision, define priorities, filter citizens' needs, make the decisions and provide the will to carry them out. Strong political leadership can make a difference in forcing the momentum for change and easing the reform process. It can also increase management motivation and sense of responsibility.

Box 35. Korea: the role of the leadership in e-government

Until recently, individual ministries in Korea had carried out the implementation of e-government without any co-ordination among departments. After an initial phase of uncertainty due to internal resistance to change, a non-standing committee with both government and non-government members was created and co-chaired by a civilian member and the Senior Secretary to the President for Policy and Planning. The committee met the requirements of ministries, in particular the Ministry of Information and Communication and the Ministry of Government Administration and Home Affairs who had previously debated its optimal structure.

The committee became the key e-government co-ordinating body. The committee's ability to bring about inter-departmental co-operation largely depended on the leadership role of the President, the powers afforded it to co-ordinate between ministries, the personal networks of the committee members and the goodwill and integrity of members. Its non-threatening status and overarching role facilitated early progress, which also led to greater respect and participation from ministries.

In Korea, high-level leadership has enabled the committee to stand above ministerial conflicts and promote an environment of co-operation better than if it was headed by a particular ministry or even jointly between two or more ministries. At the same time it stresses the role of the President as an active leader with a strong interest in backing the government initiative and to push for achieving greater co-ordination. The personal and professional ties of the chairmen formed over the years have served as a tool in building a strong network for the committee and linking government with various sources that further enhanced capacity to create e-government.

Source: Korea Country Paper (2002a).

Leadership can also articulate a unifying theme that can propel the e-government initiative through all the necessary steps. It is important to understand that results are most likely when leaders elevate the public profile of their vision and press for its successful implementation by tying it to broader government policy agendas.

Political leadership is also linked to administrative simplicity. As a tool for administrative process simplification, e-government can be used as an effective reform leverage only if there is a strong political leadership to support its introduction and development.

Ministerial level involvement is essential to ensure vertical e-government planning, to get the necessary resources, to motivate staff and support

Box 36. Finland: Lower-management leadership

Interviews with several Finnish ministries and agencies that were advanced in terms of e-government planning and implementation gave the impression that top management interest in and support of e-government activities were not present at the outset. The main drivers of e-government initiatives were the need to make organisational changes and awareness by lower-level managers that e-government could be used to support changes in the business process. Given the proper initiative (and resources), IT offices can drive change. An IT official from the Ministry of Labour said, “saying that it is the fault of the political authorities not getting involved is an easy way out”.

This is not to say that top management responsibility is not important when planning e-government. What is suggested instead, is that extensive e-government planning and implementation can succeed in launching e-government without top management involvement if an organisation has extremely innovative lower-level managers and e-government initiatives which can facilitate general organisational changes.

Source: OECD report on E-Government in Finland (2003).

dealings with external partners and stakeholders and to ensure co-operation across ministries and agencies. Such management involvement, support and responsibility is also necessary in order to produce an e-strategy that is integrated both with the general business plan of the organisation as well as incorporated into the planning and budget process. Senior management attention, however, is a scarce resource and ICT projects are often regarded as low priority technical issues rather than key to the success of the overall business plan (see *The Hidden Threat to E-Government*, OECD, 2001).

Top management initiatives to drive organisational changes should be accompanied by efforts at all levels of management. E-government planning and implementation requires not just top management involvement but innovative lower level managers, able to translate a broad e-government vision or objectives into precise actions and policies.

Leadership as a co-ordination tool

Leadership is an indispensable tool to promote co-ordination within the organisation, and is fundamental in managing e-government projects. This is even more important in the public sector where governments have a wider mix in their products and services than have private companies making co-ordination even harder. Managers must be able to exercise leadership and to manage responsibilities of their own IT systems.

Box 37. Japan: The IT Strategy Headquarters

The Japanese government has recently undertaken significant efforts in promoting the development of the information society, with e-government playing the role of the catalyst for IT spread. The political and governmental support to the project has been essential in setting up the organisational structures.

In January 2001, the “Strategy Headquarters for the Promotion of an Advanced Information and Telecommunications Network Society” (the IT Strategy Headquarters) was established within the Cabinet for the purpose of “further promoting policy measures rapidly and intensively to create an advanced information and telecommunications network society”.

The Headquarters is chaired by the Prime Minister and consists of all the Cabinet ministers, representatives from the private sector, etc. It is in charge of formulating and adopting overall national IT strategies and policies, e-government being one of the major issues dealt with by the Headquarters.

A body in charge of IT policy had existed within the cabinet ever since 1994, but the new Headquarters differs in that: 1) it was established by the strong leadership of the Prime Minister; 2) a law was adopted in the Diet for its foundation and, therefore, it has explicit duties and powers; 3) it has its own secretariat with exclusive staff.

The IT Strategy Headquarters adopted the most important IT and e-government strategic documents (“e-Japan Strategy” in January 2001, the “e-Japan Priority Policy Program” in March 2001, the “e-Japan 2002 Programme in June 2001, the “Acceleration and Advancement of the e-Japan Priority Policy Program and the e-Japan 2002 Program” in November 2001 and the “e-Japan Priority Policy Program 2002” in June 2002).

The IT Strategic Headquarters reviews the priority policy programme every spring, studies the implementation status of measures every spring and autumn, and make the study results public, in order to ensure steady implementation of the measures included in the programme.

Source: Japan Country Paper (2002a).

Leadership is not about centralisation of competencies. In an increasingly complex environment, e-government organisation should be in line with the principles of delegation of power and responsibilities. Creating local leaders (team leaders, project leaders, etc.) is a key answer to the principle of decentralised management and decision power over IT in their own organisation.

As e-government disrupts old organisational hierarchies and facilitates team working and information sharing, the ability to co-ordinate people, resources and responsibilities may become an asset. Japan's experience revealed how strong leadership from their Prime Minister strengthened executive level co-ordination by facilitating e-government strategies and policies among ministries (see box, above).

Challenges to e-government leadership

Exercising leadership implies knowing an organisation's strengths and weaknesses and being able to make the organisation commit to the achievement of goals even if this can lead to the breaking of internal balance and distribution of power. In order to foster leadership and commitment, e-government initiatives should include incentives for leaders to emerge by setting up transparent organisational structures and clear sets of responsibilities.

Leadership requires certain skills, which may not be available without specific skill acquisition policies. Organisations must pay more attention to developing new leaders by improving their managerial skills and avoid thinking that structure and technology alone can supplement human resource management.

Box 38. Principles for successful e-government leadership

- Co-ordinating resources and responsibilities within the organisation.
- Developing a common vision and set objectives (e-agenda).
- Developing the ability to persuade people to that vision in order to convince the enthusiasts and engage the sceptics.
- Developing a customer-led and customer-focused approach.
- Ensuring that leadership can be recognised and encouraged wherever it is found in the organisation.
- Raising the awareness and developing the skills of employees, encouraging innovative solutions to organisational problems.
- Assessing and building the capacity to deliver online services, leading people through the difficult process of change, securing the commitment from staff along the way and managing their programme of work.
- Ensuring technological development within the organisation and make sure that personnel can fully benefit from that.
- Recognising the full use of technologies but not chasing technological solutions in itself.

Source: Elaborated from the Skills Foresight Report (www.lgemployers.gov.uk/psd/eskills/leadership.htm).

Central co-ordination

Central co-ordination is a feature of most OECD e-government strategies, and generally involves formal organisational units located within the public administration or linked to broader information society units. Central co-ordination can bring strategies from different agencies together, ensure compatibility and reduce duplication.

Benefits of central co-ordination

An important role of such central co-ordinating units is to act as a **focal point** for promoting government-wide e-government development. This may involve being responsible for developing the e-government strategy, monitoring progress towards goals, promoting benefits to the public, linking e-government activity to broader reform and information society goals and generally acting to generate and sustain momentum. This may also involve reporting on progress and reassessing strategies in the light of experience and as progress is made.

Central co-ordination can also facilitate the efficient implementation of e-government, for example by:

- Promoting **sharing of information and good practice**. Measures here include central online registers of projects, seminars, publications and Websites on good practice and communities of interest. This can also include brokering joint operating arrangements and exchange of best practice on common operating processes such as Enterprise Resource Planning systems.
- Facilitating efficient **acquisition** of ICT products and services. This may cover e-procurement, compulsory central purchasing of communications services and software, sharing of price and other information between agencies.
- Gaining acceptance across government of various **frameworks and standards** to facilitate interoperability and efficiencies, such as policy frameworks, outlining principles governing acquisition of ICT, business and technical policies and standards.
- Taking steps to avoid **duplication** of effort by information sharing, expenditure approval processes, brokering of joint contracts.
- Facilitate **collaboration** (see next section), especially regarding seamless online services and shared infrastructure projects.

Central co-ordination can also promote **innovation and risk taking**. Agencies implementing critical applications generally have little scope to experiment and take risks. If funding is available, a central e-government unit can act as a central R&D unit on behalf of agencies across government.

Invariably, some form of governance arrangements such as a co-ordination committee (or committees) have been established to develop and co-ordinate these practices. These generally comprise representatives of key agencies and may include representatives from the private sector and other levels of government.

Whole-of-government structures are important to steer e-government implementation across government, to provide a framework for collaboration across agencies and a vehicle for input from the senior management level, and to keep e-government activity aligned on broader public administration agendas. Approaches that have been adopted include committees of agency heads and chief information officers. The roles of such bodies vary, from purely advisory and information sharing, through to policy development and implementation oversight. The involvement of non-government representatives from industry bodies, academia and civil society organisations has been effective.

Box 39. **Mexico: Senior level committees**

The Mexican government has established networks of senior managers working on different topics, such as innovation, human resource management, social communication and ICT use. The latter network is formed by 60 agency chief information officers. Its goals are to build a government-wide technological infrastructure, to agree on standards, architectures and joined-up online services, to foster savings and re-engineering through ICT, to promote knowledge management and e-learning within government and to enhance citizen participation.

Source: OECD E-Government Working Group.

Requirements for co-ordination

OECD countries understand that **decentralisation** is an effective management tool. Business unit managers need to manage ICT as they do other resources and are generally the best placed to be aware of business needs that can be efficiently addressed by ICT applications. However, agencies cannot operate in isolation, especially with regard to ICT. The nature of e-government requires a level of co-operative action to ensure interoperability, avoid duplication, ensure coherent action in a range of crucial areas such as security and privacy protection, and to provide the framework and capacity for seamless services. The need for co-ordination becomes more pressing as member countries increasingly move to implement more complex,

transactional services. The cost of introducing such services, and the cost of making them interoperable after they have been introduced, makes avoiding duplication and implementing projects in a structured environment all the more pressing.

There is as a result a **central dilemma** for e-government implementation. In the terms of the Finnish Council of Ministers: “a basic problem is how agencies’ responsibility for results and autonomous operation can be retained while at the same time ensuring the interests of the government administration at large in questions pertaining to interoperable systems and

Box 40. **Italy: Network of regional competence centres (RCCs)**

The Department for Innovation Technologies in cooperation with the Department for Public Administration launched at the beginning of 2002 a nation-wide network of regional competence centres (RCCs) for the development of e-government and the information society.

The general objectives of the RCC project are: 1) to support regional and local actors in defining and implementing e-government programmes and projects, while ensuring coherence with the national strategy; 2) to identify and develop models, approaches and tools jointly to address aspects of e-government construction; and 3) to promote and support collaboration among the different levels of government within and across regions.

The RCCs are to act as facilitators. At the same time they are expected to receive, understand and co-ordinate the demands and needs of local administrations and to propose methodologies, processes and solutions. The creation of the RCCs is not imposed by central government but comes from the needs and interests of the local authorities. A strong commitment by regional and local authorities is considered essential to ensure the centre’s self-sustainability after the start-up phase supported through central funds. Consequently, the RCCs are being developed at different rates in different regions.

Generally an RCC is made up of a dedicated group of four or five volunteers from different levels of government. To these groups of civil servants two to three consultants are assigned on a full-time basis by the central unit co-ordinating the project. Their role is mainly to provide technical assistance and training to local authorities that are implementing e-government projects. A central steering group ensures the circulation of ideas and practices, leading to shared features, operational approaches and service quality levels.

Source: OECD E-Government Working Group.

shared use of information resources”. While this reflects the broader issue for government of co-ordination *versus* devolved management responsibility, if e-government is to succeed it is crucial to get the balance right. The stronger the control exercised over co-ordination, the higher the costs due to the web of regulations and requirements to which new, creative initiatives must adhere. Co-ordination may stifle innovation and initiative, leading to foregone opportunities. However a co-ordinated approach may generate efficiencies, reduce risk and facilitate a faster and broader rollout of e-government initiatives.

Peer review of anticipated projects by a panel of agencies can provide a valuable means of bringing input to the planning of the specific project. It can also provide a return to the reviewing agencies in the form of further knowledge of what is occurring across government and sharing the knowledge of peers.

Box 41. Ireland: Peer review

To ensure co-ordination and implementation of the e-government agenda across all departments and public agencies, a series of instruments has been put in place. A high-level cross-departmental group of senior officials (Assistant Secretaries from the Information Society Implementation Group) promotes and monitors the e-government process across the Irish public sector.

Source: Irish country submission.

Whole-of-government business and technical architectures provide a structured approach in which agencies can plan their activity, provide for interoperability across government and capture efficiencies through sharing of knowledge and joint projects. Specific information management standards support interoperability and provide users with a common interface when accessing online portals and services. Mandated minimum security, privacy and authentication standards are common. Such standards could usefully be adopted by other levels of government, such as provinces and municipalities.

One example of central co-ordination has been the use of centralised **e-procurement** systems. E-procurement is the procurement of goods through an Internet or ICT-based process. In the broadest sense, it begins with contract establishment, but also covers ordering, invoicing and payment. Efficiency needs are a driving force for e-procurement. E-procurement can lead to savings through administrative simplification and time saving, but also through increased transparency and competition among suppliers.