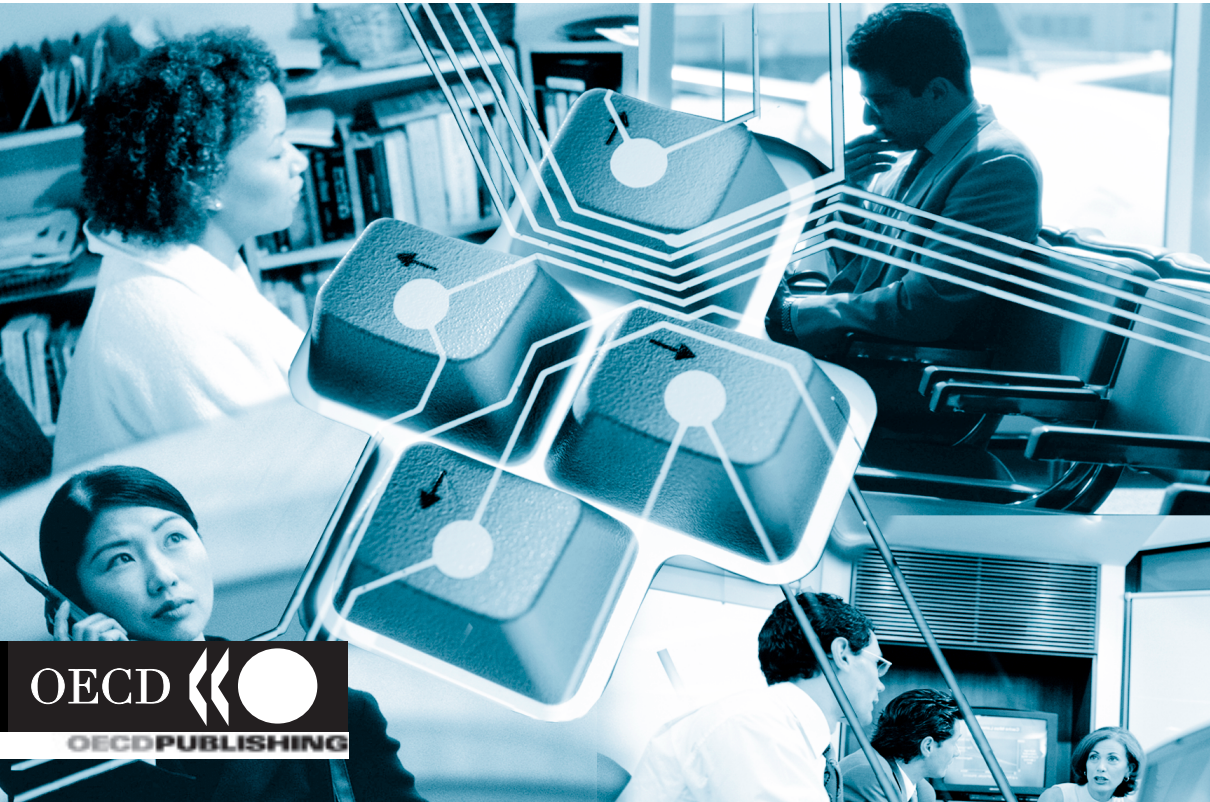
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Foreword

E-government is more about government than about "e", but how can ICTs be better integrated in order to help governments do their job better? This report is one in a series of country reviews undertaken by the OECD to analyse the successes and challenges of e-government in a national context, and to make proposals for action to countries in order to improve their e-government efforts. By placing e-government in the context of national public management reform and good governance initiatives, these country reviews help countries better identify how e-government can better support overall government objectives.

With backing from the Norwegian Government (Ministry of Modernisation), the OECD E-Government Project has conducted this country study of e-government to assess how Norway's e-government strategies and solutions contribute, and could contribute in the future, to good governance objectives in the information age.

The report was completed in February 2005. It draws on a survey of Norwegian ministries and agencies administered in March 2004 and on a set of interviews with Norwegian officials during two exploratory missions on March 2004 and May 2004. The report was drafted with the participation of peer reviewers from Mexico, Sweden and United Kingdom. These e-government practitioners provided invaluable help by participating in interviews and commenting on the drafts of the report.

This report is based on the OECD synthesis reports, The E-Government Imperative (2003) and E-Government for Better Government (2005). These reports provide the OECD with an analytical framework for in-depth analysis and comparisons with other countries. The report was carried out under the auspices of the OECD Network of Senior E-Government Officials as part of the work programme of the Public Governance and Territorial Development Directorate (GOV).

The report was written by Marco Daglio with the assistance of Sara Brandt-Hansen and Erika Nilsson. The report was prepared under the direction of Edwin Lau and Christian Vergez.

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Assessment and Proposals for Action

Introduction

Norway has long been active in using ICT in the public sector, which has provided it with an important tool for achieving gains in government efficiency, for improving the quality of public services and for modernising government. Norway's efforts to become a leader in the use of ICT in government are supported by a high level of Internet penetration in Norwegian society and a burgeoning information society. In recent years, Norway has made progress in adapting government to the use of the Internet as suggested by its rank of 6th in the eEurope benchmarking exercise measuring the availability of online services (Sweden is 1st, Finland 3rd and Denmark 5th)*.

These achievements, however, only provide part of the picture of the overall impact that ICTs have had on the public sector. While Norway has been at the forefront in applying ICT to internal back office of government organisations to enable process efficiency and inter-organisational data sharing, it is "in the middle of the pack" in terms of the delivery of electronic services in the front office of government (in comparison with EU countries). Much of the back office improvements were already achieved during the 1980s, at an early stage of e-government development and have provided a foundation for yet more improvements in both the front and back office. Despite its early achievements on back office integration, Norway is now confronted with the same challenges as those countries which focused its e-government strategy on service delivery first, such as better integrating back office systems with front office service delivery. The challenge for Norway is to find a path that best exploits the well-integrated government-wide use of technology, while respecting the tradition of a decentralised, consensus-based government.

E-government structure and context

That decentralisation is reflected in the organisation and structure of e-government responsibilities. Like other Nordic countries, Norway has a

* Online Availability of Public Services: How is Europe Progressing? Web based Survey On Electronic Public Services – Report of the 5th Measurement, October 2004 – prepared by Capgemini for the European Commission.

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relatively small central government composed of small policy ministries and strong independent agencies.

The newly created Ministry of Modernisation (MoM) is responsible for national policy for developing and co-ordinating the use of information technology. The Ministry was formed in June 2004 from the Ministry of Labour and Government Administration (MLGA), following a reform to bolster the Norwegian public sector modernisation agenda. Up until the creation of the MoM, the Ministry of Trade and Industry (MTI) had the overall responsibility for ICT co-ordination in general society while the Ministry of Labour and Government Administration was responsible for ICT use and policies in public administration.

At the political level, high level co-ordination is ensured by the State Secretaries' Committee on ICT, supported by an eContact group composed of senior e-government officials in central ministries. In addition, a number of bodies co-ordinate the development and implementation of e-government initiatives. In particular, the Co-ordinating Body for E-government, under the Ministry of Modernisation, is responsible for initiatives in certain areas (*e.g.* common technical requirements, PKI and re-use of public data).

The case for e-government

Public sector reform. The Norwegian public sector started using ICT much earlier than the advent of what is today known as e-government. The main driver for ICT use was, and remains, internal efficiency through automation of administrative processes. Until the late 1990s, central government had played a limited role in developing its ICT use. Instead, ICT had been developed more or less autonomously by agencies, which have used it mainly to support their own internal administration and/or service delivery processes and to achieve technical goals, including output efficiency.

Nonetheless, over the past 30 years, public sector reform has been a main driver of the development of e-government, which in Norway is seen as an instrument for providing better quality services, reducing complexity and increasing the efficiency, user orientation and transparency of public administration. Decentralisation of public management, which has been going on since the 1970s and is currently a key element of the public sector reform agenda, has had an impact on e-government implementation. Within this general approach there have, however, been some significant swings toward and away from centralising certain elements of ICT use in government. From the late 1970s into the 1980s, the move was toward shared ICT infrastructure, software applications and standards across government which brought benefits in terms of greater interoperability and increased efficiency

of back office processes. Later in the 1980s, in accordance with public sector reform inspired by New Public Management, there was a return to decentralisation as the preferred mode for managing ICT in government, to increase individual agency accountability. In the late 1990s recognition of ICTs as an instrument to enable and achieve overall public administration development goals and policy outcomes paved the way for central government's increased role in developing the technology across government.

Development of the information society. The advancement of the information society (IS) agenda has provided an important case for developing e-government in Norway. The government's IS policy focuses on 1) strengthening Norway's leadership in ICT development, 2) using ICT to promote economic and social development and 3) making the benefits of the information society available to all. From the late 1980s, government initiatives to lead ICT development have helped raised awareness of its use and supported investment for it in areas such as education and research. The Norwegian information society strategy's focus on this tool to promote economic development and provide greater social and economic benefit led to increased use of ICT in the public sector.

The eEurope initiative. E-government development in Norway has been strongly influenced by EU initiatives. Even though it is not an EU member, Norway followed closely European developments in this area: the first *eNorway* action plan (the Norwegian strategy to promote the information society and the use of ICT) was strongly influenced and inspired by the eEurope 2002 strategic plan. Today, Norway seems to have taken a step forward in anticipating European developments in this areain integrating them in its strategy. At the level of e-government implementation, European-led initiatives have often acted as frameworks for inter-agency collaboration and as catalysts for individual organisations to move forward with e-government implementation.

External barriers to e-government

Legal and regulatory barriers. In terms of regulations covering the conduct of public administration, there are few regulatory barriers to e-government in Norway. The government has taken an active role in setting up a framework for implementation by breaking up legal and regulatory barriers to the provision on online services. For example, legislation on electronic communication and privacy is in place. Legal issues in new policy areas such as public key infrastructure (PKI) for electronic authentication have been addressed through intergovernmental working groups. These initiatives anticipate the needs of the information society and build on a tradition of rigour in legislative simplification and extensive review and repeal of

regulations, so as to reduce administrative burdens imposed on citizens and businesses. The resulting regulatory environment enables rather than impedes e-government action. This legal framework could nonetheless be made even more effective, by better communicating its content to government organisations in terms of practical guidance and support.

Budgetary barriers. Another potential barrier to e-government can be the design and application of budget rules to the ICT expenditure of government organisations. These rules could block collaboration, innovation, flexibility and accountability. Given its decentralised nature, the Norwegian government does not keep statistics on government-wide IT spending, which makes it difficult to produce national spending data. While there has been limited central oversight of expenditures – following some well-publicised IT project failures in the 1990s – the Ministry of Finance now reviews very large projects in terms of viability and expected returns.

At the individual organisation level, ministries and agencies in Norway indicate a high level of budgetary barriers with regard to lack of funds and long-term and joint funding mechanisms. In light of existing flexibility within the Norwegian budgetary system (a "spend forward rule" allows agencies to use a portion of their following year's budget allocation for IT investment within specified limits), the problem does not seem to be lack of budget mechanisms, but rather lack of collaboration, inexperience with business cases and other budgetary justifications for ICT investments, and priority setting within Ministries themselves. Lack of understanding of budget rules, however, may pose a barrier for collaborative projects despite some incentives for joint-funding are already in place. By the same token, as measurement and evaluation develop further, identifying the share of individual agencies in the costs and benefits of IT investments will become increasingly important.

Planning and leadership

E-government vision and goals. Norway has a well-established e-government central vision (eNorway) and strategy, both of which build on the wider vision of modernisation of the public sector. However, when it comes to the implementation of e-government initiatives, an earlier plan that provided a overarching concept of a 24/7 administration, seems to remain a driving principle for agencies and ministries. The tenacity of this vision – based on a plan no longer in effect – may be due to lack of alternative central guidance.

There are no general requirements for e-government planning within individual ministries and agencies; it is up to each ministry and agency to translate the common vision into concrete plans. Some observers have noted that ministries could provide more guidance on that translation to their

subordinated agencies. However, some ministries lack internal strategic capacity and are increasingly relying on agencies to provide it. As a result, the transfer of knowledge related to e-government initiatives is mostly bottom-up, and planning is not used to improve co-ordination at the agency level. Nor have broad national e-government objectives been sufficiently translated into clear targets and goals for ministries and agencies, which leaves those bodies feeling somewhat confused.

Leadership. Leadership on e-government has been diffuse at the central level, reflecting the way e-government responsibilities have been articulated and distributed among different institutional actors. Until the 2004 unification of e-government as part of the portfolio of responsibilities of the Ministry of Modernisation, these actors included the Ministry of Trade and Industry, the former Ministry of Labour and Government Administration, and the State Secretaries' Committee on ICT.

The Ministry of Labour and Government Affairs (MGLA) and the Ministry of Trade and Industry (MTI), with their complementary and occasionally overlapping e-government roles and responsibilities, have worked well together. However, it appears that they did not have a strong co-ordinating mandate and that their roles were not entirely clear from an agency and local government perspective. This may have been due to several factors, including changing institutional responsibilities and policy portfolios and lack of clear external communication on e-government responsibilities.

The government's decision to establish a minister with a highly identifiable central co-ordinating function on e-government (instead of better clarifying the roles and responsibilities of the former MLGA and MTI) seems designed to address many of the challenges concerning the lack of high-level leadership and co-ordination. Its success will depend on how the new leadership exercised by the MoM will be communicated to ministries and agencies and be translated into practical support of e-government development. Also, Ministry of Modernisation's achievements in the area of e-government will depend on its ability to maintain continuity and build on past successes while adjusting the course in light of current priorities. A key question will be the MoM's relation with regions and local municipalities, which provide two-thirds of public services in Norway.

Within individual organisations, e-government leadership is, again, decentralised; while officially a top-level responsibility, e-government is again often driven from the bottom up. Strategic guidance, planning and co-ordinating functions are often dispersed and not well linked. Innovative solutions are often pushed by small groups of IT people, and are not entirely shared within or between organisations. Getting political support for e-government initiatives remains a major challenge.

Co-ordination. Central co-ordination of e-government has varied over time in line with shifts toward or away from decentralisation of e-government development. The first comprehensive plan for cross-sectoral ICT co-ordination in the public sector was produced in 1999 and central government co-ordination reached its peak in 2001. A change in government then returned the focus to a decentralising agenda and the e-government co-ordination role of the centre was greatly curtailed.

The current government has recognised the importance of strengthening co-ordinating efforts in certain areas in order to guide the overall decentralised implementation of e-government. Progress has been achieved for example in the area of developing common infrastructure; the inter-ministerial co-ordinating body for PKI was instrumental in breaking down barriers and establishing the framework conditions for its introduction. The newly created Co-ordinating Body for E-government within the MoM seems to have gone in the direction of strengthening government's co-ordination capacity. However, the impact of this body on e-government co-ordination is not yet clear and will greatly depend on its ability to bring together all the key actors across government and make them committed to and accountable for achieving e-government objectives.

At the ministerial level, the amount of ICT co-ordination varies and is linked to the level of centralisation/decentralisation of the structure of responsibilities within each ministry. While each ministry is constitutionally responsible to the Parliament for its sector of activity, ministers differ greatly in terms of their administrative style and co-ordination approach *vis-à-vis* the agencies under them. The main tool that ministries have for guiding the direction of e-government in the agencies under them is the annual budget negotiation process, during which agencies are required to present their plans and objectives. While it does influence organisational behaviour, the Ministry of Finance (MoF) does not have a hand in using the budget as a tool to achieve overall e-government policy goals. This is a policy decision that reflects not only the role of the Ministry of Modernisation as the primary e-government co-ordinator, but also the MoF's concern that adding additional policy oversight responsibilities (*i.e.* for monitoring the development of electronic services) would dilute its effectiveness in meeting its core responsibility of developing and producing the annual budget.

Organisational change

Back office change. Norway's early application of ICT to the back office functions of government, such as financial, public record, payroll and personnel systems, has brought changes and benefits in terms of back office management

that are now taken for granted and not considered as e-government *per se*. This "mainstreaming" of ICT in government processes underlines the fact that government transformation is a constant process. These benefits are real, and provide an important basis for the future development of front office services, for example for electronic case handling. However, further measurement of benefits (*e.g.* in terms of internal savings) at both the individual organisation and the whole-of-government level may facilitate a clear appreciation of the impact of ICT on organisational processes, the extent to which it has been achieved and what more needs to be done.

Skills. The government has taken a real step forward in strengthening the development of ICT skills in the public sector by focusing on increasing employers' access to an IT-qualified workforce, promoting IT education in schools and improving business skills and competences in order to foster better use of ICT in the private sector. At the level of government agencies however, there appears to be a lack of capacity and capabilities for ICT project and/or contract management.

Overall, the central government's analytical capacity with regard to e-government is limited and unevenly diffused among agencies. This situation may worsen with the recent transformation of Statskonsult (formerly the agency within the central government with lead responsibility for advising on matters of public management development) into a public-owned limited company. At least in the short term, the shift has further reduced the central government's role and capacity in providing strategic ICT guidance to government agencies; the latter can now choose to seek it out from one another, from the private sector or from Statskonsult. Competition with the private sector may eventually strengthen Statskonsult's efficiency and effectiveness, but there may have already been a major loss of beneficial externalities such as institutional memory, a government-wide perspective and long-term strategic capacity. By strengthening policy dialogue, the Co-ordinating Body for E-government may help consolidate and retain some internal analytical and strategic capacity within government.

In Norway, e-government has had a positive impact on information and knowledge sharing across government through breaking up internal communications barriers and providing new opportunities to promote access and diffusion of knowledge. The government has been successful in developing the necessary online frameworks, which enhance cross-government collaboration and exchange of e-government implementation experiences.

Common framework and collaboration

Standardisation. At an all-of-government level in Norway, frameworks for standards of interoperability and management of some data exist and

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continue to be developed through inter-agency working groups (*e.g.* in the area of archiving see the Norwegian Archive Standard). Standardisation efforts in the area of e-government have fluctuated in terms of focus and intensity, reflecting the change in the government's priorities and needs. However, standardisation has currently emerged as a key priority following the recognition that it goes beyond a technical exercise and holds strategic importance as the means for achieving collaboration and co-ordination of public registers and government-wide interoperability. While early standardisation efforts in Norway had the important role of opening the way to digitalisation of information and e-government development (*e.g.* see the NOSIP standard for open system interconnections), more recent standardisation initiatives are focused on improving data exchange between public registers.

Public Key Infrastructure (PKI). As in many other OECD countries, the question of how to establish PKI is a major issue of debate and concern in Norway, one that in turn raises questions about the need for a central government role. Agencies view the absence of PKI solutions as a barrier to developing online services requiring strong authentication and security, and would like the government to facilitate and co-ordinate PKI initiatives in a more hands-on way than is currently the case. Ministries, on the other hand, are more sceptical about the need for this type of central co-ordination and direct government intervention. The government has taken a pragmatic approach to PKI by establishing the regulatory and policy framework as well as technical requirements for the introduction of a common PKI solution for the public sector. By avoiding playing the pioneer when it comes to the use of new technologies and waiting for market actors such as Telenor or the banks to act, the government has avoided taking the risk in developing and supplying solutions that are not aligned with the market.

E-procurement. The government has developed a solid e-procurement solution but most used by local and regional authorities, while take-up at the ministry and central agency level has been lower than expected. This shows that e-government change is not just about finding good technical solutions but also about getting organisational buy-in. Despite demonstrated return of investments, there is a need to better communicate to agencies the benefits of joining the national e-procurement system and to make them responsible for justifying their decision not to participate. More focus on getting ministries to support agency adoption of the national system may build take-up.

Collaboration. From the OECD survey it emerges that collaborating with other agencies is not considered a major challenge for the implementation of e-government in Norway. However, few organisations are collaborating beyond the level of information sharing towards establishing a common strategy or frameworks for joint delivery of services. The principle obstacle preventing

collaboration among agencies is the lack of incentives to work together. In some areas, such as procurement of IT, the government's past preference for the elimination of framework agreements and support of market competition seems to have raised rather than diminished the cost of collaboration. The lack of a common e-government vision supporting collaboration is also acting as a barrier to enhancing co-operation among agencies.

Use of registers. Much of the collaboration among agencies is based on the joint exchange of information contained on individual data registers and a prerequisite and target in Norway for e-government has been the existence of a comprehensive central data registers system. Some large agencies have developed large central registers and have used them as a basis for the delivery of service to citizens and business (*e.g.* the Population Register developed and owned by the Tax Inspectorate serves as a basis for the operation of tax collection). Although registers have been in place for a long time in Norway and are considered a standard feature of the e-government framework, increased and better use of data contained in these registers can potentially provide the basis for new services and the framework for future collaboration. However, lack of clear standardised rules for accessing and retrieving data from agency databases and public registers and the limited data compatibility and standardised criteria for data quality across government, can act as barriers in developing further collaboration. The government has taken steps in breaking up these barriers by assigning inter-ministerial and inter-agency working groups with responsibilities to find common solutions in the area of re-use, standardisation and pricing of public data.

Public-private partnerships. In Norway, public-private partnership arrangements in the area of e-government are still new to a large majority of ministries and agencies. Few respondents to the OECD survey indicated having partnered with the private sector or that they are planning to engage in such a partnership. The result seems to suggest that the decision to partner with the private sector is more linked to organisations' current activity or budget cycle than to a long-term strategy.

User focus

Building on the early focus and achievements in terms of use of ICT to support back office operations, Norway is now confronted with the challenge of transferring those benefits to the front office delivery of e-government service to provide better user focused services to citizens and business. In common with most OECD countries, a real understanding of user demand has not yet become a major driver for e-government development. Despite Norway's high Internet penetration and the readiness of the population to use the Internet,

limited efforts have been undertaken at the central government level to understand user preferences and needs with regard to online services. Government has put great emphasis on helping orient the user as a key element of e-government strategy, but few agencies have taken concrete steps to engage the user in the development of e-government services.

Despite the largest demand for e-government services coming from businesses rather than citizens, ministries and agencies seem to be more citizen-oriented than business-oriented in the delivery of public services. In terms of simple one-way electronic data reporting systems, Norway has made significant progress in developing common solutions for serving both citizens and businesses (*e.g.* ALTINN, the business data reporting system). When it comes to provision of advanced interactive online services, development has been less rapid. The impact of electronic service delivery on the front office of government is relatively new and so far few evaluations have been performed to measure its impacts and benefits.

In Norway, as in most OECD countries, the Internet has become the main channel for delivery of electronic public services. Portals are popular as a means to provide citizens and business with access to joined-up information and services, and represent an area where collaboration among agencies is strong.

E-engagement. In contrast to other Nordic countries, in Norway there are relatively few projects to improve citizen online consultation and participation in policy making being undertaken by central government. Most of the e-government initiatives that do exist are targeted to providing information to citizens, rather than engaging them in e-consultation or e-participation. As in most other OECD countries, seemingly little civil society mobilisation is focused on e-government issues, though ICT and the Internet is an increasingly important organising tool for civil society organisations (CSOs).

Monitoring and evaluation

With eNorway, the government has been successful in setting up a framework for measuring progress in the development of the information society. As yet however, there is no whole-of-government framework for monitoring progress and assessing the impact of e-government initiatives at agencies and ministries' level. Few organisations within the Norwegian government have such frameworks. Agencies' results and achievements are often incorporated and described in annual reports but they are de-linked from discussion of targets and goals. Lack of central government guidance and of precise targets and goals have been perceived as a reason for the slowness of ministries and agencies to implement monitoring and evaluation of e-government. Justifying

returns on investment has become a key issue for agencies in seeking funds and as part of the overall push for greater efficiency, but, as elsewhere, the methodology is only now being developed. The challenge is how to share the frameworks that have been implemented and the lessons learned.

What are the next steps?

Norway has succeeded in establishing a good environment for implementation of e-government. One positive aspect is the legislative and regulatory environment, which has been updated to account for many of the legal requirements related to the operation of government in the digital environment. Another is the existence of some common ICT infrastructure, standards and applications (most notably the system of public registers in place for a long time), which has made many internal electronic transactions commonplace and well accepted. Also, Norwegian government organisations have generally accepted e-government as being relevant to themselves and their stakeholders, and are looking for ways to implement it. Finally, Norwegians have a high degree of trust in government, and confidence in providing it with their personal information in exchange for better services.

Norway could achieve even more through e-government, especially in terms of delivery of user-focussed public services and the use of ICT to improve public engagement with government. As in many other OECD countries, challenges today include understanding public demand for online services and participation in government, developing frameworks across government for monitoring and evaluation of e-government, responding to agencies' demands for more central guidance, improving co-ordination, and better aligning and integrating back office systems and operations (*e.g.* the public registers) with front office service delivery.

Proposals for action

1. E-government development in Norway has been influenced by shifting political orientations, changing public reform agendas and, more recently, by reform in government. In order to ensure that changes in e-government structures support the achievement of shared public sector modernisation goals, the government may wish to:
   - Clarify the structure of e-government co-ordination and decision-making responsibilities especially in relation to the work undertaken in inter-ministerial and inter-agencies bodies. For example, the government could clarify the role of the newly created Co-ordinating Body for E-government and make sure that it has the mandate to

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effectively bring together all the key e-government actors across government and make them committed to and accountable for achieving e-government objectives.

- Increase awareness and high-level support for e-government across all sectors of government and in society by effectively communicating responsibilities both within and outside government to the public at large in order to increase internal buy-in and understanding and support at all levels of society.
- Make sure that e-government agendas across government are aligned and reflect a non-partisan and consensus-based view of how e-government can best contribute to delivering better government to Norwegians.

2. The Norwegian government's outward-looking mentality and desire to keep up and learn from other countries' experience on e-government, along with its strong internal focus on promoting knowledge diffusion across government, are points of strength in building up a knowledge base and expertise on e-government in central government. It would be beneficial for the government to further promote the use and development of successful frameworks for knowledge sharing across government (*e.g.* the kunnskapsnettverk portal), in order to promote internal transfer of knowledge and know-how.
3. In order to improve agencies' and ministries' planning and co-ordination of e-government, the government may wish to:
   - State clearer and measurable e-government goals for agencies and ministries in the next eNorway plan, provide more detailed indications on how to achieve those goals and clarify its expectations of the role of individual agencies in doing so.
   - Use available mechanisms and incentives, or develop new ones, to ensure that ministries and agencies include e-government goals in their internal planning and feel ownership for delivering on those goals.
   - Request that the Ministry of Modernisation and the Ministry of Finance work together to come up with ways to use budgetary mechanisms as a tool for achieving greater e-government co-ordination among ministries and agencies.
4. In order to help agencies address real or perceived budgetary barriers, the Ministry of Finance could work with ministries to improve agencies' understanding of existing budget mechanisms for long term-spending, and assist agencies' development of business cases for ICT investments. The government could also request that the Ministry of Finance identify budget processes that may pose an unnecessary and/or undesirable barrier to e-government, and propose solutions.

5. In order to improve agencies' understanding of the regulatory framework supporting e-government, the government may wish to better communicate legislative and regulatory changes that have an impact on e-government, for example by better promoting the access and use of existing online legislative and regulatory databases (*e.g.* the "lovdata" database). Ministries could also focus on using existing knowledge frameworks and networks to provide guidance to agencies and increase their understanding of regulatory requirements.
6. Government agencies are increasingly requesting assistance in building up internal skills and capabilities in order to move forward with e-government development. In order to strengthen the public sector's strategic role and capacity to lead organisational change, the government could better identify where existing resources and strategic capacity to guide e-government development are located within government. By promoting co-ordination and policy dialogue among agencies, the newly established Co-ordinating Body for E-government may be a potential arena for development of strategic capacity within government and identification of areas where additional analytical capacity is needed.
7. In order to enable the provision of better services to citizens and business and promote user satisfaction of online services, the government may wish to:
   - Take a stronger, user-focused approach to examine and monitor user demand for online services. In particular, it would be beneficial for the government to expand the use of the framework for assessing the quality of websites to measure and evaluate the quality of e-government services.
   - Better align and integrate back office systems and operations (*e.g.* the public registers) with front office service delivery, so as to increase the quality of e-government services and maximise return on back office investments.
   - Encourage agencies and ministries to include mechanisms for engaging users in the development of e-government services in their e-government plans.
8. Norway has made good progress in establishing a common solution for authentication across the public sector. In order to achieve the goals of setting up a PKI solution by the end of 2005 and to ensure that it is used, government may wish to make sure that the physical infrastructure is put in place and supported by the development of a market of services and price strategies that recuperate costs and promote usage.
9. In order to increase the take-up of the national e-procurement system, the government could better communicate to agencies the benefits of joining the system and require that they justify their non-participation in the government e-procurement activities. For example, the government could

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explore ways to make it mandatory for agencies to use the currently available self-assessment tools to estimate the benefits of using the national solution, and put pressure on ministries to take a more active role in identifying change agents in agencies and to promote the adoption of the national solution.

10. Most government e-engagement initiatives in Norway are targeted towards providing information to citizens, rather than engaging them in online consultation and participation. In order to strengthen democratic representation and enhance active citizens' participation in the construction and development of the information society, the government may wish to look at promoting more active engagement of citizens in online consultation and participation in policy making. In particular the government may want to look at how to better inform citizens about existing opportunities for more active online engagement.

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Chapter 1

E-government Structure and Context

In Norway the structure of responsibility for e-government reflects the decentralised structure of government and its limited role as an e-government co-ordinator. Central government responsibility for ICT development and co-ordination has varied over time and has been allocated to different government organisations, mirroring the development of political and public management reform agendas. In Norway several government actors performing different policy related functions share responsibility on e-government implementation. The reform in government that took place in 2004 has given the Ministry of Modernisation a full mandate for ICT co-ordination in society as well as in the public sector.

This chapter presents an overview of the structure and context for e-government in Norway in terms of the key actors responsible for its co-ordination and development in central government, and their relationship with one another. While this chapter describes the current structure of e-government responsibilities which results from the recent reform in government (June 2004), it also takes into account the main aspects of the former configuration of responsibilities in order to show how the roles of e-government actors have evolved.

1.1. The e-government co-ordination structure and key players

In Norway the structure of responsibilities for e-government reflects the decentralised structure of government (see Annex A on Norway's institutional and public governance context) and its limited role as an e-government co-ordinator. Norway has chosen not to create an all-of-government Chief Information Officer. It has had instead, since 1995, one ministry responsible for the co-ordination of ICT policy in all ministries. In the summer of 2000, this function was strengthened by establishing a fully-fledged department of IT policy within the Ministry of Trade and Industry, while the Ministry of Labour and Government Administration retained responsibilities for the co-ordination of ICT policy in the public sector. However, ICT development and spending at ministry and agency level is still part of the responsibilities and management competences of the directors general of individual ministries and agencies. In some ministries sections or groups of individuals are given the responsibility for ICT-policy, while in others the ICT director responsible for daily operations and maintenance of the ministry's/agency's IT systems has also been given responsibility for ICT policy issues (see the section on "planning and leadership").

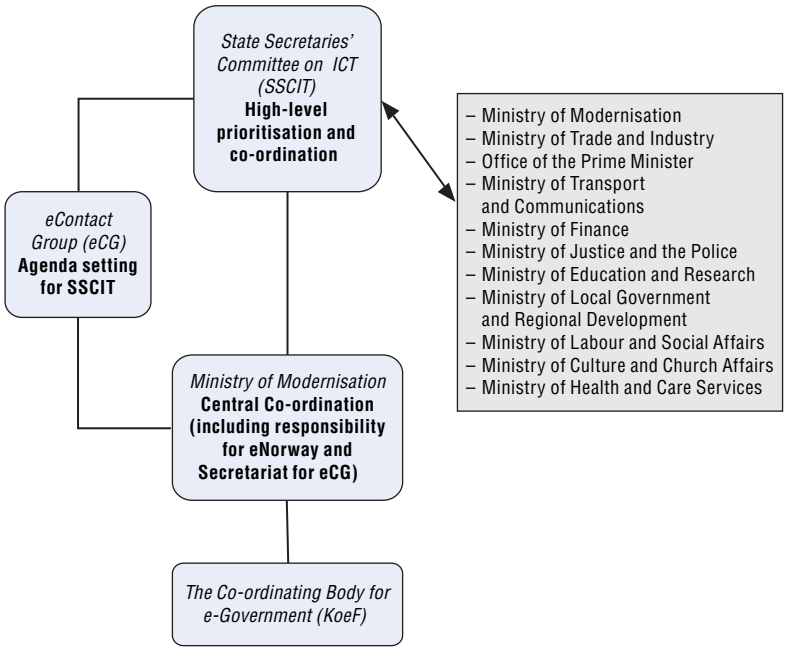
Central government responsibility for ICT development and co-ordination has varied over time and has been located within different government organisations, mirroring the development of political and public management reform agendas[1]. The current organisation of e-government co-ordination responsibilities in Norway involves several governmental actors performing different policy-related functions (see Box 1.1 and Figure 1.1).

Box 1.1. **Key actors responsible for e-government co-ordination in Norway**

- **The State Secretaries' Committee on ICT (SSCIT)**, a high-level co-ordination group for ICT initiatives composed of a group of 11 State Secretaries (deputy ministers) from a selected group of ministries (see Figure 1.1), acts to promote prioritisation and high level discussion of ICT issues. It reports to the ministries and, hence, to the government as a whole. The SSCIT committee was set up in 1996 and its composition and chairmanship have varied over time, in line with changing political orientation. The Committee is currently headed by the Ministry of Modernisation.*
- **The eContact Group (eCG)**, composed of senior officials from most ministries, prepares and co-ordinates the agenda of work of the State Secretaries' Committee on ICT.
- **The Ministry of Modernisation (MoM)** develops and co-ordinates ICT policy in society and in government administration, also across sectors. The Ministry was established in October 2004 after a government reform in June 2004 that focused the responsibilities of the former Ministry of Labour and Government Administration (MLGA) on the public administration reform portfolio, and reinforced MoM's role as the co-ordinator of ICT policies across government. In 2003 the MLGA issued a strategy for the use of ICT in the public sector (including agencies at both national and local government level) which reflects the broad framework of the Norwegian government's general ICT policy and information society policy (eNorway). The Ministry of Modernisation has inherited this strategy, and has also taken over responsibility for the definition and management of the ICT policy issues of eNorway, formerly held by the Ministry of Trade and Industry (MTI). A new eNorway strategy is currently being developed for the period to 2008.
- **The Co-ordinating Body for e-Government (KoeF):** Late in 2004 the Ministry of Modernisation created a new co-ordinating body for e-government that consists of leaders of 13 central government agencies and two municipalities. Chaired by the Minister of Modernisation, the new body has the power to make recommendations within the areas of electronic services (including the development of a Citizen Portal – "Minside" – and the "Altinn" business-to-government reporting system), IT-architecture and IT-security (including electronic authentication/signatures) in the public sector.

* Initially headed by the State Secretary in the Prime Minister's Office, the SSCIT was then transferred to the Ministry of Transport and Communication and then to the Ministry of Planning and Co-ordination. In 1997, the Minister of Trade and Industry became the eMinister and the MTI took over responsibility for the Committee (see Annex C).

Figure 1.1. **E-government co-ordination responsibilities in Norway**



High-level co-ordination and prioritisation of e-government

At the political level, the State Secretaries Committee on ICT (SSCIT) provides high level discussion, prioritisation and co-ordination of ICT initiatives across government, but doesn't have any real decision-making authority, which is retained at the ministers' level. The SSCIT's responsibilities cover the high level co-ordination of the eNorway Action Plan and its status reports, and other subjects with high political value.

The SSCIT's agenda is prepared and co-ordinated by the eContact Group, composed of senior officials holding relevant policy responsibilities (usually at director or deputy director's level) from most ministries. This group meets on a regular basis. Following reform, the responsibility for chairing this group moved from the Ministry of Trade and Industry to the Ministry of Modernisation, which also provides secretariat assistance to the State Secretaries' Committee. This ensures that the Committee agenda reflects priority issues at administration levels as well as political priorities of participating ministries.

Central co-ordination and development of e-government

The Ministry of Modernisation is responsible for the government's national policy for development and coordination of IT use and measures to

make government more efficient and service-oriented. The Ministry was created out of the Ministry of Labour and Government Administration, after a reform in government focused on strengthening capacities to advance the Norwegian public sector modernisation agenda, including enhanced use of ICT as a tool to achieve government reform goals. Reform included the transfer of the Department of IT-policy from the MTI to the new MoM. This enlarged the portfolio of the former MLGA's e-government co-ordinating responsibilities to include co-ordination of the government's information society policy (eNorway) (see Box 1.2).

Before the 2004 reform, during the period that it was responsible for the co-ordination of IT in the central government,[2] the Ministry of Labour and Government Administration itself underwent a series of intermediate reforms beginning in 2001 that impacted, at least in the short term, on its ability to co-ordinate and develop e-government policy (see Box 1.3).

Box 1.2. **MTI: Former responsible for the development of eNorway**

Until late 2004, the Ministry of Trade and Industry (MTI) was responsible for co-ordinating ICT policy in Norway, including eNorway, the Government's information society and IT policy which provides the Government's vision for the development and use of ICT in Norway and sets the primary objectives and goals to achieve it (see the chapter on Planning and Leadership, and Annex C). At the political level, the State Secretaries Committee on ICT (SSCIT) has held key responsibility for the promotion and development of ICT use in connection to the development of the information society agenda.

The MTI was also responsible for co-ordinating and supporting group of experts from academia and the private sectors to discuss IT developments in the areas of security, e-commerce and the IT industry. In addition to its domestic responsibilities, the Ministry also participated in the activities of the Nordic Council of Ministers.

Following the creation of the Ministry of Modernisation in October 2004, the responsibilities connected to the development of the eNorway plan were transferred to it from to the MTI, augmenting the focus on e-government that the new ministry inherited from its predecessor, the Ministry of Labour and Government Administration. In particular, responsibility for the co-ordination of ICT policy in the areas of IT security, IT infrastructure and e-commerce moved from the MTI's Department of IT Policy (composed of about 20 people including a project leader in charge of eNorway), to the MoM's newly created Department of IT policy.

Box 1.3. **Evolution of e-government co-ordination responsibilities within the former MLGA**

The focus of the intermediate reform that took place in 2001 was on decentralisation, market solutions and "lighter" central government. As a result, resources for e-government co-ordination in the Ministry were seriously reduced. The number of staff working on e-government co-ordination in the Department of Government Policy was reduced from 13-15 people to 2 and responsibilities were decentralised to the directorate level in ministries. As observed by an official from the MLGA, this brought increased pressure on ministries which had to deal with new co-ordinating tasks with limited resources and skills ("There were no people around in the ministry to carry it out").

The MLGA's Modernisation Unit had been created to carry out the government's modernisation programme[1] including e-government (see the Annex C). Its dissolution one year after its establishment in early 2002 led to a dispersion of e-government capacities and responsibilities within the Ministry. The responsibilities of the Unit, which acted as the Ministry's specialist group for the modernisation of the public sector and which replaced the Department of Government Policy, were taken over by the Department of Restructuring and Personnel Policy. The e-government staff moved into the Department of Government Services, the Department of Restructuring and Personnel Policy and partly to the Directorate for Public Management (Statskonsult).

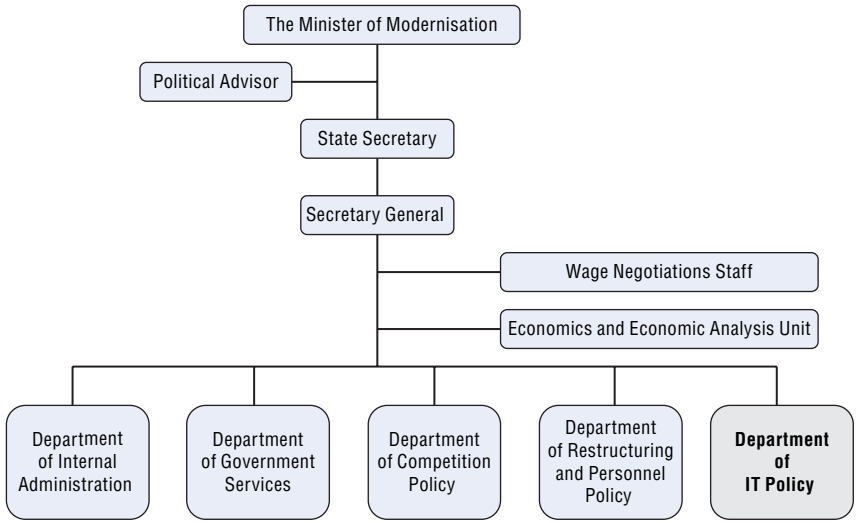
As part of the intermediate reforms that led to the 2004 reform, the MLGA was assigned responsibility for the co-ordination and strategic direction of the government's public sector ICT policy,[2] which defines the role and responsibilities of central government in providing a common framework and infrastructure to support decentralised ICT implementation (see the section on Planning and Leadership). These responsibilities have been retained by the new Ministry of Modernisation.

1. Step by Step: Programme For Innovation and Modernisation of the Public Sector, 2001.
2. Strategy for ICT in the Public Sector, 2003-2005, MLGA, February 2003.

Co-ordination of e-government also takes place in a number of inter-ministerial bodies responsible for advising on particular aspects of government use of ICT, such as the Co-ordination Body for PKI and the Co-ordination Body for Information Security (see Box 1.4).

The MoM is also responsible for the co-ordination of central ICT initiatives at the local level in co-operation with the Association of Regional and Local Authority, which includes all municipalities and counties and acts

Figure 1.2. **The structure of e-government in the Ministry of Modernisation**



Source: Ministry of Modernisation.

as an advisory body and central bargaining organisation *vis-à-vis* central government on behalf of its members. The former MLGA shared responsibility with the Association of Regional and Local Authorities for the KOSTIT Council, which brought together representatives from ministries and municipalities to supervise and guide the implementation of the co-operation project between the municipal sector and government administration on ICT issues (KOSTIT). The project was terminated in 2000.

Strategic guidance and support of ICT development

The government's agency for public management development (Statskonsult) has historically played a major role in supporting e-government development in Norway, acting as an in-house think tank, providing strategic advice to government organisations and undertaking government-wide studies on both policy and technical aspects of ICT use in government.

Statskonsult actively participated in the public sector ICT strategy for 2003-2005, and led IT standardisation efforts in government. It currently hosts the Secretariat for the Policy Group on Standardisation, which is responsible for designing and spreading knowledge about electronic communication standards for the public sector (see Box 1.4). Statskonsult has been also responsible for assisting government bodies in developing ICT and communications strategies, in the procurement of ICT services through standardised contracts, and in promoting and implementing initiatives. The reorganisation of Statskonsult

Box 1.4. **Inter-ministerial and inter-agency ICT co-ordinating bodies**

The Co-ordinating Body for e-Government: See Box 1.1

The Co-ordination Body for PKI: a group that was created in early 2003 with a mandate to co-ordinate the use of security services in government and to prepare the ground for the introduction and use of electronic signatures through the use of PKI. The body operates under the direction of the MoM with members drawn from the Ministry of Finance, Ministry of Justice, Ministry of Social Affairs, Ministry of Health, Ministry of Transport, Ministry of Trade and Industry and the Ministry of Local Government and Regional Development. The group contributes to the goals set up in the eNorway action plan by forming a base for common and widespread use of digital IDs and signatures. It was to ensure an introduction of a standardised and cost-effective use of digital signatures within the public sector as well as in its relations with citizens and businesses. This group was terminated in November 2004 and the tasks were transferred to the New Co-ordinating Body for eGovernment.

The Co-ordination Committee on Information Security: a committee established in 2004 and led by the MTI until transferred to the MoM in late 2004. It draws members from ministries and agencies that have formal responsibilities with regard to regulations as well as operational roles on information security matters. Norway saw the creation of this body as necessary due to the increased use of ICT that can also increase the risk of "attacks" and sabotage of IT systems. Its work covers general and overarching ICT-security issues connected to information security in Norway, national security and critical infrastructure protection. The committee will co-ordinate forthcoming work on ICT-security legislation and recommend common requirements, norms, methods and tools for ICT-security as well as coordinating security monitoring practices. The committee will also address current issues of risks and vulnerabilities and co-ordinate information initiatives and readiness planning. The committee has advisory powers only.

Policy Group on IT Standardisation and Data Co-ordination: a group established in January 2004 to study IT standardisation, interoperability and co-ordinated use of electronic resources. The results of this study were published in June 2004. The Secretariat of the group is based in Statskonsult.

The Ministries' Information Technology Co-ordinating Committee (DEPITT): a co-ordination group that meets four or five times a year, focusing more on issues related to the use of ICT within ministries than on its co-ordination across government.

Key points 1.1

- ***E-government development in Norway has been subject to shifting political orientations and changing public reform agendas in the past decade. The organisation and structure of e-government responsibilities at the central level reflects the decentralised structure of central government and lays the foundations for the government's role as an e-government co-ordinator.***
- ***Up until the reform in government that took place in June 2004, the Ministry of Trade and Industry had the overall responsibility for ICT co-ordination in society while the Ministry of Labour and Government Administration was responsible for ICT use and policies in government administration. The reallocation of ICT resources in government has given the newly created Minister of Modernisation a full mandate for ICT co-ordination in society as well as in the public sector.***

in 2004 into a state-owned limited liability company has eliminated its co-coordinating role, raising concerns over the central government's role and capacity to provide strategic guidance to government ministries and agencies (see Chapter 5 on " organisational change").

Enabling the framework for the development of e-government

A number of government actors contribute to the development of the use of ICT in government by providing the budgetary and regulatory framework for e-government development.

The Ministry of Finance has general responsibility for the government budget and economic policy. While it does not exercise co-ordination over agencies' ICT budgets, it does exercise budget control over large IT projects (above 500 million NOK) and provides guidance and technical assistance to agencies in order to manage the risk of large investments.

As part of its e-government policy responsibility, the former Ministry of Labour and Government Administration was instrumental in setting the regulatory framework for electronic communication within the administration and draft legislation for Parliamentary approval (*e.g. the Regulation on Electronic Communication with and within the Public Administration, 2002*, see the Annex and Chapter 3 "Barriers to e-government"). The Ministry of Justice and Police (MJP) has also had a role in setting this framework through its involvement with the MTI and the MLGA in the eRegulation Project (see Annex B and Chapter 3).

Notes

1. Under the Jagland government (1996-1997), responsibility for overall ICT policy co-ordination in society was located in the Ministry of Planning and Co-ordination (the old name for the Ministry of Labour and Government Administration – MLGA). Under the first Bondevik conservative government, the Ministry of Trade and Industry (MTI) took over this responsibility and established an IT department, while IT co-ordination in the public sector, *i.e.* development of e-government, was retained in the MLGA. The MLGA sponsored several cross-sectoral efforts which was part of the Action Plan for electronic Government 1999-2001. Its focus on the public sector, however, was terminated at the end of 2001. (See Box 4.A1.1 on the evolution of e-government co-ordination in Norway and the Annex C for additional background on the historical development of e-government in Norway).
2. MLGA (1999), "Electronic Government – Cross-sectoral development of information technology in central administration".

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Chapter 2

The Case for E-government

The main driver for ICT use in Norway was and remains internal efficiency through automation of administrative processes. Nonetheless, public sector reform has been a main driver of the development of e-government which is seen as an instrument for providing better quality services, reducing complexity and user orientation of the public sector. Decentralisation of public management has had an impact on e-government implementation, however, within this general approach, there have been swings towards and away from centralising certain elements of ICT use in government. The advancement of the information society and e-government developments at EU level have also provided important cases for e-government development in Norway.

This chapter examines the three major drivers for e-government in Norway: public reform, the development of the information society and e-Europe.

2.1. Public reform as a driver for e-government

In Norway, e-government and public sector reform share the same objective of enabling a more efficient and less complex public sector. The Norwegian government recognises e-government as a key component of the government's modernisation agenda. Norwegian public sector reform identifies e-government as an instrument for providing better quality services and increasing the efficiency, user orientation, and transparency of public administration.

Public sector reform has set the context for e-government in Norway in the past thirty years. In the 1970s, the government started using ICT with a focus on internal agency efficiency and efficiency remains a strong internal driver for agencies today. In the 1980s, responsibilities on the use of ICTs have been devolved to local agencies, following New Public Management (NPM) principles. Until the late 1990s, decentralised bodies developed relatively autonomous ICT programs for internal administration and service delivery processes. In 2001, Norway's Modernisation plan introduced a vision of a 24/7 public administration built around user's needs and making full use of technology to provide better information and services. Following a change in government, this plan was superseded by a new modernisation programme in 2002 that indicates e-government as a key element of the Government's vision of public sector reform (see Chapter 4 for details on the 24/7 vision and the new modernisation programme). Recent changes and modifications in the Norwegian government have further refined the context of e-government in public reform: the shift from a Ministry of Labour and Government Administration to a Ministry of Modernisation clearly shows the government's strong commitment in using e-government to push public reform in the context of the modernisation of the public sector. However, efficiency also remains a strong driver within public reform in Norway (see Box 2.1.).

In the late 1990s, central co-ordination of e-government initiatives emerged as a key priority in government. This followed the recognition that ICTs, beyond having a merely administrative role, could serve as a policy instrument to enable and achieve overall public administration development goals and policy outcomes, especially across sectors. After a decade of decentralised ICT management, the Norwegian government recognised the

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Box 2.1. **Public sector reform and government use of ICT in Norway**

Norway has often been referred to as a "reluctant reformer";* its reform efforts are characterised by adherence to traditions of pragmatism, consensus and continuity. Until the mid-1980s, public sector reforms were more a collection of ongoing measures and new ideas than a consistent, co-ordinated, and conceptually coherent strategic plan for changing the administrative apparatus. Most such initiatives remain sector-based (*i.e.* health, education, etc.) and tend to originate from within the administration.

Introduction of government use of ICTs in the 1970s was not part of a centrally co-ordinated reform initiative, but rather the result of decentralised initiatives at central agency level. At that time information technology was treated as an administrative rather than a strategic tool, one that could increase efficiency by automating government procedures. Many large central agencies and local authorities had or acquired large IT departments. Without much centralised policy guidance, they developed their information and registry systems using a bottom-up approach. This resulted in the establishment of a number of loosely interconnected IT systems.

This "pre-e-government" stage of computerisation was applied mainly to government back office processes. The use of ICT to improve financial, public record and internal administrative systems (*e.g.* payroll and personnel management) and develop centralised public registries (*e.g.* population register, land register, business register) began to form a backbone of electronic-enabled operations within central government. It also provided the initial technological and cultural framework for the future development of e-government services – for example, the electronic payment of certain government subsidies, in place since 1973. The focus on efficiency goals persisted into the 1990s, driven by the need to finance a generous welfare state and support increasing international competition.

The reforms inspired by New Public Management (NPM) theory beginning in the mid-1980s also had an impact on e-government arrangements. The government's modernisation programme, introduced in 1986, was the first attempt to bring together administrative policy and reform measures into a comprehensive reform plan focused on decentralisation, increased flexibility, and administrative simplification.* NPM reforms have aimed at empowering agencies and local authorities by devolving responsibilities in key areas (*e.g.* budget), thus reducing central regulations and control and strengthening result-orientated public management. As before, the idea was more to increase public sector efficiency and competitiveness than to advance the privatisation agenda.

Box 2.1. **Public sector reform and government use of ICT in Norway** *(cont.)*

In the 1990s, however, the picture began to change. Abolition of state monopolies and deregulation of various sectors and functions (*e.g.* telecommunications, postal services, civil aviation) was accompanied by limited privatisation and an increased organisation of government activity into limited liability company forms (*e.g.* Telenor) in order to increase adaptability and improve public sector efficiency. The devolution of authority to agencies that followed NPM reforms also paved the way for agencies' increased role and responsibilities for the specification and implementation of public reforms.

* OECD (1999), *OECD Strategic Review and Reform – Norway*, Paper prepared for the OECD Symposium on Government of the Future, 14-15 September 1999.

Key points 2.1

- ***Norwegian public reform identifies e-government as an instrument for providing better quality services and increasing the efficiency, user orientation and transparency of public administration. The development of e-government in Norway has been influenced by the context of public sector reform in Norway in the past thirty years.***
- ***The Norwegian public sector started using ICT much earlier than the advent of e-government and the main driver was enabling internal efficiencies by automating administrative processes. This focus on internal efficiency has been a constant feature of government use of technology and remains a strong internal driver for agencies.***
- ***By setting the stage for a larger portion of public tasks to be handled at the local level and reducing central government controls, NPM reforms have increased agency and local authorities' responsibility for the provision of public services. This has supported a relatively decentralised approach in managing ICT in government, while more centralised initiatives have been retained in areas where common development was needed (such as infrastructure and standardisation).***
- ***Until the late 1990s, the central government played a limited role in developing ICTs across government. The importance of cross sector co-ordination emerged with the recognition of ICTs as policy instrument to enable and achieve overall public administration development goals and policy outcomes.***

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potential of e-government to achieve cross-sectoral administration goals and policy outcomes. NPM reforms increased agencies' and local authorities' responsibility for the provision of public services: reforms allowed public task management at the local level and reduced central government controls. This led to a relatively decentralised approach in managing ICT in government while more centralised initiatives were retained in areas where common development was needed (such as infrastructure and standardisation). The 2004 government reform has strengthened the role of central government in co-ordinating e-government initiatives in certain priority areas.[1]

2.2. The information society as a driver for e-government development

The advancement of the information society agenda provides an important case for the development of e-government in Norway. The government's focus on 1) strengthening Norway's leadership in ICT development, 2) using ICT to promote economic and social development and 3) making the benefits of the information society available to all, have shaped the Norwegian IS agenda and have acted as drivers.

Initiatives to develop the information society are closely linked to government plans to lead IT development. Norway's efforts to establish an information society date back to the late 1980s with the first national IT plan. Although the plan did not state specific objectives or goals, it helped raise awareness of ICT use and supported ICT investment in areas such as education and research. In 1995 the State Secretaries Committee on ICT took the initiative to develop an information society strategy, outlining a vision for IT development in Norway and identifying IS goals.[2]

The government's IS efforts have involved boosting competition and the use of market-oriented mechanisms and supporting the role of government as a key customer in the ICT market (*e.g.* through establishing an electronic market place – see Chapter 6). These actions have in turn strengthened the basis for providing e-government services. In addition, deregulation of the telecommunications sector in the 1990s has increased competition and lowered the price of services, while administrative simplification and the reduction of legislative and regulatory barriers to electronic communication have resulted in efficiencies for both businesses and citizens (see Chapter 3). Government standardisation efforts have accompanied the convergence of telecommunications, broadcasting, and computer technology and have provided the basis for the creation of new services (*e.g.* geographical information).

The Norwegian information society strategy is based on a vision that sees information technology promoting economic development and providing greater social and economic opportunities for individuals and communities.

This has paved the way for increased use of ICT in the public sector to help achieve economic development goals through investments in e-government systems and projects, and increased collaboration between government and the ICT industry in the areas of infrastructure development (*e.g.* PKI), strengthening ICT services and content industries and improving ICT research and development (see Annex C).

The need to make the benefits of the information society available to all has also acted as a driver to boost the development of e-government services and ensure that all citizens have equal access to them. The IS agenda has stimulated the development of ICT skills in certain sectors. The Ministry of Education and Research has promoted ICT research and development, ICT literacy and skills among students and greater access to the Internet at schools (*e.g.* through support of the roll-out of broadband in schools). The Ministry supports teachers' education in the pedagogic use of ICT ("Learn ICT" project). It has recently (March 2004) launched a five-year programme (the Programme for Digital Expertise: 2004-2008) focusing on further improvement of ICT literacy and skills among students.

The eNorway 2005 action plan elaborating the current government vision for the development of ICT and the information society builds on the principles of the 1995 strategy (see Annex C). This vision is based on four key objectives:

- Development and use of ICT shall contribute to value creation through increased innovation, research, and competitiveness in industry.
- Information technology shall be instrumental to the creation of a modern and efficient public sector, and to the provision of better services to users.
- Everyone shall be able to exploit the opportunities offered by and benefit from the development of the information society.
- Information technology shall contribute to the protection and development of Norwegian cultural heritage, identity and language.

The plan indicates the areas to be tackled to achieve these objectives, sets specific targets and identifies projects for reaching the targets (see the eNorway action plan in Chapter 4). Government monitors progress towards the objectives through status reports that provide a picture of the evolution of the information society in relation to the objectives stated in the eNorway plan. The 2004 status report shows that while Norway has made progress in building up a solid framework for value creation, increased efficiency and participation, it still has to make efforts to achieve its stated IS development goals. Recent reform in government has strengthened the role of central government in developing the information society by placing responsibility for overall ICT policy co-ordination in society into the hands of the Ministry of Modernisation (Chapter 1).

Key points 2.2

- ***The use of ICT to make the public sector more efficient and offer new and improved services to users is one of the primary pillars of the Norwegian vision for the information society.***
- ***The information society development agenda acts as a driver for e-government development in certain sectors.***

2.3. The eEurope initiative

Although not formally a member of the EU, Norway has looked on European Union information society and e-government initiatives as a source of knowledge and expertise and as an international benchmark for its own e-government initiatives. Norway's relations with the EU are governed by the Agreement on the European Economic Area (EEA), which does not provide an opportunity for full participation in the EU's policy making. Despite this, Norway has been a strong informal follower of EU initiatives and policies in this area. It participates in the EU benchmarking activities that measure the progress of national e-government initiatives in meeting European IS development goals. It has implemented a number of EU directives, especially in the areas of privacy, security, electronic commerce and procurement.

Not only has Norway aligned its IS strategy to the European information society development vision and goals, but it has moved forward in anticipating European developments in this area and integrating them in its information society strategy. The first *e*Norway plan (eNorway 1.0) was published in the same year (2000) as the eEurope 2002 plan and focused on meeting the same goals, though a lack of resources and capacity prevented a close follow up. The fact that the current eNorway 2005 plan was issued before *e*Europe 2005 demonstrates Norway's desire to influence the path of the information society agenda. According to Norwegian officials, the reason for stepping ahead of the eEurope 2005 plan is that the development of indicators at the EU level has been not sufficiently rapid, and that the EU framework lacked clarity. However, the plans remain very similar, and there has been a useful transfer of knowledge on both sides (see Box 2.2).

Norway's e-government initiative has also benefited from direct transfer of knowledge on ICT through co-operation in the framework of EU-led e-government initiative and ICT research programmes (*e.g.* European Research Area (ERA), the MODINIS – Modern on-line public services) at senior official level. Through a secondment, Norway has participated in the European Commission's work on advancing ICTs to support electronic exchange of information between public administrations across Europe (IDA – interchange

Box 2.2. **eNorway action plan 2003-2005 and eEurope 2005: a brief comparison**

The current eNorway action plan and the eEurope Action plan 2005 mirror each other closely. The overarching goals for the two reports are the same: they both aim to create a favourable environment for the further use of ICT, introduce broadband access among institutions and citizens, and create a more effective public sector with more and better electronic services for its clients. All the goals seek to increase productivity and the economic growth.

One overarching goal in the eNorway plan is **creating value in industry**. This will be obtained by expanding the use of ICT along with increased innovation and competitiveness in Norwegian industry. Fully realising the benefits from ICT will call for investments in knowledge and infrastructure for electronic commerce. The plan focuses on creating a robust and efficient infrastructure which is also accessible to the public. The plan focuses also on widespread broadband roll-out to primary schools, local authorities, public libraries, the health sector and colleges. Attention is paid to modifying regulations in order to provide equal standing to online and traditional government services as well as breaking barriers to electronic communications. Linked to the deployment and development of information systems, the plan indicates the importance of developing a culture of security.

This is much in line with what the eEurope plan states. The goal for the plan is to provide a favourable environment for private investment and the creation of new jobs through the use of ICT. It aims to provide services and applications on a widely available broadband infrastructure. To obtain productivity gains through effective use of ICT and broadband, the economic behaviour must move towards exploiting new technologies along with adapting business processes, bringing public services online, enhancing ICT skills among the public and making broadband accessible for all groups of people and sectors (healthcare, education, businesses, etc.) in society. The creation of a friendly legal framework for ICT use is necessary. Security, as in the Norway plan, is seen as a key enabler for e-businesses and prerequisite for privacy.

The second overarching goal for the eNorway plan is **efficiency and quality in the public sector**. ICT will be used in such a way as to make the public sector more efficient even as it develops new and improved services to users. Resources must be transferred from administration to service production. The eEurope plan also states the importance of the public sector being better organised in order to deliver effective solutions. The services provided to users by all local authorities and government agencies should be tailored and electronic to make life easier for users and promote democratic dialogue with the population.

Box 2.2. **eNorway action plan 2003-2005 and eEurope 2005: a brief comparison** *(cont.)*

The third overarching goal for the eNorway plan is **involvement and identity**. The ambition is that ICT will be available to all groups in society, including people with special needs. The plan focuses on meeting the needs of users/customers in the development of different digital services. ICT is perceived as becoming a common feature in education and learning. The plan focuses also on providing the workforce, businesses and general population with both basic and advanced ICT skills. The eEurope plan states the importance of including all groups of people in the use of ICT with a focus on users. It mentions different access platforms, such as digital television or 3G mobile systems as enablers for e-inclusion of people with special needs. The users/clients are accorded top priorities.

Source: eNorway 2005 and eEurope 2005.

of data between administrations). This demonstrates the value that Norway places on keeping up to date with activities in EU countries.

While the eEurope initiative has influenced the overall Norwegian ICT strategy, at the ministerial and agency level, European-led initiatives have often acted both as frameworks for inter-agency collaboration and as catalysts for individual organisations to move forward with e-government implementation – sometimes at the international level. One example of this is the participation of the Norway's Ministry of Children and Family Affairs in the European system for exchange of information about young people. Another is the participation of the Norwegian Mapping Authority (NMA) in the European information society programme, and also its alignment with EU policy through involvement in the INSPIRE program which looks at geo-spatial data.

2.4. The proper environment for the delivery of e-government

Take-up and development of e-government in Norway has been supported by a proper IT infrastructure environment. The recently published

Key points 2.3

- ***Development of e-government in Norway has been strongly influenced by EU initiatives. Even though it is not an EU member, the eNorway action plan (the Norwegian strategy to promote the information society and the use of ICT) is strongly influenced and inspired by the eEurope strategy.***

OECD report "ICT Diffusion to Business: Peer Review – Country Report: Norway" indicates that basic telecommunication infrastructures are in place and well developed in Norway. Most common telecommunication channels (*e.g.* fixed telephone channels, ISDN lines, mobile phones) are available and easily accessible. Norway ranks high relative to other OECD countries in terms of access to these channels. In particular Norway is the leading OECD country for ISDN with 35 channels per 100 inhabitants.[3]

Norway ranks above OECD average when it comes to broadband availability and penetration, with large differences between central and remote municipalities. However, like in most countries, the number of broadband subscriptions lags behind availability.

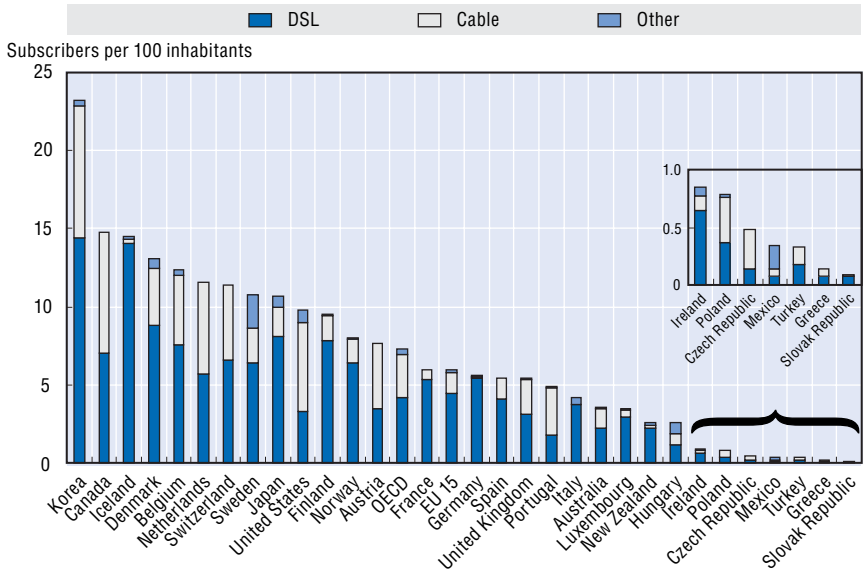
Like most other OECD countries, Norway has chosen a market-based strategy for the rollout of broadband, in line with OECD recommendations. The market players support the development of the infrastructure for electronic communications and services. The government has pursued a neutral policy as regards technology infrastructure, in order to secure competition within and between different technological platforms. In august 2004, 81% of the Norwegian households had a broadband offer from at least one ISP (Internet Service Provider), which represents an increase of 17 percentage points since May 2003. The government is expecting that broadband coverage will reach 95% during 2006. The incumbent operator, Telenor, has announced that the company will cover 92%-93% of the households with DSL solutions by the end of 2006.

Although Norway has experienced significant growth in the number of broadband subscriptions in recent years (Statistics Norway has registered a 6 percentage point increase in the last quarter of 2004), approximately 30% of the households had a broadband connection by January 2005. This figure is expected to increase significantly during 2005.

The government launched a national broadband initiative in 1999 (HOYKOM) to encourage public institutions (*e.g.* schools, hospitals, libraries) to develop broadband-based public applications and services. The purpose was to increase efficiency and service orientation of public administration and indirectly stimulate commercial broadband supply, especially in remote areas, by increasing demand. As indicated in a white paper adopted in March 2004, the government is committed to continue stimulating broadband demand from public institutions and has set a goal to secure broadband access to everyone by the end of 2007.

The HOYKOM programme has fostered a number of interesting applications from which ten projects has been given status of model projects. These are successful projects whose results and experiences are highly relevant for other institutions and they are therefore presented in detail with, among other ways, their own website. Recently, the Ministry of Modernisation

Figure 2.1. **Broadband subscribers per 100 inhabitants, December 2003**



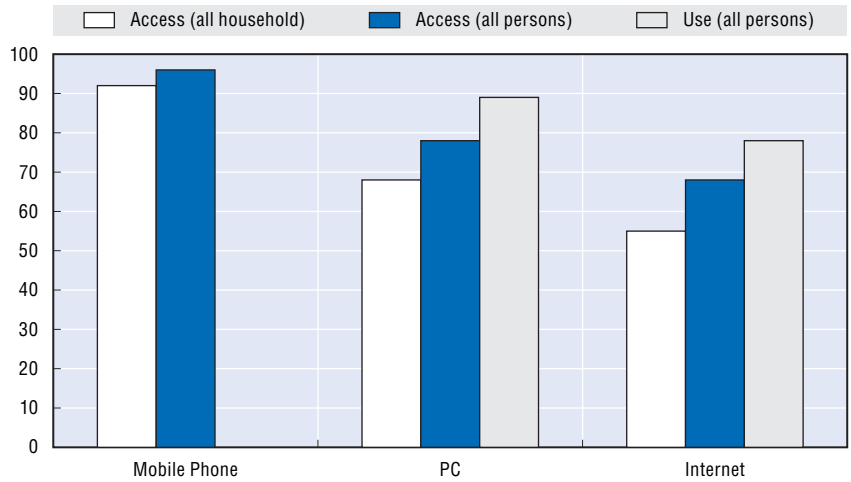
Source: OECD, *Communications Outlook*, 2004.

has initialized a process to systematically go through the Høykom project portfolio in order to identify projects suited for larger scale roll-out. Results from this process are expected by the end of 2005.

Norwegians are rapid adopters of new technologies in general and new consumer electronics have penetrated rapidly. There is a relatively high penetration of mobile phones compared with other OECD countries: 96% of Norwegians possess at least one. The number of active mobile phones surpassed the number of fixed phones in 2000[4] and SMS usage approached 3 messages per day for the entire population[5]. However the considerable potential offered by mobile phones penetration to provide e-government services has not yet been fully realised. The OECD survey reveals that only a small percentage of government agencies and ministries reported providing services through this SMS (2%) and no services are provided through WAP (wireless application protocol) technologies.

The high penetration and use of PC and the Internet in Norway represents strong potential for further take-up of e-government. Two-thirds of the households in Norway had access to a PC in 2003. More than half of the households (55%) had access to the Internet (Figure 2.2). A PC is used daily by half of the population, while 40 % are using the Internet at least once a day.[6]

Figure 2.2. **Access to and use of Internet and PC in Norway (2003)**



Source: TNS (2003), Government Online: an international perspective.

Notes

1. This may address the demand for increased co-ordination of e-government expressed to the OECD during interviews with ICT officials with policy responsibilities in Norwegian ministries.
2. Report from the State Secretary Committee on IT (1996), "The Norwegian Way to Information Society – Bit by Bit".
3. OECD (2004), ICT diffusion to business: *Peer Review – Country Report: Norway*, from Post- og teletilsynet (2002).
4. Statistics Norway (2003).
5. OECD (2004), ICT diffusion to business: *Peer Review – Country Report: Norway*, from Vaage, 2004.
6. Statistics Norway (2003).

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Chapter 3

External Barriers to E-government

While there are few legislative and regulatory barriers to e-government in Norway, the OECD survey of Norway indicates budgetary barriers as the single most important barrier to the use of ICT in government. Norway has succeeded in providing a legal framework for e-government by reviewing and amending laws and regulations which impeded e-government and ensured privacy protection. Lack of funds and long term and joint funding mechanisms have been identified as the biggest budgetary barriers. However, in light of the existing flexibility within the Norwegian budgetary mechanisms, the problem does not seem to be the lack of budget mechanisms but rather lack of collaboration and inexperience with using business cases and other budgetary justification within ministries. The digital divide does not represent a major barrier to e-government development in Norway.

This chapter looks at the impact of key external barriers to e-government and how they are being addressed in Norway. It focuses on four areas where government agencies can encounter these implementation barriers – laws and regulations, management of privacy and security, budgetary arrangements and the digital divide. The overall assessment is that despite some challenges, the barriers are actually few.

3.1. Legislative and regulatory barriers

Regulatory framework

An enabling legal framework is a critical element of successful e-government implementation. The Norwegian government has taken an active role in setting up such framework by eliminating legal and regulatory barriers to the provision of online services. These initiatives build on a tradition of rigour in legislative simplification and extensive review and repeal of laws and regulations in order to simplify and reduce administrative burdens imposed on citizens and businesses.[1] The eNorway Action Plan reflects these efforts by emphasising that the updating and renewal of regulations is essential to provide a solid framework for ICT development in Norway and for ensuring equal standing between online and traditional public services.

Through the *eRegulation Project,* the government, has undertaken a review of all laws and regulations in order to identify and remove obstacles to electronic communication (see Annex C). A number of amendments to the Public Administration Act have been introduced to allow recognition of electronic documents and adoption of electronic business processes in government (*e.g.* electronic notification of administrative decisions after gaining approval from the recipient). As a result of legislative amendments, the word "written" as an administrative requirement for communication is now interpreted as a term that encompasses both electronic and paper forms.

Norwegian legislation has also been updated to account for developments in EU legislation in ICT-related areas such as e-commerce, electronic signatures, copyright, and privacy protection. For example, Norway's E-Commerce Act implements the EU Directive on E-Commerce. This has strengthened the legislative basis for the provision of online services and demonstrates Norway's strategy of following European guidance in order to ensure interoperability and consistency with the EU.

Confidentiality of electronic communications is also ensured by law. The Personal Data Act, which amends the 1978 Data Register Act, ensures that personal data is processed in accordance with privacy rights, while the Norwegian Data Protection Inspectorate, an agency under the Ministry of Modernisation, verifies compliance with laws and regulations applying to the processing of personal data.

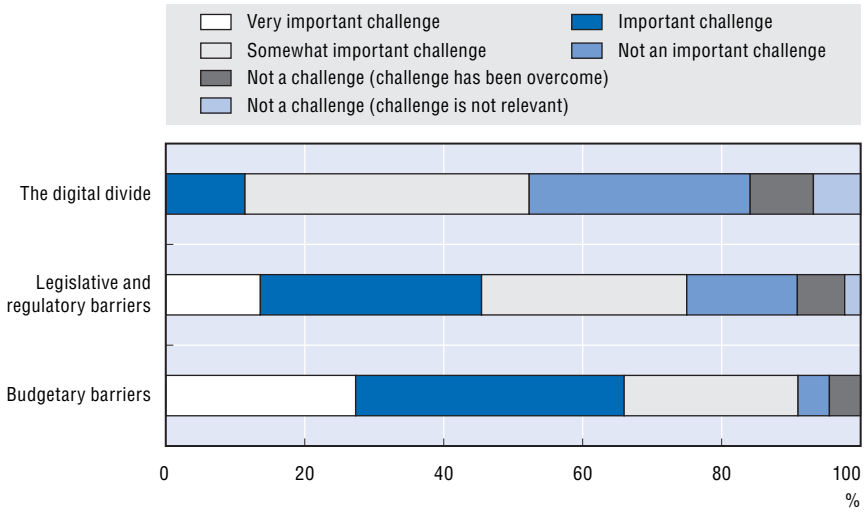
Legal recognition of digital signatures was confirmed by the law on Electronic Signature that entered into force in 2001. The law implements a European Union directive and establishes a legal equivalence between traditional signatures and qualified electronic signatures. This is an important step in laying the groundwork for the provision and take up of e-government services. Guidelines for use of digital signatures were later specified in regulations establishing the legal requirements for using electronic communication in the public administration.

The *sub-regulation on electronic communication with and within the public administration,* (see the Annex C), establishes provisions for electronic handling of cases and communication within the administration, including data archiving and electronic communication between administrative agencies and the public. It states that administrative decisions can be communicated electronically, subject to the consent of the individual, who is also to be notified on how to access them. The administration is obliged to send a paper copy only if the message has not been opened by the individual within 7 days of its receipt.

Despite all of Norway's efforts to provide the necessary legal basis for e-government, over 70% of agencies and ministries responding to the OECD survey indicated that legislative and regulatory barriers remain an important challenge to e-government implementation. Less than 10% consider that the challenge has been overcome (see Figure 3.1). When asked about this barrier in more detail, over half of the respondents (55%, of which 25% were agencies and 75% ministries) indicated lack of legal recognition of e-government processes as being the biggest barrier.

Norwegian law now establishes a formal equivalence between paper and electronic processes, but this fact has clearly not yet been fully realised or applied in Norway. One reason appears to be a lack of specification of legislation and guidance to support its application. For example, while regulations have provided the legal basis for the use of digital signatures by establishing security requirements for the exchange of messages within and outside the administration, there was a lack of detailed directions, in terms of requirements and specifications, on how digital signatures were to be implemented. As an important step forward in this area, in June 2004 the government has decided to develop common requirements, specifications and framework agreements for the public sector's use of PKI.

Figure 3.1. **External barriers to e-government**



Source: OECD E-government Survey: Norway.

Another reason for this situation may be confusion over legal requirements, arising partly from the lack of a clear strategy to communicate legislative changes. The eNorway 2004 Status Report indicates that lack of knowledge of legislative and regulatory changes arising from the *eRugulation Project* is one of the greatest challenges for the administration. Nearly 50% of survey respondents feel that regulations are complex and difficult to understand.

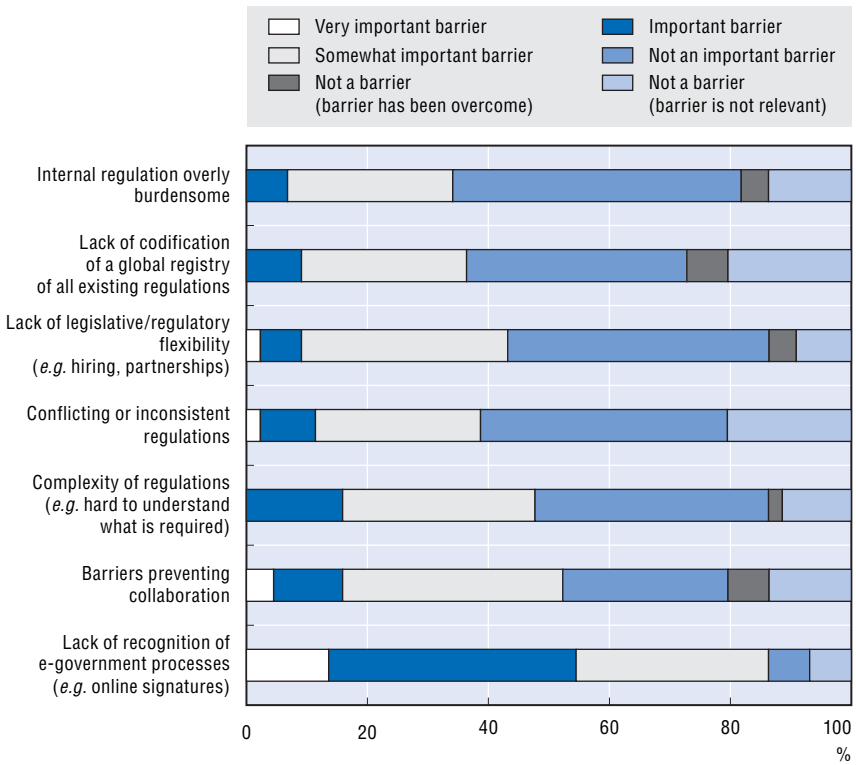
Overall, there is a mixed picture of how legislation and regulations either support or hinder e-government. While in principle they provide an enabling framework for e-government implementation, in practice inadequate understanding of the legal environment on the part of agencies and ministries, in part created by insufficient information and guidance on regulatory and legislative changes, may act as a barrier. Better institutional communication of regulatory and legislative changes along with clear and more detailed instructions on practical aspects of its implementation may help overcome this barrier.

A better picture emerges in relation to the government's achievements regarding legislative and regulatory simplification and rationalisation. Efforts here have paved the way for the take-up of e-government by reducing the amount of internal administrative requirements and increasing the flexibility and autonomy of agencies. Only about 10% of survey respondents consider conflicting or inconsistent regulations to be a very important or important

challenge to e-government and only another 7% indicated internal regulation to be overly burdensome (see Figure 3.2). However, users in the private sector have observed that inconsistent regulations in certain areas (such as security) may still be in place and acting as barriers.

Accessibility of regulations is not a major barrier to e-government, with over 60% of survey respondents stating that the lack of codification of a global registry for all existing regulations is not an important barrier or no barrier at all. This reflects the fact that from the 1980s onward, all primary and secondary Norwegian legislation has been published in the official gazette and is available through a searchable website (*www.lovdata.no*) that provides a database on all existing laws and regulations, a business register with relevant laws and regulations and access to other legal information such as court decisions and official studies of legal issues. That some respondents did regard access to these regulations to be a challenge again underscores the need for more communication in this area.

Figure 3.2. **Legislative and regulatory barriers to e-government**



Source: OECD E-government Survey: Norway.

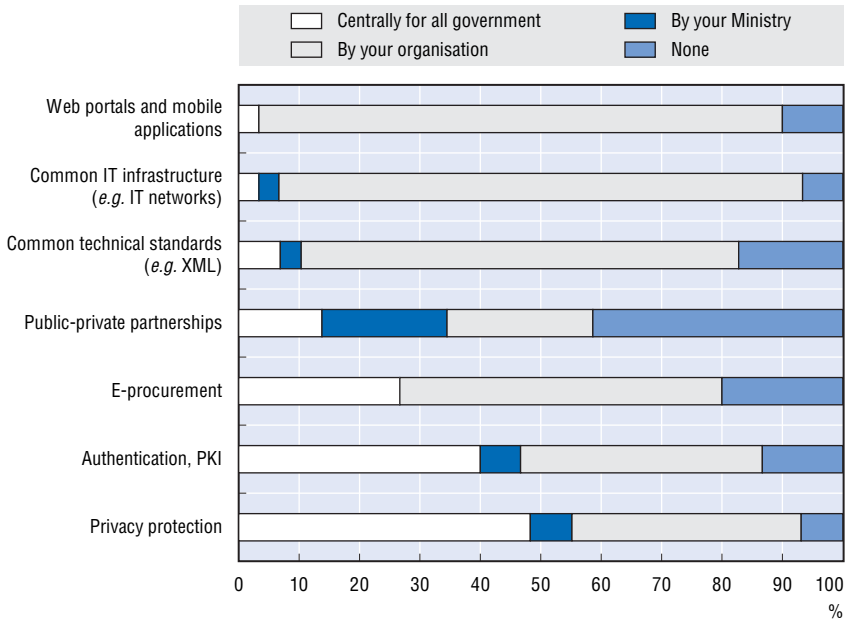
Importantly, despite the fact that just over 50% of survey respondents felt that the legislative and regulatory environment was acting to impede collaboration between organisations, only 16% stated that this presented a major ("important" or "very important") barrier to e-government. Current legislation allows for re-use of data and data matching under certain conditions, thus providing an important driver and enabler of enhanced inter-agency collaboration. Sectoral initiatives have also been taken to reduce legislative barriers to collaboration. In the health sector, the Act on Health Personnel 1999 and the Personal Health Data Filing System Act 2002 have been instrumental in removing obstacles to electronic interaction and laid the groundwork for the development of ICT-enabled health infrastructure and services.

Norway has been relatively successful in setting up a legal framework for e-government. The framework has enabled e-government initiatives and investments to proceed, and paved the way for future increases in cross-agency co-ordination, collaboration, and interoperability of data, information systems, services, and supporting business processes. However, there is a view among Norwegian agencies that, when it comes to specifying legislation and producing a framework for agencies to move on with e-government implementation, government has provided limited central guidance in key ICT development areas (*e.g.* common ICT infrastructure) (Figure 3.3).

Absence of guidance could present a significant barrier to e-government if it either genuinely hinders progress, or provides an excuse for agencies to not move forward, especially when they also lack accompanying ICT infrastructure, standardised business rules or protocols, and supporting back office services. A case in point is the general feeling emerging from interviews with central government agencies that, while the government has gone in the right direction by taking away legal barriers to the development of electronic signatures (see the Co-ordination Body for PKI, Box 4), they are still hesitant about developing their own authentication solutions and accompanying services. Agencies would like government to take a stronger centralising role in developing a full framework of PKI policies and specifications and co-ordinating its development and introduction in the public sector. In early 2005, the OECD was advised by the MTI that development of common PKI specifications had been completed, allowing for introduction of PKI by the end of 2005. The question of centralised coordination of development of PKI remains (see PKI in Chapter 6).

Interviews with Norwegian officials underscored that while agencies see no real need for further regulation in connection with e-government, they do see a need for more guidance, clarification and specification of existing regulations. This is especially true in the areas of technical standards, management of framework agreements, public-private partnerships and development of technical skills. It appears that greater involvement of the

Figure 3.3. **Sources of guidance on e-government responses from central government agencies**



Source: OECD E-government Survey: Norway.

stakeholders in the e-government legislative and regulatory process will help in specification, reduce confusion, increase awareness and application and overall further reduce any barriers presented to e-government in this area.

Key points 3.1

- ***Norway has succeeded in providing a legal framework for e-government which provides equivalence for paper and electronic documents. The eRegulation Project seems to have been instrumental in enabling e-government take-up by identifying and removing obstacles to electronic communication.***
- ***Norway has few, non – conflicting and easy accessible regulations. However, agencies' request for more guidance on how to apply existing regulations may reveal a lack of clarity and complexity of regulatory requirements. Further guidance in terms of soft law may be needed to reduce that complexity and avoid issuing unnecessary regulations.***
- ***Involvement of the stakeholders in the regulatory process can help reduce confusion, increase awareness and improve outcomes of legislative and regulatory changes.***

Privacy

Maintaining appropriate levels of privacy around personal data used by government is of paramount importance to build and maintain trust both on- and offline. Privacy is an area of e-government where a delicate balance must be achieved. Without appropriate sharing of private information many e-government goals (*e.g.* cross-organisation integration of some services such as health) cannot be achieved. It naturally follows that privacy must be protected – but for genuine reasons, not held up by agencies as a reason to unnecessarily impede efficient, effective and user-focused e-government. In Norway there has traditionally been a high level of public trust in the way public authorities use personal data, linked to the early development of public registers. A recent survey showed that Norway ranks relatively high (3rd place) in terms of the population's perception of online safety. According to this survey 40% of Norwegians feel that it was safe to use the Internet to provide the government with personal information.[2] Coupled with a general Norwegian willingness to provide such information generally, this figure suggests that a greater potential exists for the further development of high-value e-government services.

Norwegian privacy legislation is focused on the protection of personal data from unauthorised use or illegal processing and publication and is based on the utilisation of a unique system of identifiers for individual persons (the "fodselsnummer"). In Norway the first provision related to privacy dates back to the 19th century and prohibited the publication of information relating to "personal or domestic affairs".[3] The current Personal Data Act, which absorbed an EU directive and amended the Personal Data Register Act of 1978, came into force in 2000 with the aim of protecting people from violations of their right to privacy through the processing of personal data.

Specific privacy protection legislation has also been enacted in those sectors where secrecy and confidentiality of information is a highly sensitive issue. For example, in the health sector the Personal Health Data Filing System Act (2001) regulates rights to access personal health data and ensures that it is processed in accordance with the fundamental rights noted above.

The current Data Protection Act gives individual organisations having responsibility for ensuring the correct application of its rules, while the overall responsibility for the enforcement of privacy legislation in Norway has been assigned to the Norwegian Data Protection Inspectorate (NDPI).

The Norwegian focus on internal back office automation and the search for efficiency seems to have affected the way public organisations view and implement privacy protections. One would expect close attention to be paid to the limits posed by privacy protection provisions on internal processing of data (*i.e.* use of personal data within and between services and agencies).

Box 3.1. **The Norwegian Data Inspectorate**

Enforcement of privacy law is the responsibility of the Norwegian Data Protection Inspectorate (NDPI), an independent administrative body created in 1980 to enforce the Personal Data Register Act of 1978. Operating under the Norwegian Ministry of Modernisation, the NDPI: verifies organisations' compliance with statutes and regulations on the processing of personal data; regulates the processing of sensitive personal data through the concession of licenses; receives notification and keeps a record of all processing of personal data by automatic means; and advises public and private organisations on matters related to privacy protection.

The NDPI carries out inspections – both on its own initiative and in response to requests – of public and private organisations' observation of privacy protection rules. So far 104 inspections have been conducted, equally distributed between public and private organisations. Inspections also cover about 10% of municipalities each year. In 2002, 60% of the inspections led to notices of injunction, especially in the health sector. Although it has been given the authority to do so, the Inspectorate has rarely used the severe enforcement tools available to it, such as daily fines and imprisonment. This gives an indication of the extent to which organisations have complied with privacy legislation.

NPDI is also active in disseminating knowledge on privacy protection to promote an effective culture of privacy and security in Norway. NPDI organises seminars and training courses for both public and private organisations to explain how to interpret the law and to share good practices and lessons learned from its inspections.

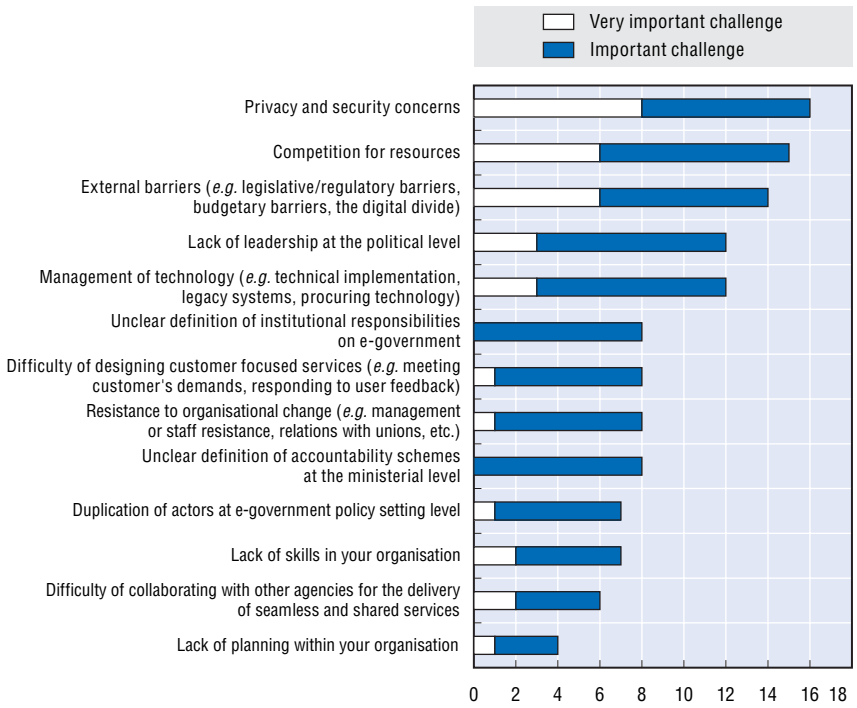
However, according to the NDPI, public organisations in Norway are more concerned with privacy issues relating to the citizen-government interface (*i.e.* protecting individuals from unauthorised access to personal data by third parties) than those connected to data sharing within the administration. NDPI is trying to increase organisations' awareness of the need to properly align efficiency and privacy goals, a concern voiced in an interview with an official who noted that the NDPI's role is not to tell individual organisations what to do, but to try to ensure that they do not put efficiency before privacy.

The NDPI co-operates with other public authorities in ensuring that privacy and security issues are not set aside in developing sectoral e-government projects. For example, it has worked closely with the Ministry of Health on the privacy aspects of creating a Healthnet. However, it has expressed scepticism about the creation of a single national health registry. This reflects a strong NDPI view of privacy protection that may conflict with

Norwegian traditions around sharing personal information with the state. It is also a view that seems to take no account of the ability to improve Norwegian health outcomes through more effective use of personal information, reflecting a tension between privacy and e-government goals. This may reflect the NDPI's narrow mandate to protect privacy without taking into account competing objectives.

At the ministry and agency level, the difficulty of protecting individual privacy can be an important barrier to e-government implementation. As with most OECD countries, Norway is facing the challenge of combining the protection of individual privacy (*e.g.* the duty of secrecy of personal information and the right of individual access to it) with attempts to bring the benefits from e-government to the citizens. Privacy and security concerns have been identified by survey respondents (in particular by agencies) as the single biggest challenge for implementing e-government – 16 out of 30 agencies indicated privacy and security as a "very important" or "important" challenge (Figure 3.4).

Figure 3.4. **Challenges to e-government implementation (numbers reporting "very important or important" challenges out of a total of 30 agencies)**



Source: OECD E-government Survey: Norway.

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While privacy is seen as a challenge, interviews with officials indicated that the level of guidance on privacy protection in Norway is generally considered to be adequate. Most of the guidance that agencies follow is either provided centrally for all government organisations (45% of respondents) or developed internally by individual organisations (36%), while guidance provided by supervising ministries plays a very limited role. This reflects the principle that every organisation handling personal data should be responsible for the correct application of privacy principles within the organisation.

Importantly, responses to the OECD survey show that a large majority of respondents consider that, in regard to protection of privacy and security, the level achieved for online processes is either higher than, or equivalent to, offline processes. This suggests that confidence in the basic technical aspects of data protection (*e.g.* existence and adequacy of secure communications infrastructures) provides sufficient grounds for agencies to be confident in the privacy dimensions of new e-government applications and services. The survey also shows that the majority of respondents believe that concerns over privacy protection for online services (in comparison to the same services delivered offline) do not represent a major constraint on demand for those services.

In contrast, interviews with NDPI officials revealed a different perception of the current level of protection for online services. The NDPI feels that electronic data is less protected than data provided through traditional channels. This position may reflect, among other considerations, the NDPI's statutory mission to maintain high levels of awareness of privacy issues, especially among those organisations that are moving towards developing e-government services.

While agencies are hesitant to develop authentication solutions, the technical aspects of implementation of privacy measures are not considered to be a major challenge. Relatively few survey respondents (14%) cited measures such as building "privacy architecture" as being a "very important" or "important challenge" to e-government. Agencies seem to be more concerned with the security aspects of privacy protection. In Norway, the law requires that public authorities processing personal information ensure satisfactory data security, having regard for confidentiality, integrity and accessibility in connection with that information. The National Insurance Administration holds sensitive personal information (*e.g.* on pension entitlements) in its registers. Following the 2001 legislation on privacy, it has put in firewalls to provide its internal databases with an adequate level of protection.

Security

Like privacy, security is a critical aspect of achieving successful e-government. Lack of adequate security solutions has been a barrier to

e-government for some organisations in Norway that process and use data contained in registers for the provision of online services. The Ministry of Children and Family Affairs (MFCA) is an example. The Ministry uses a central database, run by the Government Administration Services (under the Ministry of Modernisation), that holds information on child abuse. Around 70% of the cases being dealt with are processed and archived electronically for internal purposes. Although the MFCA has legal authority to re-use the data, they are reluctant to do so due to a lack of adequate security solutions. The Ministry has established a working group to identify possible solutions to the problem.

On the other hand there is a perception among those agencies that are further advanced in the development of electronic services that increasing security in response to privacy concerns, without taking the demand for public services into consideration, can shut down take-up of online public services. In other words, sometimes too much security can be as big a problem for implementing e-government as too little. The Tax Authority, which has designed security solutions to take care of privacy issues (*e.g.* encryption, signature and password), considers the current solutions it employs for protecting users data to be "good enough". In interviews a Tax Authority official noted that security could be a problem if it is too high. This perception is confirmed by OECD survey results showing that only 7% of respondents considered a lack of online security protection (in comparison with the same offline processes) to be a "very important" factor constraining customer demand for online services.

Information security is accorded a high priority in the Norwegian e-government agenda. The government has taken an active role in strengthening information security through issuing a national strategy (National Strategy for Information Security, 2003) and raising general awareness in the area. It has established as a pilot project the Centre for Information Security, an independent unit charged with improving information security and warning against cyber threats and vulnerabilities. The government is also planning to launch awareness activities aimed at small businesses and households and arranging an ICT security day on 26 April 2005.

As noted above, OECD survey respondents regarded the level of security for online processes is adequate when compared to the protection afforded to equivalent offline processes. This indicates that basic security constraints that might impede the adoption of e-government in organisations (*e.g.* security of internal networks and mail systems) are felt to have been overcome.

However, the survey also shows that lack of security is considered to be a key e-government challenge by almost half of the organisations surveyed. Implementation of authentication and/or public key infrastructure (PKI) is considered by the majority of respondents to the OECD survey to be the single biggest technological challenge. Interviews with agencies revealed a view that

Box 3.2. **The Centre for Information Security**

The Centre for Information Security (SIS) is responsible for coordinating activities related to ICT security in Norway. The Centre receives reports about security-related incidents from companies and departments, and is working on obtaining an overall impression of threats to Norwegian ICT systems.

The Ministry of Trade and Industry commissioned the Centre as a three-year pilot project starting 1 April 2002. The aim is to establish a centre that, in the longer term, may hold responsibility for national coordination of incident reporting, warnings, analysis, and exchange of experience related to threats against ICT systems. The establishment of the centre is part of a strategy for reducing the society's vulnerability to ICT related threats, as recommended by the Vulnerability Committee in June 2000.

The centre has no authority. Its functions supplement activities already in place in the area of information security in Norway. In the trial period, it is not intended to have responsibility regarding security and preparedness in emergency situations.

The main activities of the SIS are to:

- obtain an overall impression of threats towards Norwegian ICT systems;
- spread information, expertise and knowledge about possible threats and relevant countermeasures; and
- establish contacts and cooperate with organisations providing similar services in other countries.

The target groups of the SIS are:

- companies and departments, regardless of size;
- security authorities, who can utilise the information for their own analysis; and
- politicians and others who can utilise the information in considering about the state of security in society.

The centre has published a report that on assessment of security threats to ICT systems in Norway in October 2004. The report describes these threats (which include spam, emails, viruses, warms and spyware) and provides recommendations for countermeasures that can reduce organisations' vulnerability.

Future work of SIS will be part of a national framework that takes care of information collection, analysis and response. The framework will also include a national coordinating CERT in combination with intrusion detection systems on critical infrastructures.

Source: The Centre for Information Security, *www.norsis.no*.

a lack of common security solutions such as PKI may be impeding the development of e-government. This apparently paradoxical situation is an important issue and may indicate that government need to put more efforts in further developing PKI solutions across government.

Despite concerns about the ability to develop adequate security protections, Norwegian agencies seem to do an adequate job when these solutions are put in place. This may either indicate "creaming" – the most advanced and technically competent ministries and agencies have developed robust solutions while others are struggling – or else it may reflect low overall anxiety about security requirements for services.

3.2. Budgetary barriers

The structure of budgeting in Norway is characterised by central definition and oversight (Ministry of Finance) of budget, and decentralised budget authority and execution (individual ministries). Each Ministry enjoys a high degree of freedom in allocating funds within different portfolios.

Each minister is responsible for IT spending in their areas of responsibility. While this is in line with the general principle of decentralised ministerial responsibility for budgets, the lack of measurement of government-wide IT spending across central government can undermine the use of budgets as a strategic tool to co-ordinate e-government development in certain sectors.

Many of the ministries and agencies interviewed felt that the Ministry of Finance was well situated to provide a monitoring and control function due to its strategic role for budget and decision making and its broad authority over all spending within government. The Ministry however has chosen to focus on budget preparation rather than playing a policy role. This absence was particularly felt given the weak ICT co-ordination mandate of the MLGA. Working together with the MoF, however, the new MoM may be able to use some of the existing budgetary co-ordination mechanisms, in particular the financial statement prepared by each ministry to negotiate objectives and resources and to monitor progress.

Key points 3.2

- ***Working together with the MoF, the new MoM may be able to use some of the existing budgetary co-ordination mechanisms, in particular the financial statement prepared by each ministry to negotiate objectives and resources and to monitor progress.***

Budgetary barriers at the ministerial and agency level

The OECD survey has revealed that budgetary barriers are seen to be the single biggest challenge for e-government implementation in Norway. They were identified as a "very important" or "important" challenge by 66% of respondents (representing 82% of ministries and 60% of agencies surveyed).

Looking at the frequency of responses by organisations in terms of budget size, one would expect that small organisations show more concern over budget constraints than large ones. This, however, is not the case in Norway. Among organisations indicating budgetary barriers as a "very important" or "important" challenge to e-government implementation, 88% were large, 68% were medium, and 56% were small in terms of budget size. In terms of number of staff, the percentages are 75% of large, 67% of medium, and 58% of small organisations. This may suggest that small agencies are under less pressure to develop e-government solutions than the more high profile large agencies.

The OECD survey also showed that:

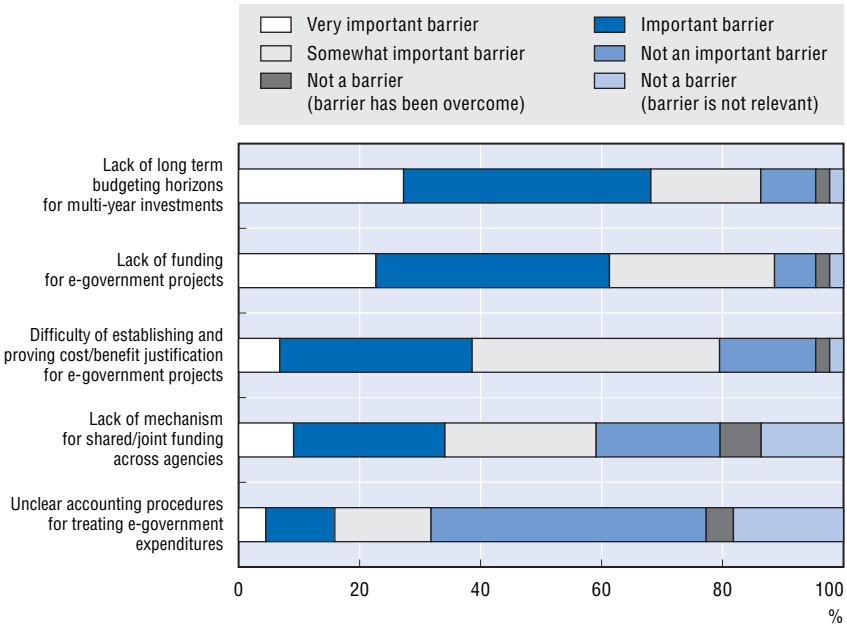
- Among those organisations indicating skill constraints to be a "very important" or "important" challenge, a large majority also indicated budgetary barriers to be similarly challenging.
- Having an e-government plan does not influence organisations' perceptions of the significance of budgetary barriers. Among those that indicated budgetary barriers to be a key challenge, 50% had a plan and 50% did not.

With regard to the types of budgetary barriers, the survey results indicate that the lack of long term budgeting horizons for multi-year investments is the single most important budgetary barrier in Norway (68% of surveyed organisations indicated it as a "very important" or "important challenge"), followed by the lack of funding for e-government projects (61%) (Figure 3.5).

The lack of a long-term budgeting horizon for multi-year investments is cited as a key challenge by 82% of ministries and 63% of agencies (see Figure 3.6).

Interviews with the Ministry of Finance, however, reveal that many mechanisms for longer-term spending are already in place. Once approved by the Parliament, Ministries' multi-year investment plans are included in the baseline budget. In addition, agencies are allowed to carryover 5% of their operating expenses. They have even more flexibility for ICT investments and can spend-forward on large scale ICT investments, paying back the expenditure over a period of up to three years. Some investment expenditures are also transferable to the following fiscal year. This discrepancy between perceived barriers and the actual availability of long-term funding mechanisms may reveal any one of several characteristics of IT offices in agencies: lack of knowledge about budget rules, inexperience with business cases for ICT investment and/or risk-adverse behaviour.

Figure 3.5. **Budgetary barriers to e-government implementation**

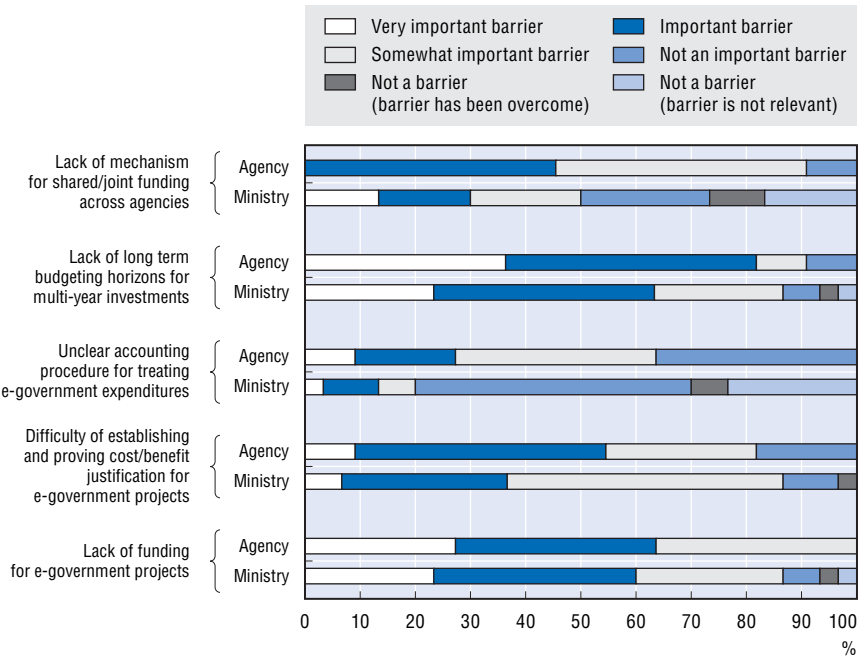


Source: OECD E-government Survey: Norway.

Agencies may benefit from additional assistance with the development and justification of large-scale ICT investment requests. While the MoF has mostly taken a hands-off approach with regards to the monitoring of ICT expenditure, it does have in place certain quality control procedures for reviewing proposals for large investments (those over 500 million Norwegian Krowns). In order to obtain approval, the Ministry requires agencies to present a specific plan for large IT projects. Only after looking at the general framework for the IT budget and at the IT plan for projects does the Ministry examine the single projects, looking in particular at 1) the overall cost of the project, 2) expected benefits and potential efficiency gains, 3) effectiveness over a 1-2 year period in terms of improving services and meeting programme goals.

This requirement was instituted in response to some high-profile failures of large-scale projects in the past (both ICT systems and other types of investment). Over the past five years there have been reviews of about 30 projects (though not limited to ICT systems) of this magnitude. The Ministry of Finance also provides guidelines to help agencies build a business case for IT projects. Guidance to agencies includes budgeting rules, criteria for project *ex-ante* and *ex post* evaluation (*e.g.* cost-benefit analysis), and measure to evaluate benefits. The MoF is in the process of creating a Centre for

Figure 3.6. **Budgetary barriers to e-government implementation (agencies *vs.* ministries)**



Source: OECD E-government Survey: Norway.

Financial Management which may further play a role in improving financial management within ministries and agencies.

In terms of the type of funding used to finance e-government activities, the OECD survey shows that the bulk of e-government activities are financed either from IT budgets or the organisation's own budget, while other sources of funding are either not used at all, or only contribute a small portion of the financing of e-government activities. For example, 66% of respondents reported that they are not using user fees, while 73% are not using private funding. Interestingly, 60% of agencies reported not using joint funding with other public organisations. This result is in line with the overall picture of organisations seeing the lack of mechanisms for shared/joint funding as a barrier to e-government.

Some incentives for joint-funding however are already in place. For example, the MoF has indicated that an agency budget request for funding a project has an increased likelihood of acceptance if it can demonstrate public co-financing of a project. While additional funding mechanisms for joint funding could be put in place, it is unlikely that they are the primary cause of the lack of collaboration in the Norwegian administration (Chapter 6).

Key Points 3.3

- ***Ministries and agencies in Norway indicate a high level of budgetary barriers with regard to lack of funds and lack of long-term and joint funding mechanisms. In light of existing flexibility within the Norwegian budgetary system, the problem does not seem to be lack of budget mechanisms, but rather lack of collaboration, inexperience with business cases and other budgetary justifications for ICT investments and priority setting within ministries themselves.***

3.3. Digital divide

The rapid diffusion and uptake of ICTs in Norway and their growing social and economic impact on the quality of people's lives raises concerns about possible inequality of access to and use of ICTs due to factors such as age, income, education, gender and geography. Referred to as the "digital divide", this issue has two major implications for government. First, the existence of a digital divide can act as a barrier to e-government development by reducing the number able to benefit from online information and services. This can negatively impact on the equity, effectiveness and economics of e-government. Second, the digital divide can have negative impacts on the achievement of broader social and economic objectives.

The OECD survey indicates that the digital divide does not represent a major barrier to e-government in Norway. While it was seen as an "important" barrier by 12% respondents, 30% indicated that is was "not important". This result is supported by statistical data showing that Norway ranks high internationally in terms of access to ICTs by individuals, has highly developed communications infrastructures and high penetration rates for Internet devices (see Chapter 2). However, looking at some of the basic determinants of levels of access to and use of ICTs by individuals and households, the following differences emerge[4] (see also key statistics on the digital divide in the Appendix to Chapter 3):

- **Gender:** While access to mobile phones, computers or the Internet shows no evident differences by gender (although men tend to have slightly higher figures than women), the proportion of men that use a PC or the Internet is higher than that of women.
- **Type of household:** Generally, families with children have access to ICTs more often than those that do not. The proportion of households with a PC and the Internet is respectively 21% and 25% higher in families with children than in families without.

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- **Income:** Households with higher income are more likely to have access to PCs and the Internet. While 95% of the households with a total gross income higher than NOK 600 000 (*i.e.* about 73 000 €) had a PC, the proportion among households with income less than NOK 200 000 (*i.e.* about 24 000 €) drops to 46%.
- **Age:** Older people tend to have relatively less access to mobile phones, PCs and the Internet. Over the age of 55 the access rate declines considerably (there is a 20% drop for PCs and 25% for Internet – Figure 3.A1.7). People over 65 have by far the lowest rate of access to and use of ICTs in Norway (except for mobile phones, where the access is at 84%).
- **Educational background:** The level of access to and use of ICTs increases with the level of education. In Norway, 57% of primary school students have access to a PC. The percentage rises to 91% for university students. The usage ratio is similar, with 63% of primary school students having used a PC in the last 12 months as opposed to 98% of university students. In Norway it also seems that gender differences in Internet use increase with the level of education.[5]
- **Employment status:** While students and workers have high rates of access to and use of ICTs either at work, at home or in other places (90% of students have access to PC and 75% to Internet, while for workers the percentages are, respectively, 86% and 77%), for retired people the rates access rates are about half of this. The difference is less remarkable for access to mobile phones. In terms of use, 63% of retired people had used a computer in the last 12 moths, while 34% had used the Internet.

Another dimension of the digital divide that can impede the development of e-government is variation in the level of access by geographical location. As in other Nordic countries, in Norway the digital divide between the central capital area and the rest of the country is relatively small. In 2001 there was an 8% difference in access between the capital region and other regions, a positive fact given the relatively low population densities in Norwegian regions.

The government has taken the initiative in tackling the digital divide issue. In 2001 the Ministry of Trade and Industry commissioned a report on the subject from the University of Oslo, with the purpose of coming up with a clear description and view of the problem. The report provided a broad definition of digital divide that included the notion of a new form of social difference, reflecting divergences in economic and human capital. The report discussed a number of relevant indicators.

Through the eNorway Action Plan the government has targeted specific areas of intervention to break up the divide. For example, it has placed emphasis on the education sector and in particular on the use of ICT to support the learning environment, tailoring learning to individual needs and improving the quality of education. While in Norway all schools are connected

to the Internet, the use of computers is still limited. A recent study[6] has shown that 13% of all students never use PCs at school and half of them use it less than one hour each week.

Overall, the situation with regard to the digital divide in Norway and its relationship to the development and ultimate success of e-government initiatives is positive. There is real recognition of the issue in both central and regional government, and positive steps have been taken to address aspects of it that could act as a barrier to e-government. Government ministries and agencies rightly regard the digital divide as the least significant barrier to e-government.

Notes

1. OECD (2003), "Regulatory Reform in Norway: Government Capacity to Assure High Quality Regulation".
2. Government Online Study 2003, TNS Global, 2003.
3. Jon Bing (1996), "Data Protection in Norway".
4. Statistics Norway (2003).
5. Nordic Information Society Statistics (2002).
6. The study has been conducted by the ITU Monitor at the Centre of Expertise and Education at the University of Oslo, with the purpose to chart the extent to which IT is integrated into academic subjects in schools.

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APPENDIX 3.A1

*Key Statistics on the Digital Divide**

* Statistics Norway 2003.

Figure 3.A1.1. **Access to ICT by gender**

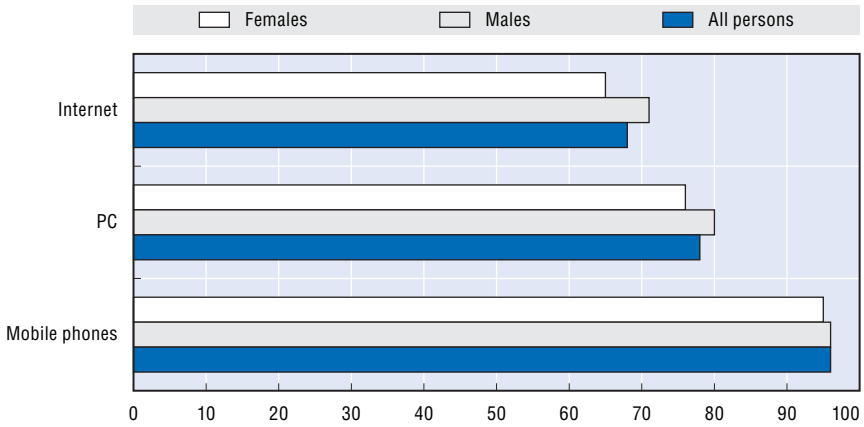
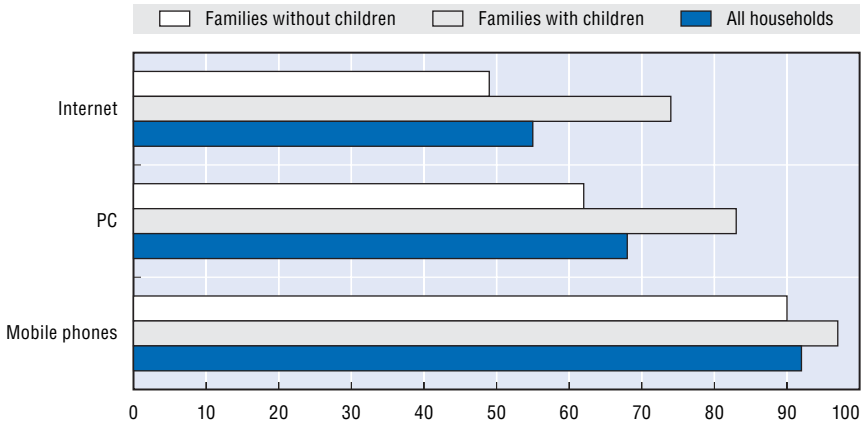


Figure 3.A1.2. **Access to ICT by type of household**



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Figure 3.A1.3. **Access to ICT by household income**

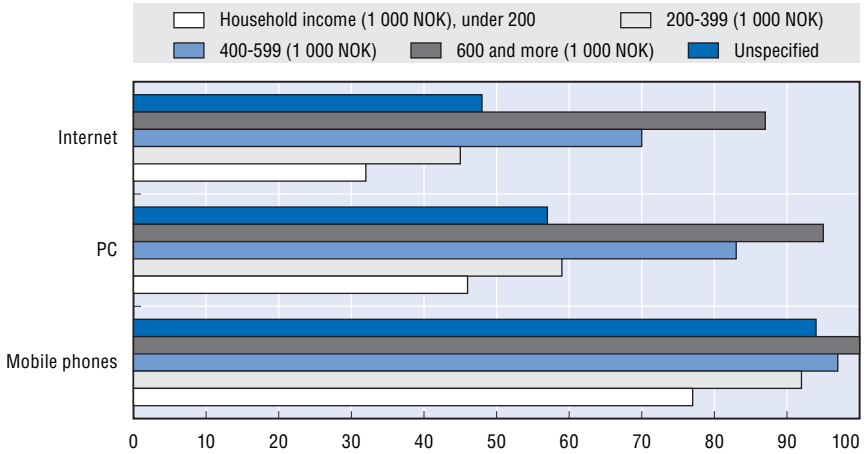


Figure 3.A1.4. **Access to ICT by age**

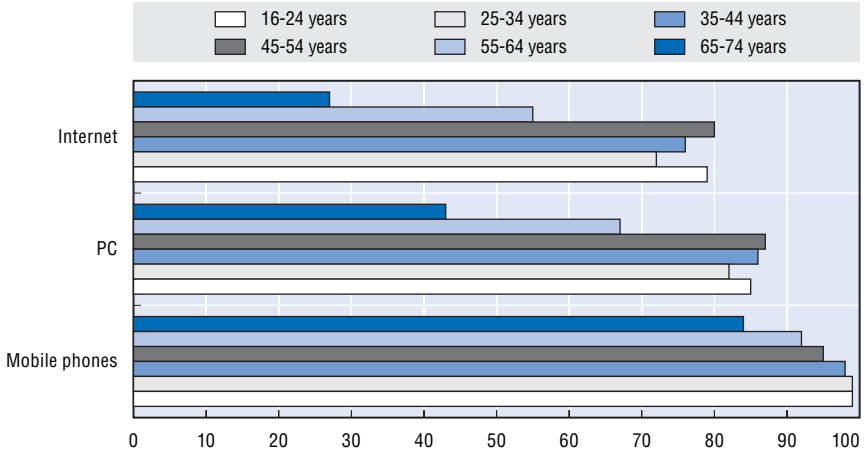


Figure 3.A1.5. **Access to ICT by level of educational background**

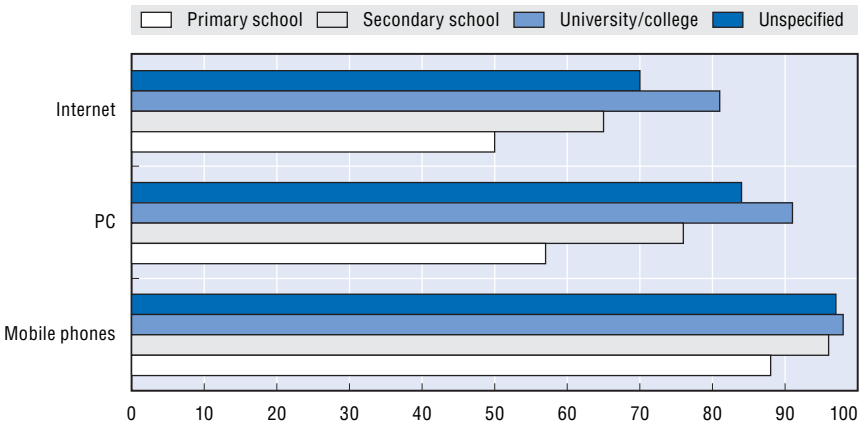
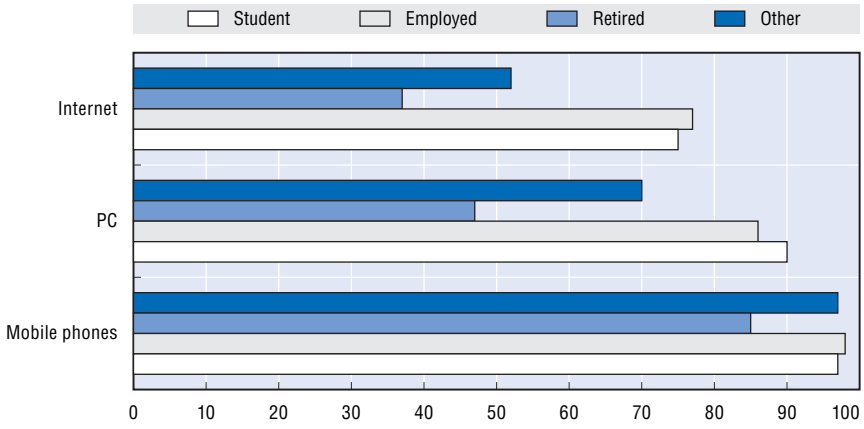


Figure 3.A1.6. **Access to ICT by employment status**



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Figure 3.A1.7. **Use of ICT by age**

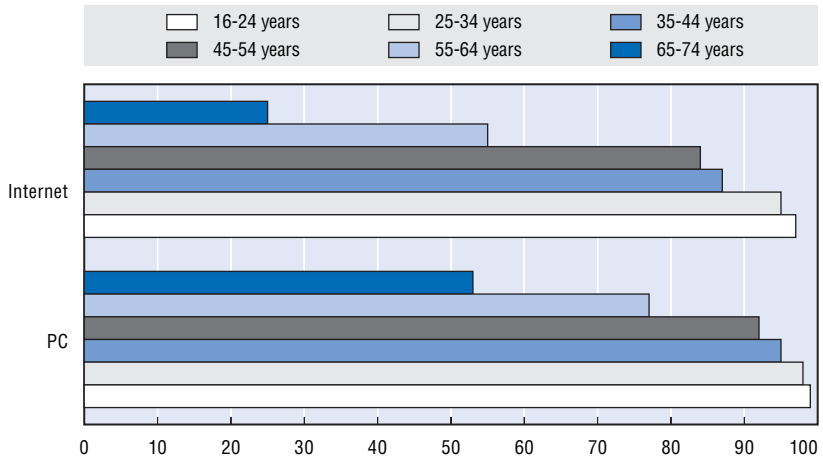


Figure 3.A1.8. **Use of ICT by education**

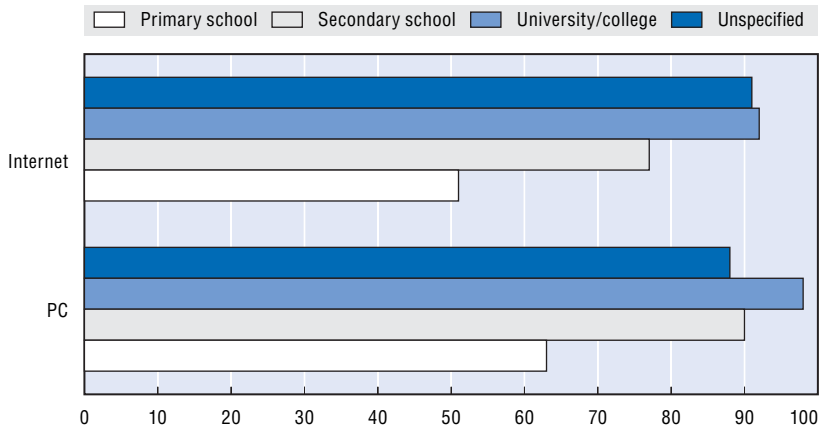
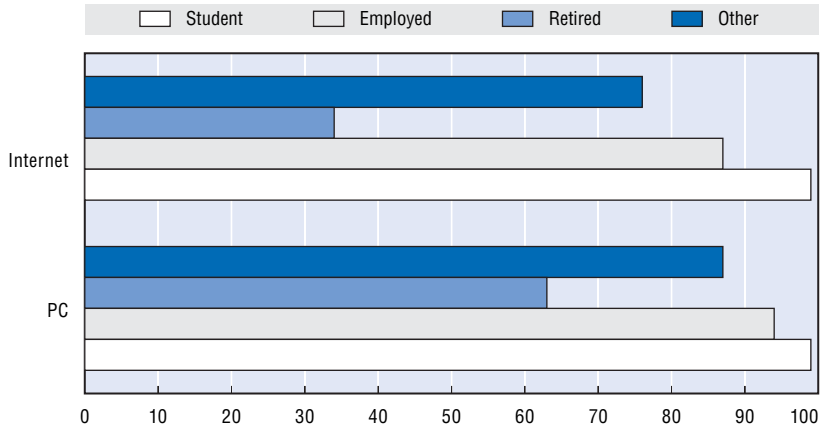


Figure 3.A1.9. **Use of ICT by occupation**



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Chapter 4

Planning and Leadership

Norway has a well-established central e-government vision (eNorway) and strategy, which build on the wider vision for the modernisation of the public sector. However, when it comes to the implementation of e-government, an earlier plan (24/7 administration) seems to provide an overarching organisational vision that has acted as substitute for the lack of central guidance. Leadership of e-government is very much decentralised. The general perception is that stronger political and administrative leadership at the central level, involving the setting of clearer goals for ministries and agencies supported by increased co-ordination and more concrete guidance on how to achieve them, is in strong demand and would improve implementation of e-government. Central co-ordination of e-government has varied over time ranging from centrally driven plans to more limited central management based on agencies and local entities as driving forces. In regard to e-government co-ordination, the current government has strengthened e-government co-ordination and has created a Co-ordinating Body for E-government within the MoM in order to guide the overall decentralised implementation of e-government in certain areas.

This chapter examines e-government planning and leadership in Norway at both the political and administrative levels of ministries and agencies. Leadership and planning of e-government in Norway is very much decentralised. The general perception is that stronger political and administrative leadership at the central level, involving the setting of clearer goals for ministries and agencies supported by increased co-ordination and more concrete guidance on how to achieve them, is in strong demand and would improve implementation of e-government.

4.1. Leadership at the central co-ordinating level

Leadership of e-government in Norway has been diffused at the central level. This reflects the way responsibilities were articulated and distributed among different institutional actors – especially the MTI, the former MLGA, and the SSCIT – until the recent unification of e-government as part of the portfolio of responsibilities of the Ministry of Modernisation. While this reform is likely to increase the concentration of e-government leadership in a single identifiable ministry, it is nevertheless useful to look at the context in which the reform took place in order to better understand the main needs and challenges that the new Ministry will be faced with.

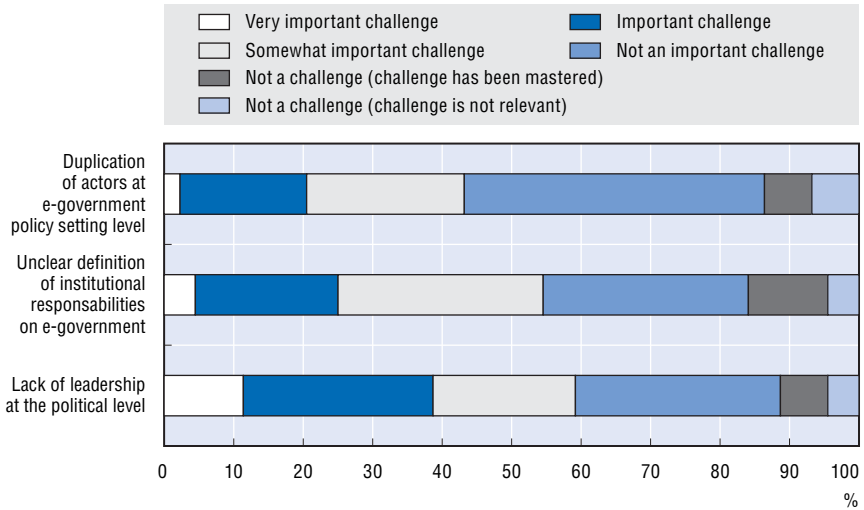
The experience of OECD countries with e-government has shown that decentralised e-government leadership can lead to uncertainty about overall direction if not counterbalanced by clear identification of leaders' roles and responsibilities. The OECD's interviews with Norwegian officials show that confusion over institutional responsibilities for e-government at the central level has been perceived to be a challenge to its implementation. This view was supported in survey responses: over 50% of respondents felt that unclear definition of responsibilities was a challenge, with 25% regarding the challenge as being either "very important" or "important" (see Figure 4.1).

Officials interviewed by the OECD expressed the view that ministries' roles were not very clear from the perspective of agencies. Confusion about the respective roles of the MLGA and MTI was perhaps hard to avoid, given the way those responsibilities were allocated to them by the government (Chapter 1).

The recent government reform has gone beyond the simple clarification of ministerial tasks. It reallocated e-government portfolio responsibilities (and the corresponding staff) from the MTI to the newly created MoM, where they have been combined with the responsibilities of the old MLGA. While this has

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Figure 4.1. **Leadership as a challenge to e-government implementation**



Source: OECD E-government Survey: Norway.

helped clarify the structure of e-government responsibilities at the central government level, there is an open question as to whether too much emphasis may have been placed on the structural approach of moving those responsibilities, rather than simply improving communication about e-government roles and responsibilities. While confusion over e-government co-ordination roles has clearly been problematic, 45% of survey respondents did not think that duplication of actors at the e-government policy-setting level was an important challenge. This suggests that, to the extent that there was a problem in this area, it arose not so much from duplication of the roles of two key actors in e-government as from a confusion of their different roles and responsibilities.

Interestingly, despite Norway's devolved approach to public management, several agencies expressed a view that they have experienced a lack of overarching leadership on e-government in central government. These views about central leadership were evident in the OECD survey, where 39% of respondents said that a lack of leadership at the political level is a very important or important challenge. This reflects a perception from agencies that commitment to leadership on government ICT issues is mainly driven by the changing commitment and agendas of individual politicians rather than as part of the portfolio responsibilities of a permanent institutional actor (*e.g.* an e-Minister). The establishment of the portfolio of the Minister of Modernisation may now go in the right direction to fill this gap, if it does in

fact establish strong central leadership of e-government following previous unsuccessful attempts (Annex C).

This perceived lack of political leadership was partly counterbalanced by perceptions of strong co-operation among civil servants in the key co-ordinating ministries. In particular, there appeared to be a good level of co-operation between the MTI and the former MLGA on e-government-related issues. An example was the joint leadership of work on PKI by the two ministries before the security portfolio moved to the Ministry of Modernisation. Once again, this internal co-operation demonstrates the Norwegian consensus-based model of policy-making.

For some agencies that the OECD interviewed there is a feeling of a gap existing between the formal exercise of central leadership and the availability of practical leadership to support agencies attempting to move forward with e-government implementation. The "idealistic" push being provided by the goals of the eNorway Action Plan has acted as a driver for the initial development of e-government, but has not met these agencies' needs or expectations of hands-on assistance. For example, an official from a government agency which is advanced in terms of development of e-government solutions said that he would like to see more guidance and support from the co-ordinating ministries so that he could provide continuing support to the e-government agenda.

The OECD interviews with agency officials have shown that the development and implementation of PKI was one of the biggest e-government challenges where agencies have felt a lack of political and practical leadership. Government seems to have gone in the right direction in order to meet agencies' concerns of lack of political will to support development in this area by moving PKI development under the single recognisable leadership of the Ministry of Modernisation and assigning the co-ordinating body for e-government under the MoM the responsibility of guiding and co-ordinating the implementation of PKI.

Lack of strong leadership *per se* was not the only concern revealed by interviews. An associated lack of appropriate directives or financial incentives is also seen as an important barrier. One official said that an eMinistry with more funding authority would make a lot of things easier.

Overall, the reforms creating the MoM seem designed to address many of the challenges concerning the high-level co-ordination of e-government initiatives – but some challenges remain. As outlined in Chapter 1, the official co-ordinating body at ministerial level is the State Secretaries' Committee on ICT (SSCIT), supported by the senior officials in the eContact Group. While the SSCIT had a role in putting together the vision stated in the eNorway plan, its potential to further co-ordinate the government agenda is somewhat hampered by its limited membership (currently 11 out of 18 deputy ministers

participate) and its limited visibility across government. While the SSCIT provides a useful high-level forum for pushing the government IT vision and agenda horizontally across ministries, it is not clear how successful it is in ensuring that its message is successfully delivered to the wider audience of government agencies.

The eContact group, with members drawn from all ministries, appears to work well as the administrative secretariat for the SSCIT in prioritising the government ICT agenda. It seems, however, to play a limited role in co-ordinating e-government development initiatives in Norway, which instead tend to originate within sectorally related ministries and be developed under the auspices of *ad hoc* co-ordinating bodies. The group does, however, provide a context for informal co-ordination among senior e-government leaders in ministries, acting as a forum for discussing and exchanging experiences in the development of e-government initiatives. While recent changes have shifted secretarial responsibilities for the SSCIT from the MTI to the MoM, it is not clear how this change will affect the role of the eContact Group, or its function as a high-level co-ordinator of e-government.

The lack of ad-hoc forums for discussion and prioritisation of e-government issues between agencies and ministries could also pose a challenge to the effective exercise of e-government leadership. Up until the creation of the Body for E-government Co-ordination in 2004, which brings together key agencies and two representatives from the municipal sector under the leadership of the MoM, there have been few formal groups where ministries and agencies regularly meet to discuss e-government priorities and issues, apart from a few co-ordinating bodies (*e.g.* the Co-ordinating Body for Information Security).

Key points 4.1

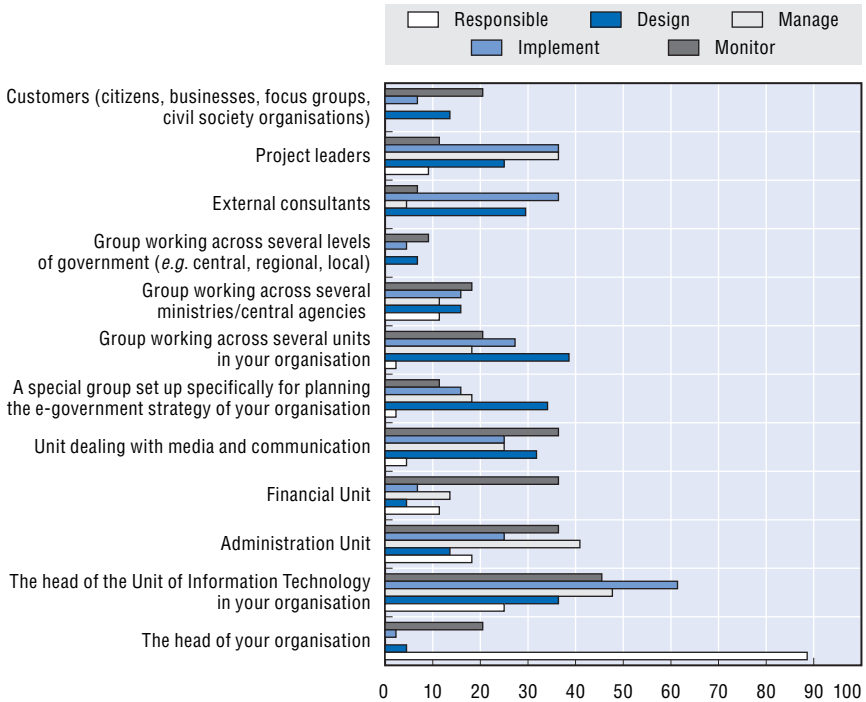
- ***A sizeable proportion of ministries and agencies have expressed concerns over political leadership and high-level administrative co-ordination for e-government. The perceived absence of recognised leadership has been a significant issue for e-government in Norway, due in part to the lack of clarity around the roles and responsibilities of key actors. The recent government reform, strengthening the Ministry of Modernisation's central leadership and co-ordination responsibility for e-government development in Norway, may help rectify this problem.***

4.2. Leadership at the ministry and agency level

As in most OECD countries, e-government decision-making responsibility is, to a great extent, decentralised to individual organisations. Each ministry and agency is responsible for implementing its own e-government plan. This is generally a top-level responsibility. The OECD survey shows that in 89% of cases the head of the organisation is responsible for the e-government plan, with no significant differences between ministries and agencies. When it comes to managing, implementing and monitoring the e-government plan, responsibility is dispersed through organisations with a bias toward placing it with the head of the IT function in the organisation (see Figure 4.2).

However, OECD interviews show that the role of the head of an organisation as an e-government leader is limited. When it comes to actively supporting and driving e-government initiatives, leadership is provided mostly from mid-management. This may indicate a gap between formal responsibilities and the actual driver for e-government in organisations. That driver needs to be based on an understanding of how ICTs can improve government processes and a commitment to put reforms in place. As

Figure 4.2. **Responsibilities for e-government plans in individual organisations**



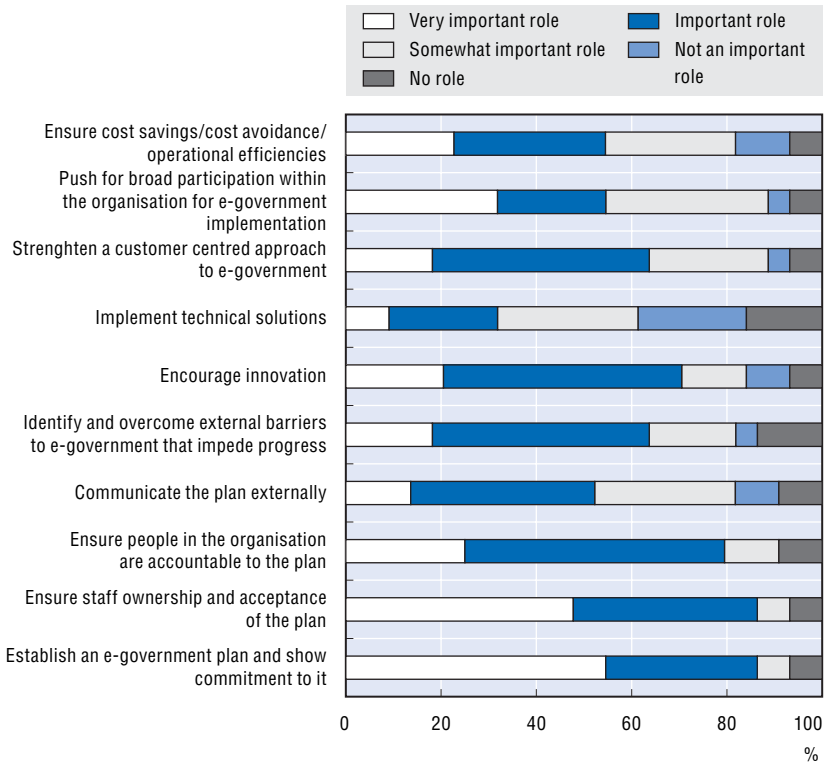
Source: OECD E-government Survey: Norway.

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indicated in interviews with officials, the situation may partly be due to a perceived lack of explicit recognition of the role played by the head of IT units in Norway in pushing e-government initiatives, as opposed to their formal and more usual responsibilities for system maintenance.

The dispersion of responsibilities for organisations' e-government plans (*e.g.* designing, managing, monitoring, implementing) among different units/bodies within the organisation usually calls for co-ordination and supervision from its top. The importance of leadership in strengthening internal co-ordination is reflected in responses to the survey question regarding expectations of the role of e-government leaders: 80% of respondents felt that ensuring that people in organisations are accountable to the e-government plan is a "very important" or "important" role for e-government leaders (see Figure 4.3). However it is not clear whether this co-ordinating role, which usually falls within the responsibility of the top management, is effectively exercised.

Figure 4.3. **Main role of the e-government leaders in government organisations**



Source: OECD E-government Survey: Norway.

The survey showed that 58% of organisations surveyed attached a high level of importance to ensuring co-operation with other organisations. However, at the ministerial level – where leadership is needed for the co-ordination of agency initiatives – bodies working on horizontal co-ordination between agencies sometimes lack top-level support. As emerged in interviews with an official responsible of e-government co-ordination in a ministry, lack of such leadership in recognising the importance of co-ordination in the ministry could act as a barrier for the development of initiatives across agencies.

Interviews with officials also revealed how getting adequate levels of attention and focus on ICT issues, and channelling political support for e-government initiatives, can be an important challenge for some ministries. Political support is a limited resource, and building support for e-government development is important for those organisations lagging behind in the use of ICTs. For example, when asked what is the biggest push for the implementation of the e-government plan, officials from the Ministry of Justice and Police observed that their Ministry has to deal with limited political backing on ICT issues. Political interest has mostly been directed to "core" activities, such as prevention of crime, rather than to the use of ICT. This also

Box 4.1. **Modernising the public sector in Norway: making it more user oriented**

The government vision for the modernisation of the public sector is one that enables:

- **Citizens** to participate actively in the democratic arenas, know their rights and responsibilities and feel that the authorities conduct themselves in a clear and consistent way
- **Users** to have equal access to readily available services of high standard that are adapted to individual needs
- **Taxpayers** to be confident that public sector activities are run efficiently
- **Businesses** to experience public administration as orderly and not bureaucratic and where the standard for the public services represents a competitive advantage internationally
- **Employees** to have interesting and challenging jobs that allow for personal development and a sense of participation and job security

Source: Adapted from "Modernising the public sector in Norway, making it more efficient and user-oriented", Statement to the Parliament (January 2002).

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reflects a view of ICT as a drain on resources rather than as a way of achieving other organisational goals in a more cost-effective manner.

4.3. Developing a vision for e-government

Articulating a clear vision, and backing up that vision with good strategy and implementation plans, is important to the success of e-government. The Government's vision for e-government has been framed in the context of public sector reform efforts, and represents one of the key components of the wider vision for the modernisation of the public sector in Norway[1] (Chapter 2).

The vision of e-government as a tool to achieve public sector modernisation goals has been framed in the eNorway Action Plan ("*e*Norway"). The plan outlines the role of information technology in achieving the vision, set out in the government modernisation programme, of a "public sector with active participation in democratic arenas, with equal, individually tailored high quality services, efficient use of resources and in which efficient public services will represent a competitive advantage for industries". The plan also indicates the key target areas and goals for ICT use in the public sector that need to be achieved to realise this vision (see Box 4.2).

*e*Norway is meant to be a source of inspiration for agencies and ministries, not a detailed plan to be rigidly followed in minute detail. It reflects a preference for decentralised development of e-government guided less by overarching strategies and more by the bottom-up initiatives of individual organisations. This approach reflects both Norwegian public management traditions and current market-oriented principles of public management (see Chapter 2).

However, interviews with government officials reveal that most agencies and ministries still regard the earlier vision for e-government (the "24/7 public administration" strategy, 2001) as a guiding principle for design and implementation of their e-government initiatives. There is a perception that, when it comes to implementing e-government, the 24/7 public administration provides an overarching organisational vision that has acted as a substitute for the lack of central guidance. Public administration was viewed as a holistic system using technology to increase internal efficiency (by increasing co-ordination between sectors) as well as external efficiency (by providing a common user interface to improve and increase online interaction between users and the public administration).

By dropping the 24/7 concept, the government has avoided imposing a one-size-fits-all vision for the use of e-government across the public administration and has made agencies more responsible for meeting e-government development objectives.

Box 4.2. **A vision for the use of ICT in the public sector in Norway: the eNorway plan (2003-2005)**

The *e*Norway plan states the Government's overall IT policy and supports the vision for developing the Norwegian information society. Improving the efficiency and quality of the public sector in order to sustain high value added and meet businesses' and citizens' expectations for better online public services is one of the three primary objectives of the government's IT policy. The other two objectives mentioned in the plan are the creation of value in industry and the preservation of cultural values and identities.

The use of ICT in the public sector is recognised as increasing flexibility of public employees' working conditions and improving the flow of administrative case handling. The plan also calls for better use of resources and for their transfer from administration to production in order to increase value for users.

The *e*Norway plan sets out four main goals for the use of ICT in the public sector for 2002-2005:

1. IT shall help create more effective solutions and better structuring in the public sector.
2. All local authorities and agencies shall provide tailored electronic services which make life easier for users and promote democratic dialogue with the population.
3. By the end of 2004, all government agencies will be able to receive electronic reports submitted by enterprises.
4. The public sector shall act the part of a major customer in order to promote the development and use of IT-based products and services within society.

The plan indicates the measures of success in terms of realising government flagship projects in each area, and defines central responsibilities for their supervision and co-ordination.

The plan also features the participation of municipalities and other public and private organisations as partners in e-government implementation.

*e*Norway states that developing ICT infrastructure presents a big challenge for the country, mainly due to the geographical fact of enormous distances between northern and southern Norway. Security infrastructure is also targeted for further development, with a goal that PKI should be in place no later than 2005. eNorway also identifies provision of electronic services as a challenge, with a need to improve on low levels of public service provision over the Internet, and to increase levels of Norwegian investment in ICT research and development.

Source: eNorway 2005.

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Box 4.3. **24/7 public administration: vision and goals**

The vision of a 24/7 electronic-enabled public administration, as stated in official documents, is based on the following points:

- **User accessibility:** use of technology to increase user accessibility to public information and services by means of self-service solutions 24 hours a day, seven days a week.
- **Openness:** use of technology to increase access to public documents and promote democratic involvement for individuals.
- **Efficiency:** use of technology to enable efficiencies in the use of resources (*e.g.* transfer of resources from administrative task to service production).

The 24/7 strategic paper articulated the vision in terms of the achievements of short-term and long-term objectives and indicated the key strategic areas the government needs to focus on in order to implement the vision. The responsibility for implementing the 24/7 Administration strategy within its area of activity was placed with each central government agency. The MLGA was to be responsible for cross-sectoral co-ordination.

The 24/7 Public Administration strategy paper drew up a set of primary and general goals to be achieved by the end 2003. The document also outlined a medium-term vision and a long-term vision of goals to be achieved, respectively, by 2004 and within 5 to 8 years.

Source: 24/7 Public Administration, 2001.

Key points 4.2

- ***By dropping the 24/7 public administration concept, the government has avoided imposing a one-size-fits-all vision for the use of e-government across the public administration and has made agencies more responsible for meeting e-government development objectives. However, while the government has abandoned the 24/7 plan, many agencies have not. There is a perception that, when it comes to implementing e-government, the 24/7 public administration provides an overarching organisational vision that has acted as a substitute for the lack of central guidance.***

4.4. Translating the vision into strategy and goals

The government issued a "Strategy for the use of ICT in the Public Sector" in 2003 (see Box 4.4), which translates the objectives of *e*Norway into a plan of

Box 4.4. **ICT in the public sector: strategy 2003-2005**

The strategy focuses on support for good local solutions by creating a national ICT infrastructure. ICT should be used as a provider of framework conditions. The practical utilisation of ICT remains a local responsibility. The strategy focuses on the following areas and provides a set of associated actions:

1. User orientation of information and electronic services:
   - Increase the user-orientation of the public sector.
   - Strengthen the democratic participation and transparency.
2. Data interchange:
   - Increase the communication/reporting across organisational boundaries.
   - Facilitate the reporting from businesses to public entities.
   - Facilitate and increase the re-use of data.
3. Common infrastructure for digital signatures (PKI):
   - Creation of a co-ordinating body.
   - Developing common requirements and guidelines.
4. Broadband:
   - The market should support the expansion of infrastructure.
   - The public sector should stimulate the development of broadband.
   - The development of a policy and status report on broadband (presented in March 2004).
5. E-Commerce:
   - Development of a new law on e-commerce.
   - Increase the use of the electronic market place (*www.ehandel.no/*) and develop a strategy for the use of the market place.
6. Knowledge management:
   - Identification, development and dissemination of knowledge among agencies.
   - Strengthen the learning and knowledge network within and across sectors.

Source: ICT in the Public Sector, Strategy 2003-2005.

action. This strategy builds on the principle of e-government involving decentralised solutions and provides the framework conditions for the development of e-government locally and across sectors.

There are deliberately common and/or complementary features between *e*Norway and the 2003-2005 public sector ICT strategy. The time frame for the achievement of the strategy goals is aligned with the deadlines of *e*Norway. The values expressed are consistent and reflect the interests of multiple

stakeholders (*e.g.* government bodies, private sector organisations). The two documents are also consistent regarding the two responsible ministries (the MTI and now the MoM). The latter has now taken over the responsibility for ensuring implementation of *e*Norway.

Following the example of *e*Norway, the ICT strategy provides indications of priority areas and proposed actions, but does not specify precise goals or targets for ministries and agencies to achieve. Such an approach was used with the first *e*Norway plan, which set out objectives, actions to be taken to achieve them, ministry responsibilities and deadlines. It is now up to individual ministries and agencies to translate the government's strategic plans into concrete programmes of action.

4.5. Planning at the ministry and agency level

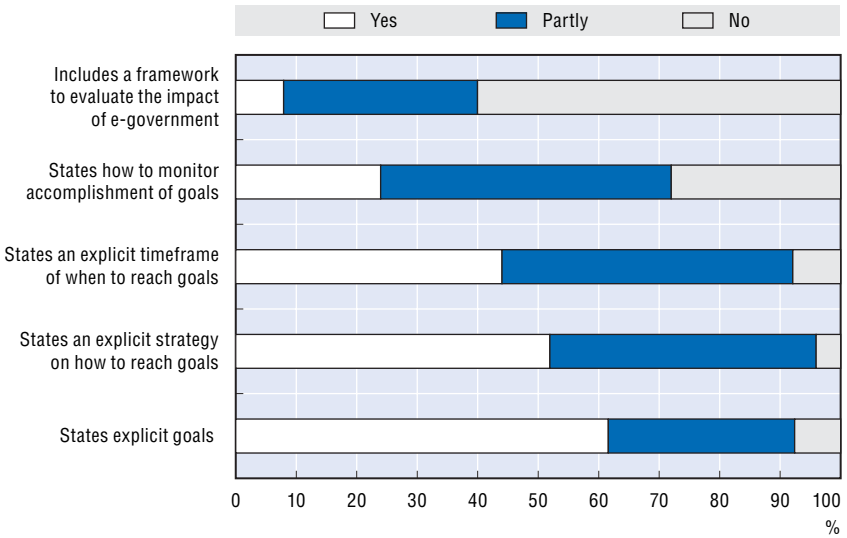
Overall, there is clear recognition of the need for planning and accountability for delivering e-government. The OECD survey showed that 86% of respondents thought that it was important that e-government leaders in their organisation establish an e-government plan and demonstrate commitment to it, while 80% felt that it was important to ensure that people in the organisation were accountable to the plan.

There are no general requirements for e-government planning within individual ministries and agencies. Perhaps as a consequence, the OECD survey showed that the primary reason for ministries and agencies to implement an e-government plan is to enable efficiencies and improve the effectiveness of specific policies. Contributing to the broader achievement of the goals of *e*Norway was only rated as a relatively minor e-government objective.

As already noted, it is up to each ministry and agency to translate the common e-government vision into concrete plans. Despite the high degree (86%) of survey importance attached to the existence of such plans, only 43% of survey respondents reported having a specific e-government plan. Among that 43%, 62 % of respondents reported having included explicit goals in their plans and 44% also included an explicit strategy for reaching those goals. Evaluation plans and frameworks for monitoring goals were less common (see Figure 4.4). For an example of e-government strategic plans see Box 4.A1.1 and 4.A1.2 in the Appendix.

There also appears to be a lack of clear internal and external communication of e-government plans and responsibilities at the ministry and agency level. The survey showed that 64 % of respondents did not have a strategy to communicate their e-government plan within their organisation, 73 % did not have a strategy to communicate their plan across other agencies and ministries and 68 % did not have a strategy to communicate their plan outside government (*e.g.* to citizens, businesses, non-governmental organisations and civil society). There is a

Figure 4.4. **The content of the e-government plan**



Source: OECD E-government Survey: Norway.

perception that better communication of e-government plans and related responsibilities is needed both internally (to increase awareness), and externally across agencies (to strengthen collaboration).

Overall, the role of ministries in planning and implementing e-government initiatives is limited, meaning that they do not use planning as an instrument to provide what could be an important co-ordination function for the agencies under them. One of the reasons for this is that some ministries lack internal strategic capacity and are increasingly relying on agencies to provide it. As a result, the transfer of knowledge related to e-government initiatives is mostly bottom-up and planning is not used as a tool to improve co-ordination at the agency level.

Ministries have not played a strong role in helping agencies articulate their own e-government visions or in reviewing the resulting strategic plans. This seems to be in line with the Government's decentralised and non-interventionist approach, and may have an important impact on achieving Norway's e-government goals. Overall, a picture emerges of most agencies wanting more guidance on e-government and most ministries being reluctant to give it. More guidance is requested in terms of good practice, technical requirements, skill development and design of technical solutions. Of particular note here is the guiding role that Statskonsult had (planning and implementing cross-sectoral measures for promoting a 24/7 administration), before it was corporatised in January 2004.

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Although, ministries and agencies are making efforts on the planning side, interviews with officials revealed a view that strategic plans are often considered to be too vague and wide, again perhaps reflecting a lack of guidance on how to move forward. Some ministries have looked at central policy documents to inspire their e-government strategy. Again, several ministries and agencies expressed a need for clearer policy and also increased partnerships across agencies and ministries.

Key Points 4.3

- ***Most e-government strategic planning occurs within individual agencies. This is in line with the government's decentralised approach to public management. However, clearer guidance in terms of frameworks for action, rather than regulations, may be needed in order to allow agencies to do better planning.***
- ***Norwegian ministries could help translate the overall vision into concrete action by playing a more strategic role in the guidance and correction of agency plans, as well as by creating more opportunities for the exchange of information and experiences. In doing so they will also develop their own capacity to identify common problems and solutions in order to move forward. In many cases this will imply acquiring more analytical and co-ordination capacity or a reallocation of existing capacity within ministries.***

4.6. E-government goals and targets

*e*Norway provides a general framework for achieving e-government goals, establishes overarching objectives and indicates flagship initiatives to be taken around each area of these goals. However, interviews with officials indicated that a lack of clear and centrally established targets, expectations, time frames and follow-up measures is perceived as a problem for e-government implementation by both ministries and agencies. Several agencies expressed that they wanted more precise goals, targets and deadlines to accomplish the *e*Norway plan. Direct support is lacking and agencies requested more instruments and tools (*i.e.* funding and support). Some also expressed a need for guidance in their operational activities.

Part of the problem is the lack of explicit e-government goals set out at central level. In part this reflects the intent of *e*Norway, which was to provide direction and ideas to inspire agencies and ministries to define their own e-government goals. A lack of clear goals may also reflect a deliberate choice by the MTI in order not to create tensions between agencies and ministries in

terms of decision-making power, which could impede development of initiatives. Some agencies and ministries find it hard to translate generic goals into specific initiatives and are increasingly asking for guidance in developing clear indicators, both qualitative and quantitative, for e-government.

The Strategy for ICT in the Public Sector 2003-2005 provides another example of e-government strategy and planning that is accompanied by detailed guidance on implementation. Based on a study carried out by Statskonsult in 2002,[2] the strategy gives an overview of where more efforts should be made to develop e-government, but says little about how this should be done. Again, this is reflective of Norway's decentralised approach to public management, pointing out what is required but not how this should be achieved.

4.7. Co-ordination at the central level

In Norway strengthening central co-ordination of e-government is an important item in the current e-government agenda. Although decentralisation as a preferred mode of managing ICT in government is a key element of e-government policy, interviews with government officials have revealed that an internal debate is currently taking place in Norway about the extent to which decentralisation should be accompanied by co-ordinating efforts from the central government and the areas where such co-ordinating efforts are needed.

However, central co-ordination of e-government has varied over time in line with shifts in favour of and against decentralisation of e-government development, ranging from centrally driven plans and activities to more limited central management based on agencies and local entities as driving forces (see Chapter 2 "the case for e-government" and Box 4.5).

The current government has recognised the importance of strengthening co-ordinating efforts in selected areas in order to guide the overall decentralised implementation of e-government. The current ICT strategy (Strategy for ICT in the public sector 2003-2005) focuses on government's role in developing a national ICT infrastructure and the framework conditions that support e-government implementation at the local level. By locating the responsibility for ICT spending and e-government development as close as possible to the user and placing it in the hands of the agency responsible for providing services to businesses and citizens, the government has felt that investments can be better justified and controlled. At the same time it has realised the importance of ensuring central co-ordination in order to avoid excessive fragmentation of e-government initiatives at the agency level.

In order for the concentration of e-government and ICT development responsibility into a single Ministry to have a positive impact on the clarification of roles and co-ordination responsibilities at the central level, the

Box 4.5. **Evolution of e-government co-ordination in Norway**

The co-ordination of e-government did not become a priority in the government agenda until the 1990s with the full recognition of ICT as a policy tool to enhance the reform of the public sector (see box). Before, the government's co-ordination efforts were directed towards developing common frameworks (*e.g.* standards) and IT infrastructure while e-government policy was not co-ordinated and left to each main sectoral area to define and implement. An official from the MoF noted that in the last two decades the focus has been on a decentralised approach, "unless one could prove that there was a need for necessary co-ordination". The first e-government plan, released in 1996 (The Norwegian way to the Information Society – step by step) provided definitions of IT policy objectives and targets but did not focus on how government should co-ordinate in order to achieve them.

The first comprehensive plan for cross sectoral IT co-ordination in the public sector was produced in 1999 (Action Plan for electronic Government 1999-2001) by the Ministry of Labour and Government Administration. The plan, intended to be a supplement of ministries' IT strategy, focused on the definition of a general strategy for cross-sectoral e-government implementation and in particular addressed the issue of co-ordination and harmonisation of the sectors' use of information technology. The plan identified 8 cross-sectors IT priority areas and goals and outlined the instruments and guidelines for achieving them (see the Annex for more information).

Central government co-ordination reached its peak of intensity in 2001 before the change of government. The implementation of the new government's agenda brought a considerable reduction in the co-ordinating role of central government, focusing instead on increasing agency autonomy, decentralisation of service responsibilities, and economic competition. As a result, the former Ministry of Labour and Government Administration, which was responsible for cross government e-government co-ordination, lost much of its role in cross-sectoral co-ordination and both staff in the IT co-ordinating unit and a number of ongoing co-ordination projects (*e.g.* KOSTIT – the Public Administration Network Project) were reduced.

Ministry of Modernisation will have to be able to ensure central co-ordination to support e-government development at the agency level. The recent creation of a body for e-government co-ordination under the MoM seems to have gone in the direction of strengthening government co-ordination capacity. However, the impact of this body on e-government co-ordination is not yet clear and will depend much on its effective capacity to bring together all the key e-government actors across government and make them committed and accountable for achieving e-government objectives.

Key points 4.4

- ***Central co-ordination of e-government has varied over time in line with shifts in favour of and against decentralisation of e-government development, ranging from centrally driven plans and activities to more limited central management based on agencies and local entities as driving forces.***
- ***The current government has recognised the importance of strengthening co-ordinating efforts in selected areas in order to guide the overall decentralised implementation of e-government. The recent creation of a body for e-government co-ordination under the MoM seems to have gone in the direction of strengthening government co-ordination capacity.***
- ***However, the impact of this body on e-government co-ordination is not yet clear and will depend much on its effective capacity to bring together all the key e-government actors across government and make them committed to, and accountable for, achieving e-government objectives.***

4.8. Co-ordination at the ministerial level

At the ministry level, IT co-ordination is influenced by the level of centralisation/decentralisation of the structure of responsibilities within each ministry. While each ministry is constitutionally responsible to the Parliament for its sector of activity, ministries differ greatly in terms of their administrative style and co-ordination approach *vis a vis* the agencies under them. The Ministry of Finance, for example, is highly decentralised and has delegated major responsibilities to its agencies, while the Ministry of Justice has a more centralised approach.

Within each ministry, the level of co-ordination is also influenced by the structure of its co-ordination responsibilities. Often the problem is that co-ordination responsibility rests within a department that does not have any oversight responsibility towards the agencies under the Ministry. In the Ministry of Agriculture, for example, the Department of Administrative and Economic Affairs has the control over the state budget allocation to agencies and is responsible for the co-ordination of initiatives within the ministry. However, each of the four departments in the ministry is responsible for a group of agencies, therefore the IT co-ordinating group does not have real authority to talk to agencies directly and impose solutions. In addition, directors of departments do not see co-ordination of initiatives as a priority issue, so they have to negotiate with the person in each department that has direct responsibility over the underlying agencies (lack of vision at directors' level). Different departments have a different level of commitment.

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The main tool that ministries have for guiding the direction of e-government in the agencies under them is the annual budget negotiation process, in which agencies are required to present their plans and objectives. Despite pressure from some agencies, however the Ministry of Finance (MoF) does not play a co-ordination role in using the budget as a tool to achieve overall e-government policy goals. This is a policy decision that reflects not only the role of the Ministry of Modernisation as the primary e-government co-ordinator, but also the MoF's concern that adding additional policy oversight responsibilities (*i.e.* for monitoring the development of electronic services) would dilute its effectiveness in meeting its core responsibility for the development and production of the annual budget.

Notes

1. Ministry of Labour and Government Administration (2002), "Modernising the public sector in Norway – making it more efficient and user oriented".
2. ICT in the Public Administration 2002 – survey on the status of the use of ICT in the public sector, Statskonsult 2002.

APPENDIX 4.A1

Example of E-government Strategies

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Box 4.A1.1. **The E-Government Strategies for the Health and Social Sectors**

Two major plans have been issued to support the development of ICT in the heath and social sectors. The plans have been established under the responsibility of the Ministry of Health and Social Affairs. The first plan, *Si @ 2001-2003,* was the first national e-health plan: it included activities across the health, social and welfare sectors by promoting joint actions on e-projects in both the health and social sectors.

The strategy only included projects initiated by the state (*e.g.* how the state, in cooperation with other actors, could support development in the sector), and were valid for the entire health and social sector. The relationship to local administration and other parts of the social sector did play a small part as the plans for infrastructure were supposed to support joint actions between central and local actors.

The establishment of a National Health Net has been one of the major initiatives contained in the plan. The Health Net connects five regional health networks, which provides the basis for enabling further collaboration across levels of government in the health and social sector. The plans also contained measures to increase electronic interactions in the health and social services by, for example, supporting the introduction of electronic patient records. Statistics show that the number of hospitals sending electronic patient records has increased across the country. The plan has also targeted the development of telemedicine and the increase in the number of online services to the public (*e.g.* getting information though websites and electronic appointment booking).

The plan has been followed by another national e-government strategy, the *S@mspil 2004-2007,* focusing on 1) strengthening information flow in the health sector, with a focus on infrastructure, information structure, information security, electronic patient journals, message exchange, etc., and 2) enlarging the number of actors in the electronic cooperation within the sector. Until now cooperation has mainly included health companies, general practitioners and the social security sector. The new actors that must be included are patients, pharmacies and municipal health and social services.

The two initiatives chosen for the plan are based on two conditions. First, they are areas where there are constant and decisive conditions for electronic cooperation across different actors and usages. Second, they are areas for which it is important to secure common solutions. The strategy will be implemented with the help of annual plans that concretise projects within the two main initiatives. For certain individual project strategies are already developed (*e.g.* further development of the health net and the overarching IT strategy for the regional health companies). The strategy also features a special municipal programme that will contribute to increased and better co-ordination between municipal health and social services, specialists and general medicines.

Source: Si @ 2001-2003 and S@mspil 2004-2007.

Box 4.A1.2. **The E-Government Strategy of the Norwegian Agricultural Authority**

The Norwegian Agriculture Authority *(SLF)* is an agency under the Ministry of Agriculture and Food that was created in 2000 after the decision to unify Norwegian agricultural policy under a single agency. SLF considers ICT as a strategic tool for realising the core business and main goals in the organisation and introduced a renewal program to use ICT to make the administration more efficient and to improve the relations with the public. SLF considered that ICT would contribute to *a)* establishing a basis for a cost-effective, secure and controllable service production, *b)* creating conditions for electronic reporting and coordination to enable a 24h administration, *c)* improving communication internally and with users.

SLF issued a strategy that translates the Ministry of Agriculture and Food's vision for the use of ICT in the agricultural sector. The strategy covers the period 2001-2004 and links the major activities to the budget process. The basic components of this strategy are: 1) the use of the Internet as the main means of transporting data between SLF and its users, 2) the building of joint and centrally placed (national) solutions and information sources (registers) and making them accessible all over the country to municipalities, 3) the building of a common framework for e-government based on Internet technology, and 4) the building of common frameworks and infrastructures.

Source: The strategy for the Norwegian Agricultural Authority, 2001- 2004.

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Chapter 5

Organisational Change

Norway's early application of ICT to back office functions of government (e.g. financial and public record and payroll systems) has brought changes and benefits in terms of back office management that are now mainstreamed in government and provide an important basis for future development of front office services. Also, the impact of e-government on knowledge sharing across government has been positive and online frameworks which enhance cross government collaboration and exchange of experiences have been established. The government has also taken a step forward in strengthening the development of ICT skills in the public sector, for example by focusing on increasing employers' access to qualified ICT workforce. As regards to central government analytical capacity, it remains limited and unevenly diffused among agencies. The transformation of Statskonsult into a public-owned limited company can, at least in the short term, further reduce the central government capacity in providing strategic ICT guidance to agencies.

This chapter considers the impact of e-government on organisational change in Norwegian central government. Four dimensions are considered: the impact on 1) information and knowledge sharing; 2) organisational structure; 3) organisational processes; and 4) organisational values and cultures.

OECD countries' experience shows that implementing organisational change is difficult in general, requiring significant staff commitment and a change in working culture. However, in Norway, resistance to organisational change has been identified as a relatively minor challenge to e-government implementation. Only 25% of survey respondents regarded it as being a very important or important challenge, while 40% said it was not an important challenge and 11% did not consider it a challenge at all.

This could indicate that IT change in Norway has been mainstreamed and treated as a part of broader processes of organisational change. However, OECD interviews reveal that the benefits of this change have not yet been fully grasped. An example of a typical view was expressed by an official from an agency under the Ministry of Agriculture. While recognising that e-government has an impact on organisation, the official stated that benefits will take more time to emerge and will require further investments in skills and competence development within organisations.

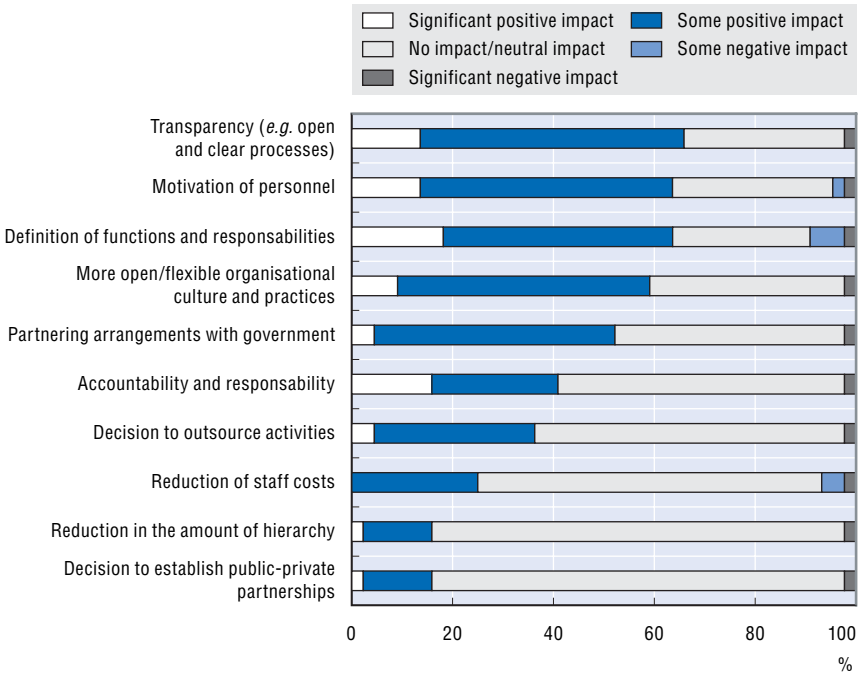
The OECD survey also reveals recognition within government of the importance of the human element in e-government-related change. In Norway there is strong agreement that e-government leaders play an important role in guiding the change process and that organisational change relies on ensuring staff ownership and buy-in, or at least (according to 76%) should do so.

5.1. Impact on information and knowledge sharing

ICTs have had a positive impact on information and knowledge sharing across government through breaking up internal communication barriers and providing new opportunities to access and exchange information and knowledge. Of the 12 organisational aspects included in the OECD survey, respondents felt that e-government had the greatest impact on information and knowledge sharing, with more than 85% reporting a significant positive or some positive impact (Figure 5.1).

Findings from the OECD e-government survey are supported by the results of the OECD survey of Knowledge Management in OECD countries, which investigated central government knowledge management (KM) practices and the role of ICT as a tool to improve knowledge sharing within

Figure 5.1. **Impact of e-government on organisational change**

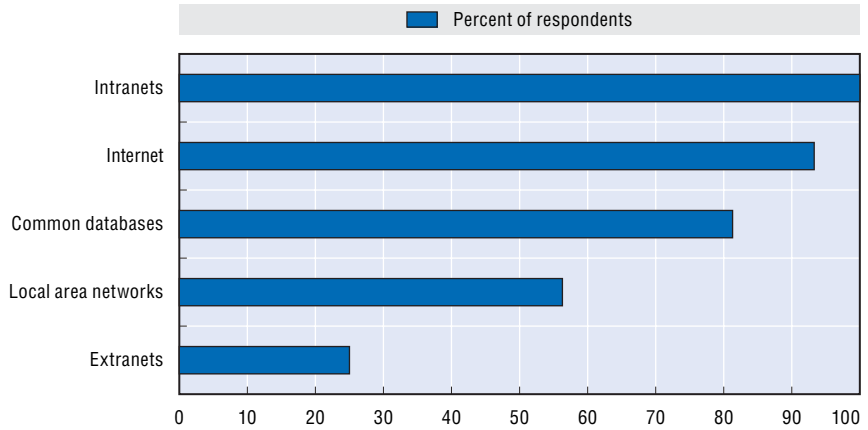


Source: OECD E-government Survey: Norway.

organisations. The results of that survey for Norway[1] indicated that ministries largely (and significantly – 80%) use ICT tools to exchange information and knowledge within the administration – in particular through Intranets, the Internet and common databases (see Figure 5.2).

Norway's current e-government strategy underlines the importance of strengthening knowledge management practices by systematically developing ICT-based learning and knowledge networks (both within and across sectors) in support of the goals of the Norwegian government modernisation programme. The current strategy assigns municipalities responsibility for introducing and implementing knowledge management (there is currently a pilot project involving 60 municipalities). From the OECD KM practice indicators that were created to analyse the KM survey results, it emerges that Norway ranks among the average of OECD countries in terms of 1) organisations' efforts at improving knowledge management and 2) organisations' perceived achievements with knowledge management practices (Figure 5.3). This study indicates that organisations' self-assessment of the quality of KM practices that include the use of ICT and of organisational and cultural change involved in these practices (*e.g.* change in staff activities) shows satisfactory results.

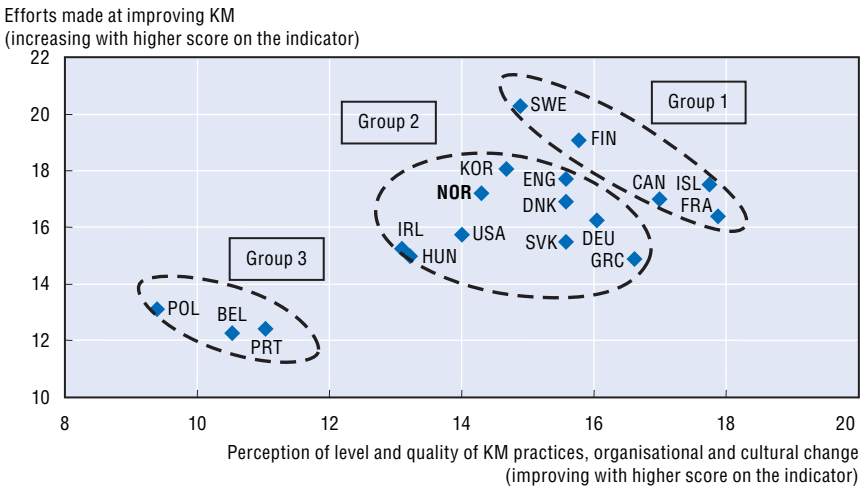
Figure 5.2. **Use of ICTs to support knowledge transfer or information sharing**



Source: OECD Survey on Knowledge Management: data for Norway.

The government has been active in supporting the use of ICTs to develop knowledge diffusion and practices across government. It has initiated a project which focuses on building up and supporting ICT-enabled learning networks and communities within the public sector. The Kunnskapsettverk.no web-based solution (see Box 5.1) aims at supporting

Figure 5.3. **Knowledge management practices in OECD countries**



Source: *The Learning Government* (OECD, 2003).

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Box 5.1. **Supporting learning networks and communities of practice within the Norwegian public sector: the Kunnskapsnettverk.no project**

Kunnskapsnettverk.no project is part of the Norwegian government's efforts to modernise the public sector and increase the quality and user-orientation of public services. The project builds on the idea that access to competences and exchange of experiences are essential for local governments to make good decisions, become more innovative and produce high-quality public services. In order to achieve that, the project strengthens the importance of mobilising the intellectual capital of more than 700 000 employees working either for central or local governments. This not only implies developing human capital, but also building structural capital and capturing relationship capital.

Kunnskapsnettverk.no is a web-based combined Sharepoint Portalserver (Windows) and Sharepoint Services (Office) solution that focuses on building horizontal knowledge and learning networks across Norway's municipalities The Kunnskapsnettverk.no solution seamlessly connects the networks' private and virtual workspaces and the public portal using a bottom-up approach. Network members, their competences, experiences and contributions appear on the web, making the human capital visible and accessible. All documents within a private, virtual workspace may be made public just by changing status. One of the first objectives of the project was to develop horizontal knowledge to support the development of user-oriented integrated electronic services.

Kunnskapsnettverk.no integrates tools for co-operation and co-ordination with tools for publishing and structuring a knowledge resources and locating expertise. There are a large number of tools available for each of these purposes. Users can access not only the document, but also the personal profile of the author where the author's contact information, experience, interests and other contributions are displayed. Thus, the tool supports communities and networks in their co-operation, and moreover makes visible what networks and communities do within the topics of interest. The knowledge base is integrated with the environment where co-operation is actually carried out (workspace), and is not a separate tool.

From the perspective of local governments, collaboration through Kunnskapsnettverk.no is likely to reduce the cost and time used to develop e-government. One of Norway's southern municipalities calculated a $1 million NPV over 10 years of implementing IP telephony. Had they had access to the necessary knowledge and information in developing a common solution, they would have saved an estimated 37% of costs. One of the networks also estimated a total of $100 000 to set up an extranet across six municipalities (without considering time resource and lack of knowledge management. competencies), while Kunnskapsnettverk.no was able to set up workspace(s) and a home page in minutes. For 60 networks that is an estimated direct savings of $6 million.

Source: Norwegian Ministry of Modernisation.

inter-agency collaboration through exchange of knowledge and practices. Established as a pilot project, the Kunnskapsettverk.no portal now (after only 12 months of operation) includes approximately 60 knowledge networks connecting participants across over half of municipalities, all ministries and 80 government agencies and authorities.

5.2. Impact on organisational processes

The introduction of ICT has offered the opportunity to automate and rethink organisational processes, in order to improve both back and front office functions of government. As outlined in Chapter 2, the application of ICTs to back office functions (such as financial, public record, payroll and personnel systems) has been driven by efficiency goals. The automation and re-engineering of internal business operations has brought important benefits in terms of management of processes that are now mainstreamed across central government organisations and not considered as "e-government"*per se*.[2] However, the lack of measurement of these benefits (*e.g.* in terms of internal savings) at either the individual organisation or the whole-of-government level may be impeding a clear appreciation of the impact of ICT on organisational processes, the extent to which it has been achieved and what more needs to be done.

Electronic invoicing of businesses has increasingly been used in Norway. During 2004 the newly created Norwegian Government Agency for Financial Management (NGAFM) set up a pilot project which aims to increase the number of agencies using electronic invoicing. The target is to have 80% of agencies doing this by January 2005. The NGAFM is also the supplier of shared services such as personnel, payroll processing and accounting services.

Norway has been also at the forefront in applying ICTs to public record systems.[3] The development of standards for public record keeping has allowed the transition from paper to electronic systems and increased the transparency of case-handling processes. Since the late 1990s the National Archives of Norway have provided common standards and specifications – now used by most public organisations in Norway – that have guided development of these systems by individual public organisations.

The transition from paper-based to electronic record keeping has brought major benefits in terms of strengthening information management and improving data quality and comparability across organisations. Electronic record keeping has also added useful functionality to the processes of archiving (*e.g.* automatic capture of data) and allowed additional systems integration (*e.g.* integration of work flow and e-mail data with record-keeping systems).

The application of ICT to back office functions has also provided an important basis for the development of front office services, for example through the development of electronic case handling. The Ministry of Justice and Police is

working on implementing an electronic case management system for the courts, which will be one of the more advanced in Europe. The State Educational Loan Fund provides an electronic service for the provision of educational grants and loans to pupils in upper secondary school and university and college students. The system supports the entire process from handling the application for grants and loans to the final decision and payments of grants (see Box 5.2).

Box 5.2. **Applying e-government to each stage of a process: application for student loans**

Most Norwegian students finance their studies through grants and loans from the State Educational Loan Fund (SELF). The loans are meant to cover the costs of studying in Norway and the objective is to give everyone in Norway equal access to education.

The entire process, from the entrance application to the payment of student loans, is supported electronically and based on an ERP (Enterprise Resource Planning) platform. The three main stages of the process are:

1. **Application:** 60% of students' applications are online. Students apply from an Internet portal (*www.lanekassen.no*) through password-protected access.
2. **Control of data:** 40% of data provided by students are automatically checked by the system; the rest (60%) is manual. The SELF hopes to reduce by 50% the manual control of data (*e.g.* tax declaration). In order to control data, the SELF can access the Student Exams Database, but their use of it is regulated by the Data Inspectorate and limited to verification in order to provide scholarships. The copy of the database must be deleted after consultation.
3. **Payment process:** 40% of loans are provided automatically as a grant when one passes a certain number of exams. Students must sign at their school in order to have their student status checked and money deposited in their bank account. A regional project with the college of Lillehammer features the possibility for students to sign electronically (PKI) using the ALTINN system. From April 2005 this project will be extended at national level, allowing students to choose which channel to use. However it emerges from the interviews that SELF is also looking for a solution that could be shared by others, and working on mobile PKI.
4. **Loan repayment:** This stage of the process is not automatic, but run manually by employees.

The Legislation and Collection's Department is responsible of checking students' data and application rights. The collection of claims is dealt with by another agency (the Loan Fund's Appeal Board).

A new version of the portal was released on 1 June 2004. The goal is to have all students applying online and fully integrating with the universities' Web sites. The portal also features a version for Norwegian students abroad.

Source: Interview with State Educational Loan Fund.

Key points 5.1

- ***The automation and re-engineering of internal business operations has brought important benefits in terms of management of back office processes that are now mainstreamed across central government organisations and not considered as "e-government" per se.***
- ***However, the lack of measurement of these benefits (e.g. in terms of internal savings) at both the individual organisation and at the whole-of-government level may be impeding a clear appreciation of the potential impact of ICT on organisational processes, the extent to which it has been achieved, and what more needs to be done.***

5.3. Impact on organisational structure

The use of ICT has offered governments increased opportunities to rethink traditional functions and responsibilities and to introduce new governance arrangements and collaborative models that cut across traditional organisation hierarchies. However, internal rigidities and resistance to change can make structural change difficult to achieve.

From the OECD survey it emerges that 60% of respondents felt that e-government had a positive or some positive impact on the definition of functions and responsibilities in government. This can be related to the impact of ICTs on changing working practices and skills and introducing new forms of collaboration. However, only 16% of respondents observed that e-government had impacted on the structure of their organisation in terms of a reduction of the amount of hierarchy. This may indicate that e-government benefits have been more related to its capacity to change the functions and operations of government than to flattening the traditional chain of command. This observation is borne out by the results of the 2002 KM survey, where 56% of ministries surveyed indicated that their e-mail policies had not contributed to flattening hierarchy.

Only 25% of respondents felt that e-government has had some positive impact on reduction of staff costs. E-government has enabled automation of routine processes, freeing up people from traditional administrative tasks. However, it seems that this process has not been accompanied by a parallel reduction of staff resources in Norway. This may be due to the reallocation of efficiencies obtained by improving routine processes to enhance service quality, by moving staff from traditional tasks to more value-intensive ones.

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5.4. Impact on organisational culture and values

E-government has also had an impact on organisational values and cultures with regard to improved transparency and openness in government, and increased responsibility and accountability towards citizens for service delivery. E-government was seen to have had a positive impact on transparency by 64% of survey respondents, while 36% observed a positive impact on accountability and responsibility.

The survey also showed that about 51% of respondents felt that e-government has had a positive impact on organisational openness and flexibility. For example, ICTs have offered new opportunities for introducing flexible working arrangements such as teleworking. A leading example of this practice is provided by the State Pension Fund, where part of the staff works from home using a VPN (Virtual Private Network) to access the organisational network.

While the pre-existing values of organisations affect the way e-government is implemented (*e.g.* by limiting internal recognition of the value attached to ICT-enabled change), e-government is likely to affect organisational culture and values by increasing work flexibility and introducing network and collaborative arrangements within organisations.

In interviews with officials a view emerged that the use of technology in government has helped achieve a change in government business practices and in the mentality of users of government information and services. In the agricultural sector the introduction of e-government solutions has been perceived as a powerful tool to bring about a cultural change in farmer's mentality and has helped facilitate newcomers' business take-up in the sector.

Significantly, in Norway e-government is not just seen as having an impact on culture and values within government. Rather, the fact that ICTs can also be a powerful instrument to preserve and enhance cultural identity of a community of people at both national and local level is well recognised. The Norwegian government has targeted the capacity of ICTs to "enhance the preservation and further advancement of Norwegian heritage, identity and language"[4] as one of the primary goals of its ICT policy. Efforts have been directed towards strengthening the production of digital content in the Sami language, and a number of projects concerning electronic content have been put forward.

5.5. Skills

The recent experience of OECD countries is that implementing e-government significantly increases the importance of the ICT-related skills of the public sector workforce. Most Norwegian central government organisations that replied to the OECD questionnaire (about 66%) considered that e-government was bringing about a change in skills.

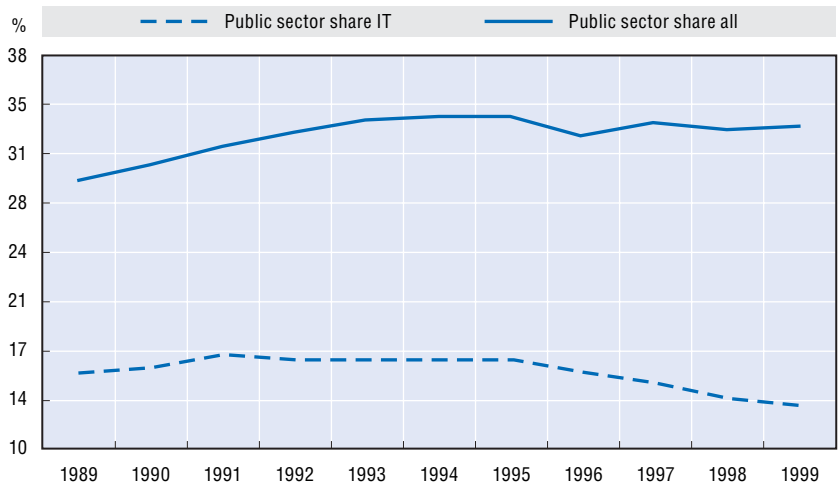
Skills at the central government level

Developing ICT skills is at the core of the current eNorway strategy (Chapter 4). The strategy underlines the government's role in fostering ICT skill development, not only to ensure that employees are able to use ICT tools at the workplace, but also that people benefit from a broader participation in the development of the information society. In this context, the government's role is to provide both the frameworks for society's long-term ICT skills development (*e.g.* ICT education in schools) and access to a highly specialised ICT skilled workforce to support competitiveness and economic development.

As in other OECD countries, despite the growing size of the ICT workforce over the last decade, Norway has faced a shortage of suitably skilled ICT workers during the 1990s. This is particularly true in the public sector. A study conducted by the Centre for Innovation and Research in 2000 showed that, although the number of public sector employees with ICT skills increased slightly in the 1990s, this increase did not match the overall increase in public sector employment, nor the overall increase in the number of persons with ICT skills (Figure 5.4). As a result, the share of ICT-skilled employees in the public sector fell from 16% to 14% from 1989 to 1999. This indicates difficulty for the public sector in acquiring and/or retaining a suitably qualified workforce, which can be (partly) related to factors such as the macroeconomic cycle, the higher cost of ICT resources associated with ICT skills shortages and lack of flexibility in human resources arrangements.

In 2002, regulations to simplify the recruitment of skilled workers and specialists from countries outside the EEA were passed, allowing a reduction in

Figure 5.4. **Share of employees working in public sector; all employees and employees with formal ICT skills, 1989-1999**



Source: STEP (2001), Distribution and diffusion of Norwegian ICT competencies.

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the processing time of job applications by non-EEA citizens. The Government's reduction of regulatory barriers to recruitment outside the country has gone in the direction of increasing employers' access to a qualified workforce, and competition for public sector roles requiring ICT-related skills. Government initiatives have also supported increased access to a suitably skilled workforce through strengthening the inclusion of ICT as an integral part of the educational curricula for students, in particular in high school degrees.

One of the key aspects of the Government's plan to support development of ICT competences in Norway is promoting IT education in schools. A number of national plans have been issued since the 1990s that have focused on strengthening the pedagogical use of ICT, promoting the development of ICT competences for both students and teachers, supporting new teaching methods (*e.g.* ICT-enabled distance learning) and content development (*e.g.* educational software). The Norwegian School Net, a portal for educational resources (*www.skolenettet.no*), has also been established to provide learning resources, information and documentation services for primary and secondary schools. The portal is financed by the Ministry of Education and Research and maintained by the Norwegian Board of Education.

Great focus has been given to integrating ICT into the teachers' training programme. In 2000, the government launched a national programme called *ICT in Teacher Education*. The development of teachers' ICT competence has been also included in *ICT in Norwegian Education Plan 2000-2003* and in 2002 the government launched a national in-service training programme called *TeacherICT,* which focused on supporting teachers' continued training in ICT. According to the *eNorway 2003 Status Report*, in 2002, 77% of Norwegian teachers received some formal training in general ICT (with the average in the EU being 54% according to the European Commission Eurobarometer).

Government has also been committed to improving business skills and competences in order to foster better use of ICT in the private sector. The results of a study[5] show that the most important lack of ICT expertise in the Norwegian private sector is in e-business. Lack of pure technological expertise is only a problem to a limited extent. As part of the VeRDI programme launched in 2001 to strengthen SMEs' competitiveness by increasing awareness and by stimulating e-business, the government has focused on strengthening the transfer of knowledge and skills to help small enterprises make better use of ICT.

Skills at the organisational level

The OECD survey shows that lack of skills in central government is perceived as a relatively less important challenge to e-government implementation. Only 20% of the OECD survey respondents (of which 78% were agencies) indicated a lack of skills as being a very important or important

challenge and 18% considered it to be a non-important challenge. Another 9% said that it is no longer a challenge. However, from the survey it also emerges that a larger number of organisations (66%) consider "maintaining and developing e-government skills" to be an important challenge, as compared to those that indicated "attracting and retaining qualified and highly skilled workforce" as an important challenge (54%).

While the relatively lower level of concern over attracting an ICT workforce may reflect the impact of government policies in this area, the larger challenge represented by skill development and maintenance can be explained by pointing into two directions. First, it may simply reflect a problem, common to all organisations, of keeping up with shortening ICT skill life cycles and the continued need for qualified ICT staff as technologies are changing faster and faster. Second, it may indicate that agencies and ministries lack internal capacity and resources to support skill development. Interviews with government officials indicated that agencies are increasingly asking for guidance in the area of IT skills and expertise in order to move forward. One official noted that technology is not a barrier as it will be solved in the long run. The big challenges are improving internal communication, skills and knowledge within the agency and building internal competencies.

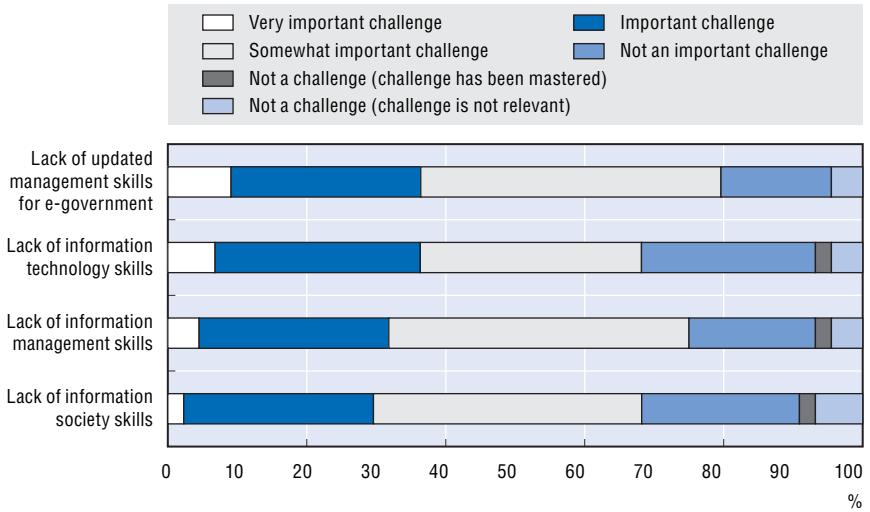
Until recently Statskonsult acted as the central unit for the development of ICT competences and supported agencies looking for ways to organise their IT activities. Previously an agency under the MLGA, in January 2004 Statskonsult was turned into a state-owned limited liability company, consistent with the government's market-oriented policies. Following the reorganisation which, according to Statksonsult, will bring an estimated 50% reduction of staff, Statskonsult is now acting in the market alongside private sector consulting companies providing *ad hoc* advisory services. The reorganisation, which has eliminated Statskonsult's joint co-ordinating role (alongside the MLGA and MTI), especially in the area of standardisation, has raised concerns over the central government's role and capacity to provide strategic ICT guidance to government ministries and agencies. While agencies can continue to purchase services from Statskonsult or from private sector providers, there could be a risk for government to loose an overall analytical capacity to identify trends or upcoming needs and to address them from a whole of government perspective. The government seems to have in part addressed these concerns by establishing an e-government co-ordinating body composed of a group of central agencies and municipalities under the leadership of the Ministry of Modernisation and responsible for guiding and co-ordinating the implementation of e-government initiatives in certain areas. This body, by strengthening policy dialogue, is intended to be instrumental in consolidating and retaining some internal analytical and strategic capacity within government. However, e-government progress will be dependent on the actual success in achieving this goal.

Key points 5.2

- ***The transformation of Statskonsult into a market-oriented state-owned enterprise is in line with the Government's vision for a less interventionist State. While opening up to the market for strategic advices and services aims at increasing efficiency and market orientation of the public sector, it may, at least in the short-term, reduce overall government analytical capacity and expertise required to support further e-government development. The recent creation of the Co-ordinating Body for E-government goes in the right direction to strengthen this capacity, but the success of this move is yet to be demonstrated.***

The OECD survey of e-government in Norway has shown that lack of management skills associated with the use of ICT represents the most important skills challenge currently faced by government agencies. When looking at the different type of skills needed for effective e-government implementation (information technology, information management, and information society skills and updated general management skills), it emerges that the lack of "top management" skills represents an important challenge for e-government implementation for government organisations (all organisations 36%, of which agencies account for 69%), while shortage of skills for implementing e-government strategies and information management within organisations is considered as a relatively less important challenge (see Figure 5.5).

Figure 5.5. **Challenges to e-government implementation related to skills**

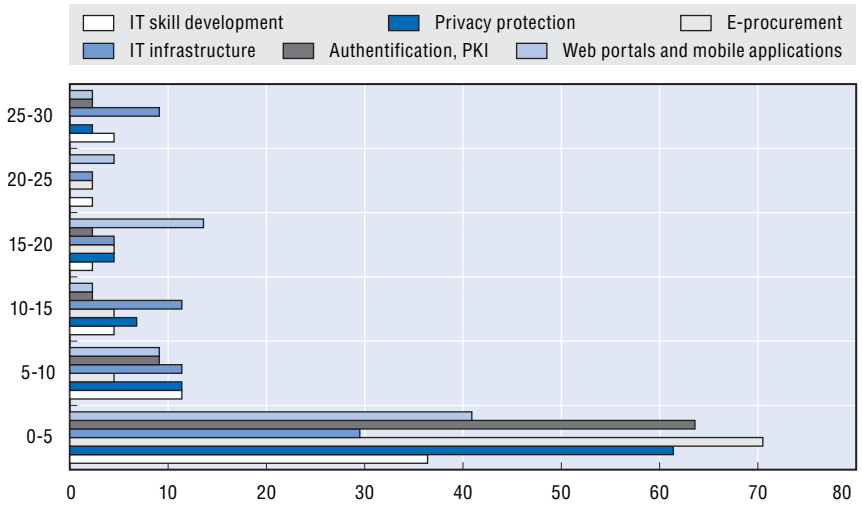


Source: OECD E-government Survey: Norway.

More than half of the survey respondents (57%) indicated that adapting personnel to change is an important challenge for organisations. There is, however, a mixed picture of how organisations are responding to this challenge. Only a few of them are monitoring ICT competencies – the OECD KM survey shows that only 37% of ministries maintain a database of staff competencies. On the other hand, from that survey it also emerges that 5 out of 8 ministries that answered the survey systematically provide training on information and communication technologies (use of hardware, software, Internet, etc.).

When asked about the challenge related to outsourcing of IT skills, only 21% of respondents regarded it as a very important or important challenge, while 11% considered it as not being a challenge relevant to their organisation. However, the survey also showed that 48% of organisations outsource between 0% and 10% of their budget on IT skills development (Figure 5.6), although this is relatively minor if compared to IT outsourcing in other areas (such as security and privacy).

Figure 5.6. **Outsourcing IT skill development (% of budget)**



Source: OECD E-government Survey: Norway.

Notes

1. The questionnaire was submitted to 8 organisations in Norway, including the Ministry of Finance, the Ministry of Justice and Police, the Ministry of Local Government and Regional Development, the Ministry of Trade and Industry, the Ministry of Foreign Affairs, the Ministry of Health and Social Affairs, the Ministry of Education, Research and Church Affairs, the Ministry of Labour and

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Government Administration (now Ministry of Modernisation). It has to be noted that in Norway several individual directorates have filled in the questionnaire for the same organisations; therefore most of the organisations received more than one questionnaire, for a total of 16 questionnaires.

2. At the level of back office operations, Norway has long applied ICT to its financial reporting and public record system. An electronic financial reporting system was introduced in 1996, and has gradually substituted for manual reporting in the Norwegian central government. All agencies are now using it to report to the central financial authority. Most agencies use a direct reporting system, while about 30 agencies use a web-based registry system because of lack of systems compatibility. While web entry of data is more efficient than paper records, further process efficiencies could be achieved when the info is directly generated by the system and reported automatically.

3. Norway's development of the electronic record system has built on a long tradition of public registries that dates back to the eighteenth century (*e.g.* a registry of incoming and outgoing correspondence between the Danish and the Norwegian government was set up in 1740). Statskonsult started producing the first electronic record systems and initiated work on creating open standards for record keeping in the mid 1980s, initially used by only a few agencies. By the 1990s these systems had been adopted by most of the public organisations.

4. eNorway 2005.

5. Two studies have been conducted by the OECD (the Electronic-commerce Business Impact Study) and by SND/SØK-Verdi (Value creation study). SND is the Regional Development Fund.

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Chapter 6

Common Frameworks and Collaboration

While standardisation efforts in Norway have fluctuated in terms of focus and intensity, standardisation has now emerged as a key priority in the e-government agenda. Frameworks for standards for interoperability and management of some data exist and continue to be developed through inter-agency working groups. The government has also taken a pragmatic approach to PKI by establishing regulatory and policy frameworks as well as technical requirements for the introduction of a common PKI solution for the public sector. The national e-procurement system is solid but take up has been lower than expected, despite demonstrated return on investments. Inter-agency collaboration is not considered a major challenge for the implementation of e-government, however few agencies are collaborating beyond the level of information sharing towards establishing a common framework for the delivery of joint services. Much of the collaboration is based on the joint exchange of information contained on individual data registers. Further improvements can be obtained by making a better use of data and information contained in the well-established public registers.

This chapter 1) describes government standardisation efforts in the area of e-government; 2) identifies the main achievements in terms of setting up a common infrastructure for communication and data exchange in Norway; 3) discusses the extent to which collaboration among agencies has taken place and the obstacles preventing collaboration; 4) provides an overview of the progress on private/public sector partnership models; 5) discusses the development of a central e-procurement system.

6.1. Common infrastructure efforts in Norway

At a whole-of-government level in Norway, frameworks for standards of interoperability and data management exist and continue to be developed through inter-agency working groups. Standardisation efforts in the area of e-government have fluctuated in terms of focus and intensity, reflecting changes in the government's priorities and needs. However, the government now recognises that standardisation goes beyond a technical exercise and holds a strategic importance as the means for achieving collaboration and co-ordination of public registers. Standardisation has therefore become a top priority.

The Ministry of Modernisation plays a key role in the development and implementation of recommendations for common infrastructures. The MoM supervises the application of standards in the public sector and is authorised to force public administration organisations to adopt and use standard products and solutions for data exchange with their own IT systems. Statskonsult also had a key role and responsibilities in the area of standardisation which it has lost after the 2004 reorganisation.*

Early standardisation efforts led to the digitalisation of information and e-government development. The major standardisation efforts took place in the late 1980s and resulted in the definition of common measures and standards for open system interconnections (NOSIP 1: 1990-1992; more recently NOSIP 2:

* In the 1990s, Statskonsult was given the national responsibility to work on the design and spread of ICT standards for the public sector. Statskonsult also hosted the Secretariat for Standardisation, which was established in 1992, with the purpose of designing and developing a common set of protocols and standards for the public administrations. The main responsibilities of the Secretariat was to advise the public administration in the selection of standards and technologies, to develop the public administration standards (*e.g* NOSIP), and to contribute to the sustainable development of the public administration IT infrastructure. Statskonsult also administered the standard government contracts for procurement of ICT equipment and consultancy services, and offered assistance to parties entering into such agreements.

2002; NOSIP 3: 2003). The National Archives have also had a standard (NOARK – Norwegian Archive Standard) for the receipt of documents since the 1980s, which was developed with the assistance of the former Ministry of Labour and Government Administration. The standard requires every government agency to keep a public journal (workflow standard) for scanning documents and tracking workflows.

The earlier standardisation efforts lost some of their urgency with the advent of the Internet and a change in focus from setting up infrastructure to defining an integrated policy for electronic government. These efforts were overtaken by a broader action plan for electronic administration, which promoted several measures for focusing efforts on certain development programs, *e.g.* electronic trade, electronic signature and PKI and exchange of information between businesses and the public sector. This also brought a reduction in the staff working on standardisation issues in the MLGA (from 3-5 people in 1995 to one person in 1998).

However, at the central government level, there seems to be fresh urgency for standardisation that focuses on improving data exchange between public registers. The ICT strategy for the public sector points out the need to implement standardisation in order to retrieve data from public agencies/registers and make them available to others. Agencies interviewed by the OECD demanded increased data standardisation in order to enable more efficient use of data and to improve quality and handling for better inter-agency collaboration and co-ordination of public registers. The newly established Department of ICT in the Ministry of Labour and Government Administration has been assigned responsibility for developing a new regime of government data. Also, the newly established co-ordinating body for e-government has been given responsibility for co-ordinating an initiative to develop an open standard policy.

It also emerges from interviews that more standardisation of data would be needed in order to improve data quality and increased data exchange. An official from the State Educational Loan Fund said that more standardisation would be an advantage to ensure the quality of data. According to the official, ALTINN had urged people to think about it and started a *de facto* standardisation. At the same time, the more the demand for standards moves from simpler to more complex procedures, the more standardisation becomes a challenge for organisations that need to reach consensus on standards applicable in all cases.

Norway has developed a proper communications infrastructure for e-government that allows for system interoperability and data interchange between administrations. The most important initiatives in this area have been developed since the 80s in the context of central government's attempt to set up a framework for standardisation, building up interoperable infrastructure and providing common application platforms.

Key points 6.1

- ***Standardisation efforts in the area of e-government have fluctuated in terms of focus and intensity, reflecting changes in the government's priorities and needs. However, standardisation has currently emerged as a key priority in the government, following recognition that it goes beyond a technical exercise and holds a strategic importance as the means for achieving collaboration and co-ordination of public registers.***

The Norwegian government has taken the initiative to stimulate e-government take up in certain areas by supporting the creation of dedicated IT infrastructure. In the health sector, government has established a National Health Network which links together five regional networks and provides a single communication platform for the exchange of information in the health and social sector.

At the ministry level, there are well developed communications systems and services allowing data sharing and communication between ministries. The Government Administration Service (GSA) provides the government information service (Odin), which is available through the Internet. GSA is also responsible for the development and maintenance of the ministries' physical intranet (Depnet), which also offers a series of services including Internet gateway, e-mail services and security firewalls. A number of databases remain that are not connected to the GSA network (*e.g.* national registers). Depnet is likely to carry further intranet services (Depweb), based on open standards. Common archives and case handling systems are available to all employees in central government.

A prerequisite and target for e-government has been the existence of comprehensive central register systems. The development of a central register has been particularly important for certain major agencies that are heavily dependent on database registers. Examples of centralised public register systems are the Population Register, developed and owned by the Tax Inspectorate; the Land Information System developed by the Ministry of Environment and the Ministry of Justice (see Box 6.2 in the Appendix); and the system of business registers, located in the Brønnøysund Register Centre. Several government registers are owned by public agencies, while the services involving computer operations are outsourced to commercial operators. The exchange of data contained in the registers is made possible thanks to a nationwide system of identifiers, *i.e.* a unique identity definition for individual persons as well as business entities. This also ensures that data is linked together and organised in a coherent way.

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6.2. Use of databases at the agency level

Agencies and ministries have also developed their own databases to operate their systems and much inter-agency collaboration has been focused on making that information available to external users. OECD interviews with government officials in ministries and agencies found that many of the collaboration projects in Norway take place around opening up internal databases and sharing information through common platforms (*e.g.* portals). Authorities in the Ministry of the Environment have actively collaborated in the set-up and production of Norway's environment portal ("State of the Environment in Norway") by providing updated information which is contained in a single database owned by the Ministry. While the Pollution Control Authority has the overall editorial responsibility for the portal, the environmental authorities have final responsibility for the content in their respective areas.

However, while agencies and ministries agree on the value of sharing data contained in their own registers and database, organisations seem to encounter major barriers in making information available to other organisations. This can be related to the lack of clear and standardised rules for accessing and retrieving data from agency databases and public registers. About a third of the OECD survey respondents indicated lack of guidelines as a very important or important obstacle preventing collaboration. The government seems to have gone in the right direction by assigning the newly created body for e-government co-ordination responsibility for data exchange and use of registries.

Another issue preventing the use of data contained in registries is limited compatibility. Few measures have been taken to establish central criteria for data quality across government. Agencies responsible for large databases are complaining that lack of sufficient standardisation of data is impeding further collaboration.

Government has also established an inter-ministerial working group to develop transparent and common pricing principles at national level in order to ensure access to and reuse of public data for increased value creation and service production. These principles are planned to be developed by the first half of 2005, and will implement the European directive on the use of public sector information.

6.3. Public Key Infrastructure (PKI)

As in many other OECD countries, the question of how to establish a national PKI (public key infrastructure) is a major issue in Norway that raises questions about the need for a central government role. In 2003, the government set up a deadline for establishing a common public infrastructure

for electronic signature in the *e*Norway plan: by the end of 2005, "conditions shall be established to ensure general public access to standard-based electronic signature" (*e*Norway 2005).

Most agencies interviewed by the OECD see the lack of PKI solutions as a barrier to developing online services requiring sufficient authentication and security and would like the government to facilitate and co-ordinate initiatives. Ministries, on the other hand, are more sceptical about the need for this type of central government co-ordination and direct intervention. This can be explained by the fact that agencies are directly responsible for service delivery, while ministries are further removed.

The government has taken a pragmatic approach to the development of a national PKI solution by providing the legal and policy framework and technical requirements for the introduction of e-signature and accompanying infrastructure while avoiding implementation of technical solutions that are not aligned with the market.

In Norway there are several commercial actors providing e-signature solutions, though the two main actors are Telenor and the banks. The Norwegian National Lottery (Norsk Tipping – NT) has issued its own card which has a double functionality: electronic identification and electronic purse for betting. So far efforts on increasing the number of card applications have been relatively unsuccessful. NT is planning to issue 2.2 M smartcards to replace the existing magnetic cards and will also replace magnetic stripe readers with smartcard readers for placing bets at commissioners' outlets. The card and the electronic identity solution are provided by the company (Buypass) jointly owned by the Norwegian Post and the Norwegian National Lottery. Telenor is developing its own project (Telenor Mobile Smartpay) based on using mobile phone technology (simcard).

Banks are the second biggest actor. One of the outcomes of the Bank ID project, launched in 1999 by a consortium of banks, was the possibility for banks to offer PKI solutions. Banks are working on two different solutions for e-signature using the bank card. The business model being used is transactional and is based on a pay-per-service solution. Banks are working closely with service providers in order to integrate their Bank ID solutions into their applications.

The government seems to have "learned the lesson" of avoiding playing the pioneer when it comes to the use of new technologies, instead waiting for market actors such as Telenor or the banks to take the risk in developing and supplying government with requisite solutions. By developing interoperability standards for PKI services in co-operation with the private sector, the government has also taken a positive step in creating an efficient market for supply of PKI, in order to ensure that it meets stringent public sector

Box 6.1. **Developing a national PKI solution in Norway: main steps**

2001: A government committee was set up to study the introduction and implementation of digital signatures in Norway. The committee produced an official Norwegian report (NOU 2001:10) containing a series of recommendations and policy indications on infrastructure development, including the question of choosing an adequate level of security protection. The Committee recommended that the government be vigilant when setting up public sector services in an area where solutions exist on the market. The Committee also recommended using ID cards offered by commercial players on the market rather than issuing a new, government-sponsored one. The report also contained a draft proposal for a common regulation on use of digital signatures in electronic communication with and within government. In the same year, on the initiative of the Ministry of Trade and Industry, a public-private national PKI forum was established with the objective of creating a nationwide infrastructure for secure electronic transactions supported by PKI.

2003: Following the provisions contained in the regulation relating to electronic communications with and within the public administration, a co-ordinating body on PKI was set up in early 2003 under the Ministry of Labour and Government Administration. This body was assigned responsibility for: 1) identifying common ICT security solutions in the public sector on the basis of a common categorisation of security needs and requirements; 2) systematising experience and supporting agencies undertaking development initiatives; 3) developing common guidelines for the use of PKI in the public sector; 4) establishing co-operative forums for public agencies in both central and local government sectors and encouraging co-ordination of different ongoing projects in the public sector. In the same year, the project SEID (Co-operation on Electronic ID and Signature) was established in partnership between the MTI and MLGA on one side and 15 private companies (among them all major banks, Telenor, Norwegian Post, Netcom mobile service provider, IBM Norway and Microsoft Norway) on the other. The project is jointly financed by the participants, with most of the funding coming from the private sector. The aim is to develop joint standards securing interoperability of PKI services available in the Norwegian market. The project is to terminate by the end of April 2005, having delivered three different interoperability standards.

2005: The Ministry of Modernisation issued common PKI specifications in early January. The specification covers both electronic identification of users through Internet, and possibilities for secure exchange of data and documents, both between governments and the private sector but also internally within the public administration. The specification provides for e-signatures on two different security levels – high and standard. It is expected that both levels will

Box 6.1. **Developing a national PKI solution in Norway: main steps** *(cont.)*

be in use until a smartcard or mobile phone-based infrastructure comes into use. The MoM is currently working on implementing a common strategy for PKI roll-out of the public sector electronic services. The strategy involves the creation of a common "security portal" for the public sector, offering validation of various electronic identities (eIDs), as well as trusted e-signing of documents and identity federation services.

End of 2005: Deadline for the introduction of a nationwide infrastructure supporting widespread use of e-signatures across government and in the private sector.

Source: OECD and the Ministry of Modernisation.

requirements and to avoid creating unnecessary barriers to data and service integration when implementing PKI across government.

From the point of view of the demand for PKI, it is important to ask what are the appropriate authentication solutions that allow for the take-up of e-government services. What seems to be needed at this stage of e-government development is not a PKI roll-out alone, but also a killer application with large potential for broad usage that will foster widespread PKI use. The government is working on a service portal (MinSide), which will provide a platform for potential killer applications.

Key points 6.2

- ***The government has taken a pragmatic approach to PKI by establishing the regulatory and policy framework while avoiding playing the "technological pioneer", waiting for the market to act. Identifying the technological and security solution was a first step towards a co-ordinated PKI introduction in the public sector. However, ensuring and supporting the development of a market for services as well as developing pricing strategies that recuperate costs and promote further usage are logical next steps that need to be taken in order to ensure a successful PKI roll-out and use.***
- ***Government should go for appropriate authentication solutions to allow for the take-up of e-government services, including allowing for weaker solutions where the risk of abuse and sensitivity of data are low. What is needed at this stage of e-government development is not strong protection, but a killer application with large potential for broad usage.***

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6.4. Collaboration on e-government

The OECD survey indicates that collaborating with other agencies is not considered to be a major challenge for the implementation of e-government in Norway. One out of four respondents indicated difficulty in collaborating with another agency for the delivery of seamless and shared services as an important or very important challenge. Few organisations are collaborating beyond the level of information sharing towards establishing a common strategy or frameworks for joint delivery of services.

In some areas (*e.g.* geo-spatial information), progress in data standardisation has paved the way to increased collaboration on service delivery between organisations. The Norwegian Mapping Authority, which has been active in the standardisation of geographical information since the 1980s, has developed a technological platform that allows the integration of geo-spatial information from several organisations and their access through standardised interfaces. The GEO portal also represents a good example of inter-agency collaboration for the provision of e-government services (see Box 6.3 in the Appendix).

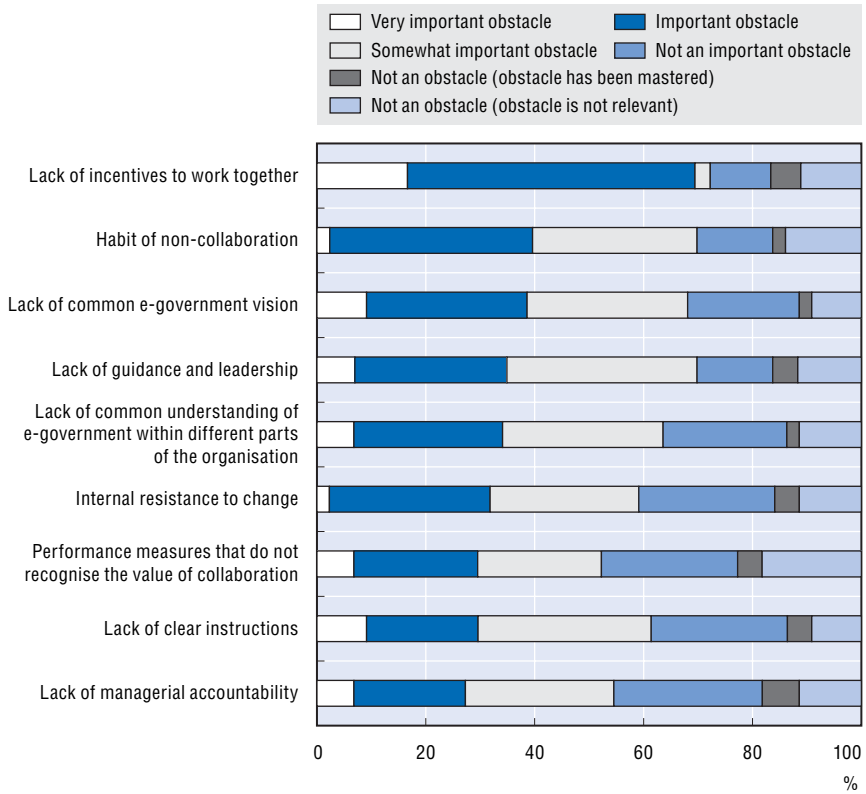
Obstacles to collaboration

The principle obstacle preventing collaboration among agencies on e-government is the lack of incentives to work together – the single most important challenge to collaboration, according to 67% of respondents (Figure 6.1). About 40% indicated a lack of habit for collaboration and the lack of a common e-government vision as very important or important obstacles.

One of the most important incentives for collaboration is the reduction of overall organisational cost. In the area of procurement, in the past the government used framework agreements for major IT purchases. This has allowed small agencies to benefit from economies of scale and simplified procurement, while eliminating the need to negotiate prices on multiple levels. The current government has taken a different view of the costs and benefits of this type of approach, and has terminated these agreements. In eliminating one of the major ones among them, the government cited competition concerns and the need to create an environment in which open source solutions can develop. To date, anecdotal reports are that this has not increased competition or innovation, but instead raised costs for agencies purchasing that particular product. The Association of Regional and Local Authorities has played an innovative role in negotiating its own agreement on behalf of local governments and some central government agencies have expressed an interest in joining the agreement.

The lack of a common e-government vision as an obstacle to collaboration may indicate a perception that the current e-government vision is not sufficiently focusing on enhancing collaboration among agencies to

Figure 6.1. **Obstacles preventing collaboration across agencies**



Source: OECD E-government Survey: Norway.

support e-government development. The traditional independence of ministries and agencies means not only that is there little experience with collaboration, but also that the agencies do not know how to begin. Faced with everyday operational pressures, establishing collaboration becomes a low priority unless outside pressure provides a force (and roadmap) for change.

6.5. Partnering with the private sector

In Norway, public-private partnership arrangements in the area of e-government are still new to a large majority of ministries and agencies. Few respondents to the OECD survey indicated having partnered with the private sector or that they are planning to engage in such a partnership. The result seems to suggest that the decision to partner with the private sector is more linked to organisations' current activity or budget cycle than to a long-term strategy.

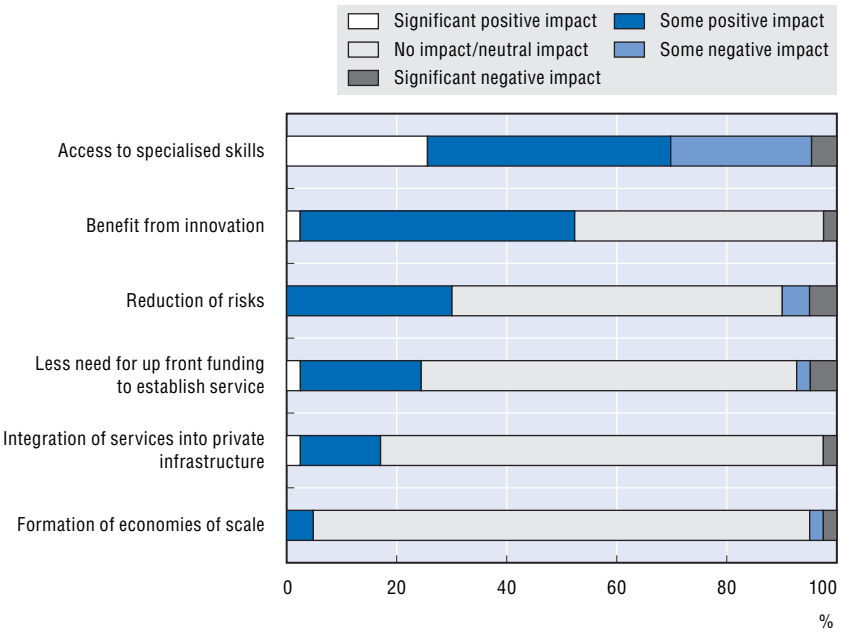
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Areas of partnership with the private sector

The OECD survey also indicates that current partnerships are likely to take place especially in three areas: realisation of joint projects/services (43%), contracting out service technical maintenance and development (43%) and acquisition of private sector skills (39%). As indicated by the survey results, partnership arrangements are less likely to be focused on realising an integration of structure and operations for the delivery of services. The results are not surprising given that most of partnerships with the private sector are taking place in support areas that are traditionally outsourced (*e.g.* IT system maintenance and skills).

In the area of the protection of the environment, the Pollution Control Authority developed a database that has been built in co-operation with the private sector. Private firms report to the authority on the level and quality of the emission of polluting substances and help maintain the database. The Tax Administration has continuous contact with the vendors of the accounting system in order to get an update on the accounting principles used by the companies. The Tax Administration has built up systems for reporting from banks and employers and for the regular payments during the year from companies. The electronic filing of information is also outsourced (they have a daily file transfer).

Figure 6.2. **Impact on public-private partnerships**



Source: OECD E-government Survey: Norway.

While only about 40% of the OECD survey respondents indicated that the acquisition of private sector skills was an area where government organisations partner with the private sector, this is perceived to be the single most important area where partnership has the strongest impact. It confirms the perception from interviews with government officials that agencies are lacking technical IT skills and the capacity to manage e-government processes and frameworks; they are increasingly looking to the private sector as a provider of skills and expertise that they lack internally. This can be also suggested by the recent restructuring of Statskonsult, which seems to have reduced central government's role in providing guidance and assistance to agencies in the development of IT skills.

Obstacles of partnering with the private sector

The survey indicates that the biggest obstacles of partnering with the private sector are the lack of economic incentives to engage in such partnerships and the internal resistance to outsourcing (nearly 20% indicated them as a very important or important obstacle). Other important obstacles to public private partnerships are the lack of accountability mechanism (16%) and the lack of legislative and regulatory framework (14%). Managing partnerships with the private sector is indicated as a less important obstacle (Figure 6.3).

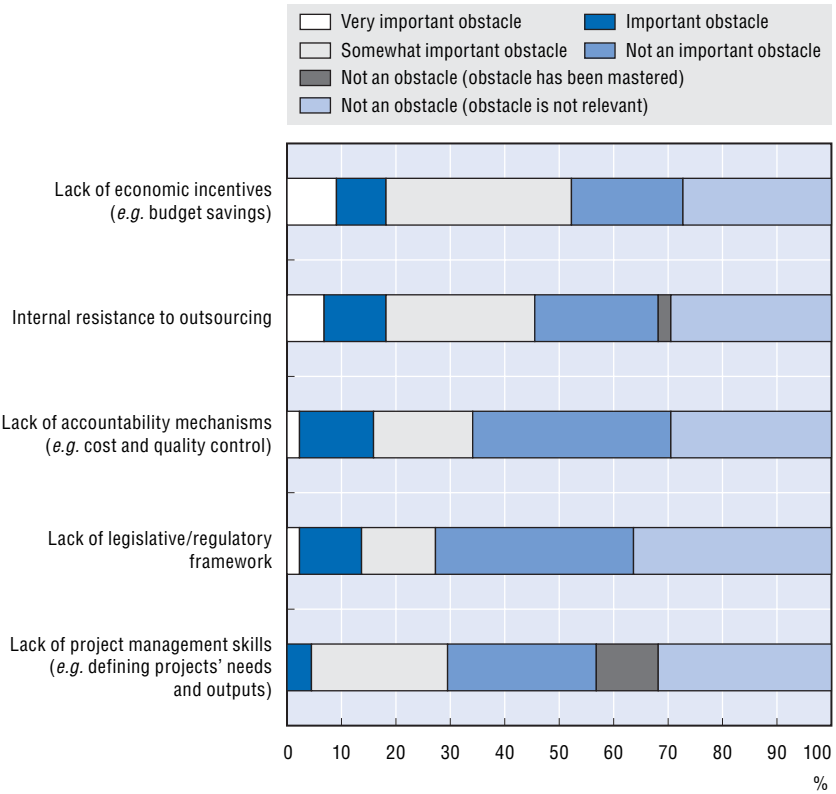
6.6. E-procurement

The government has developed a solid e-procurement solution, but take-up at the ministry and central agency level has been slower than expected. The e-procurement solution is, surprisingly, most used by local and regional authorities. This shows that e-government change is not only about finding good technical solutions but also about getting organisational buy-in. Improved take-up of e-procurement solutions depends on better communication with agencies about the benefits of e-procurement and an improved justification of the return on investments for joining the national e-procurement system. A recent focus on getting ministries to support agency adoption of the national system may also build take-up.

The e-procurement programme started in 1999 with the goal of establishing a technical platform for public purchasing in order to make public procurement more efficient. The former Ministry of Labour and Government Administration established the service and set up the legal framework, while service provision was operated by a private business organisation.

The system supports the ordering phase, not the actual procurement. The e-procurement system consists of a web-based ordering system (which can be replaced with agency internal systems where available) and an

Figure 6.3. **Obstacles of public-private partnerships**



Source: OECD E-government Survey: Norway.

e-commerce platform (including a transaction engine and content layer). An increasing number of public entities use their own internal system, but connect it to the same e-commerce platform. The e-procurement solution can be either a fully Internet-based system with all of the functionality on the operator's servers, or it can be integrated into an agency's internal financial systems or systems for electronic handling of invoices. On the selling side, they can receive orders by e-mails, use the web interface, or integrate the order flow with their internal systems. Most suppliers are using e-mail or the interface for ordering rather than communicating through their own system, but as their volume increases they are now in a position to start considering investment in the integration of the internal system. Fees for using the system are based on the size of the agency. On the selling side, several price models exist, based either on fixed prices per customer or on activity. Special price models for SMEs are also available.

Take-up of the e-procurement solution from government agencies has been low. Thirty public entities use the system, 25 of which are local and regional authorities (including seven of the biggest municipal authorities). Some of the smaller authorities already have their own co-operation agreements (6-12 local authorities) for purchasing, and they are planning to go into e-procurement in a collaborative manner.

The low take-up from government agencies may focus attention on the need to better communicate the benefits of joining up the system. The e-procurement website provides users with analytical tools to calculate the benefits of using the system and the return period for investments. 25/30 public entities have made this calculation and they have found, with one exception, that the return period for their investment is only 24-30 months. However, interviews with government officials responsible for e-procurement show that one of the key issues is to identify the right person handling e-procurement in government agencies. Another problem seems to be getting support from ministries that have been so far hesitant in using the e-procurement solution. Recent focus on getting ministries' support may build take-up.

Key points 6.3

- ***E-procurement is underdeveloped and is most used by local and regional authorities. Despite demonstrated return on investment, there is a need to better communicate to agencies the benefits of joining the national e-procurement system. As the key actors for adopting e-procurement are located within agencies, ministries are perhaps best placed to identify change agents and to exert pressure for change. Recent focus on getting ministries' support may build take-up.***

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APPENDIX 6.A1

Examples of Common Systems for E-government

Box 6.2. **The Land Information System in Norway**

Closely aligned, interlinked databases can provide value-added services to citizens and businesses at a low cost to government, while continuing to protect data security and privacy. One example is the Norwegian Land Information System, composed of three registers: 1) the Land Register (under the National Mapping authorities/Cadastre Agency); 2) the GAB register/ Cadastre register (under the National Mapping Authority); and 3) the EDR register (under the Ministry of Justice). The Land Register contains information on land owners and rights in property; the Cadastre/GAB register contains "technical" information about ground parcels, addresses and buildings; the EDR register contains all property information of the GAB register and also information about titles, mortgages and rights.

The Land Register and the Cadastre/GAB Register are in digital form and combined into a joint online service to users. Due to fundamental differences in the legal principles guiding the two registers, the Land Register and the Cadastre are kept as separate registers, but under the same organisational umbrella. The operations of the two databases are outsourced to a state-owned company, Norsk Eiendomsinformasjon Ltd, in order to facilitate an integrated online service. Users can subscribe to an online service in order to obtain information contained in the registries, or order various types of paper reports. Around 1 million transactions are registered per year; the registration fees range between 100 and 150 euros, and the average registration time is 1.2 days.

The EDR register holds the operational responsibility for the Norwegian Land Information System (*i.e.* system development, maintenance and distribution of information to all professional users within public administration and private companies). The EDR has an exclusive right and duty to distribute the information to the market and this is done directly to the end-users and through a dealer network. The register has created a website (*www.infoland.no*), which is the main market place for land information in Norway. From here the customer can order information (plans, maps, drawings) from municipalities, market value information and analysis, aerial photos, etc. The portal also takes care of system administration, accounting and logistics between customers and suppliers. The EDR register has also been given the responsibility of supporting the public bodies responsible for registration with systems and quality assurance projects, maintaining a high level of accessibility to information and developing different interfaces to support the market in covering different needs for utilisation of the information.

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Box 6.3. **A common framework for access to geo spatial information: the GEO Portal**

The main purpose of the Geo Portal is to provide access to geospatial data and information, usually protected by government copyright. The Geo Portal is a co-operative project between several national, regional and local agencies and communities – *e.g.* the Digital Norway* – and is co-financed by the Norwegian Research Council. The project started in 2003 following government's white paper "Norway Digital", which presents a strategy for managing geospatial information. The Norwegian Mapping Authority has taken the responsibility for developing the portal, contracting out to a Norwegian ESRI distributor (Geodata AS) to develop the geoPortal based on the Arc_IMS portal toolkit. The Norwegian Mapping Authority is running the portal on behalf of and in co-operation with Digital Norway.

In January 2004 the Geo-portal was pre-launched as a key element of the Norwegian NSDI (National Spatial Data Infrastructure). The information that can be downloaded from the portal is used under the responsibility of each individual, but has to be in line with the "privacy/person protection law". The user is not allowed to copy, distribute or use the data in a commercial way and requires special authority from the appropriate data owner.

The portal has six main functions: 1. Map showing allows the user to see a wide range of national and local data sets and combine data according to OGC (Open Graphics Consortium) and web map server criteria. 2. Search pages allow the user to explore a wide range of geo data. The information varies from interactive Internet map services to printed maps and publications. 3. Active search is a complex search engine, where you can search for geographical areas, content or period in time. The search results are shown with metadata, including a link to a relevant map service. 4. Study metadata; the metadata is shown in three levels – from a level with five or six information points to a very detailed level. 5. Search on theme/main categories (national, regional or local). 6. Publish data; all producers and copyright holders of geo stated data can publish the information on the portal. This active participation by the partners has been a success story.

* Digital Norway is a co-operation between all public organisations holding geo data responsibility or that are big users of geo data. The co-operation was put in action on 1 January 2005. All partners in Digital Norway will have access to basic geo data and geo data sorted by theme. The Norwegian government has the overarching responsibility for the steering of Digital Norway through the state budget and the ministries with their underlying agencies/organisations. The Ministry of Environment is the main responsible ministry and is functioning as the co-ordinating body.

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Chapter 7

User-focused E-government

In common with most OECD countries, a real understanding of user demand has not yet become a major driver for e-government in Norway. Despite Norway's high Internet penetration and the readiness of the population to use the Internet, limited efforts have been undertaken at the central government level to understand user preferences and needs with regard to online services. Government has put great emphasis on helping orient the user as a key element of e-government strategy, but few agencies have taken concrete steps to engage the user in the development of e-government services. In terms of simple one-way electronic data reporting systems, Norway has made significant progress in developing common solutions for serving both citizens and businesses (e.g. ALTINN, the business data reporting system). However, when it comes to provision of advanced interactive online services, development has been less rapid. In Norway there are also relatively few projects to improve citizen online consultation and participation in policy making being undertaken by central government.

Most OECD countries are structuring e-government around a focus on the user. The aim is to create value for users of public services by providing efficient, easily accessible and high-quality public services that are developed and delivered to meet the real needs of users, not government agencies. This chapter looks at the extent to which Norway has developed a user-focused-approach in implementing e-government. In particular it examines 1) what central government has done to understand the demand for e-government and anticipate user needs and 2) the extent to which available services are accessible, respond to high-quality standards and are organised around citizens' needs (*e.g.* around life events). The chapter also looks at the measures taken by government to improve online access to information and openness in government and to foster online public consultation and participation in policy making.

7.1. Demand for e-government services

Understanding the demand for e-government services is an important aspect of the user-focused approach and the first step in building up services that meet user needs and expectations. While the number and range of online services currently available – and users' experience with them – can provide an indication of the current level of demand, a clear understanding of users' profiles, needs and preferences can help in designing and developing new online services.

In common with most OECD countries, in Norway there is limited knowledge about the overall demand for e-government services, although a number of surveys have provided a general indication in terms of the population served by government online. A government-sponsored survey carried out in 2003 showed that Norwegians are very likely to be online (69%) and that those online are highly likely to use e-government (85%).[1] While this indicates that Norwegians are willing to use the Internet to interact with government, national statistics show that only 50% have done so at some time.[2] These figures point to a considerable potential demand for e-government services.

This lack of knowledge indicates that, as in most OECD countries, a real understanding of user demand has not yet become a major driver for e-government development in Norway. This is also suggested by the results of the OECD survey, which indicate that:

- Responding to external pressure from citizens and/or civil society and businesses is considered to be a less important reason for the implementation of e-government.

- Only a few respondents state that citizen (5%) and business (9%) demand represent the most important drivers for e-government in their organisations.

Main features of the demand for e-government

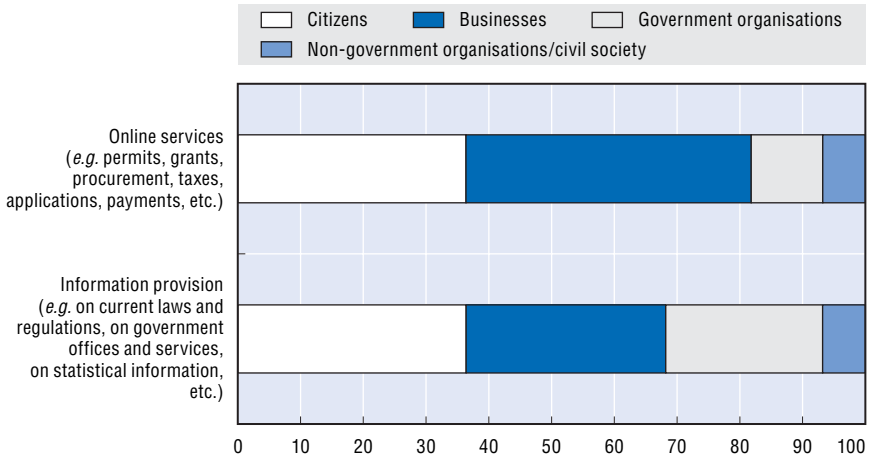
The OECD survey provides a mixed picture of the demand for e-government as experienced by government organisations. While respondents indicate experiencing the largest demand for online services from businesses (*e.g.* permits applications, tax declarations), the demand for information provision is more equally spread between citizens (36%) and businesses (31%) (Figure 7.1).

This may be due to the fact that, as in other OECD countries, businesses are 1) better organised to articulate demand for electronic services, 2) have in general more numerous and more frequent interactions with government than they do with citizens, 3) have greater incentives to interact with government online (*i.e.* through reduction of the cost of transactions), and 4) have a greater access to ICT than citizens. Ninety-seven per cent of large businesses in Norway with more than 100 employees have Internet access, and 76% of small businesses (5 to 9) reported having access.[3] In contrast, as mentioned before, about 55% of households have access to the Internet.

Understanding the demand

In Norway most of the organisations use traditional techniques to understand user demand. Most respondents indicated customer surveys (66%)

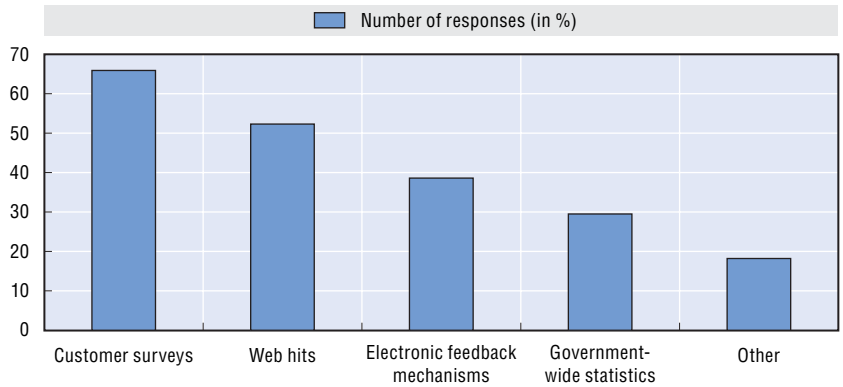
Figure 7.1. **Demand for e-government**



Source: OECD E-government Survey: Norway.

as a tool. Respondents also indicated using web hits and electronic feedback mechanisms as instruments for collecting information on the user. Government-wide statistics are considered less popular tools (Figure 7.2). Statistics Norway has conducted a survey on ICT utilisation in public administration and in municipalities. However, these surveys do not specifically address the issue of understanding user preferences and the demand for e-government services.

Figure 7.2. **Mechanism to understand user demand for e-government**



Source: OECD E-government Survey: Norway.

Constraints on demand

The biggest single constraint to customer demand (according to the OECD survey respondents) is that services are not sufficiently joined up. E-government offers new opportunities to develop services that are organised and delivered according to user preferences. Norway has made some progress in developing joined-up services organised around service users (*e.g.* through portals). However, there are still a relatively limited number of organisations that currently provide joined-up services with other organisations.

Among other factors constraining demand, the lack of awareness of online service availability is perceived to be one of the most important, according to OECD survey respondents. All else being equal, the more those users have experience with online services, the greater the support and demand for e-government. This can have implications in terms of developing a proper policy and activities designed to increase the visibility of online services, especially to citizens that are likely to have less interaction with government.

Government has been active in this area by developing, in 2002, the public sector information portal which provides a first access point to public

sector information in Norway and guides citizens in the identification of public information and services (see Box 7.1). Interviews with government officials indicate, however, that the portal is not very well known by agencies and ministries and budgets for advertising may be limited. This is confirmed by survey results showing that only about 40% of respondents are likely to have their organisations website linked to or be linked from the public sector information portal.

Box 7.1. **The public sector information portal: Norge.no**

The Norwegian public sector information portal (Norge.no) is a link-based portal which provides a single "electronic" front door to the public sector and help the user identify public services and information in Norway through links to public organisations' Web sites at all administrative levels and sectoral areas (*e.g.* health, education, central government, local government, etc.). The portal contains a search engine that facilitates the search and collection of information on public sector organisations, services, laws, regulations, duties, rights, etc. The portal does not contain original content nor downloadable documents from other organisations, but links to external websites that belong to the public sector, including: public administration agencies and enterprises, the Norwegian Royal Household, state-owned enterprises, trusts and organisations connected with the public sector or with special tasks of national importance.

The portal was launched in 2000 as part of a government initiative in co-operation with the Norwegian Association of Local and Regional Authorities (KS) and other public authorities (*e.g.* the County Governor, Western Norway Research Group and Statskonsult) and vendors. The portal was designed to give citizens and public sector employees a comprehensive view of public administration in Norway. Following an evaluation exercise, the project has been reorganised and transformed in a public agency under the Ministry of Modernisation beginning from January 2005 with the objectives of 1) helping simplify the process of making use of public services and obtaining information; 2) inspiring more public sector organisations to appear on the Internet; c) improving the quality of public services by providing a single gateway to the public sector on the Internet. The portal is run from the County Governor's Office in Sogn and Fjordane.

Norge.no also provides a help desk that assists the citizen in searching and retrieving information, gives advice on specific information (*e.g.* interpretation of a Norwegian law) and helps the user identify and get in contact with the right public agency. The help desk can be accessed by phone, e-mail, sms, chat, fax or letter. Users of the help desk are kept anonymous. In addition Norge.no provides e-chat, SMS and e-mail services. Norge.no has also launched an English version of the site (*www.norway.no*).

The release of the first version of the citizen portal "Min Side" (see section on enabling joined up services), which is planned in June 2005, will use Norge.no as access point for public services from government and municipalities.

Another constraint on e-government demand is that online services are not seen by the public as being sufficiently advanced. The European Commission's 2004 eEurope benchmarking exercise shows that Norway ranks relatively highly (6th position) in terms of the "sophistication" (*i.e.* degree of interactivity) of online services it provides to both citizens and businesses. While benefits for users do not necessarily increase along with rising service sophistication, the development of such services is nevertheless key to meeting the expectations of many users of e-government. Government organisations' perception that a lack of advancement of e-government services constrains demand for them may simply indicate that they are aware of increased levels of user expectations, and that they feel a need to keep up with these expectations in order to increase the take-up of online services. This is in line with the 2003 *eNorway Status Report* which warned that, although Norwegians are among the most active populations when it comes to using government services online, there are reasons for thinking that the services provided by the state are not developing in line with demand.[4]

7.2. Providing services to citizens and businesses

Despite the fact that the largest demand for e-government services comes from businesses, the OECD survey shows that ministries and agencies are more citizen- than business-oriented in the delivery of public services. Seventy-two per cent of respondents reported providing services to citizens (G2C), 63% reported providing services to businesses (G2B), 64% to government organisations (G2G) and 58% to non-government organisations.

However, in terms of development of simple one-way electronic data reporting systems, Norway has made significant progress in developing user-focused solutions for serving business. One example is the ALTINN system for reporting business data (see Box 7.2). When it comes to the provision of interactive online services, development has been less rapid. The impact of electronic services delivery on the front office of e-government is relatively new and few evaluations have been done so far to measure its impact and benefits.

7.3. Developing quality services

One of the key aspects of user-focused e-government is the provision of services that meet a high standard of quality. Almost 60% of survey respondents reported a positive impact of e-government on the technical quality of services (*e.g.* service reliability). Almost 60% of respondents reported including technical quality of services as a criterion of e-government evaluation.

Box 7.2. **Common solutions for businesses: ALTINN**

Altinn is a common Internet portal for public reporting, created in 2002 by the Norwegian Tax Administration, Statistics Norway and the Brønnøysund Register Centre. Its aim is to ease the burden of public reporting by enabling it to be done electronically, implying improved data quality and lower costs both for the submitter and recipients of the reports.

The portal was officially launched in December 2003 and has been in full operation throughout 2004. The responsibility for administering and developing Altinn is allocated to the Brønnøysund Register Centre. At the launching of the portal 85 different public forms were available; during the first six months of 2004 more than 1.7 million forms have been submitted through Altinn and the amount of compulsory forms submitted electronically is constantly growing. As an example, nearly 200 000 Norwegian enterprises handed in their tax reports through Altinn in 2004, which represents 50% growth from the year before. The types of reports that can be sent are VAT returns, annual accounts, wage and absenteeism statistics, company and self-employed tax returns, etc. The Altinn forms all have the same design.

The users of Altinn can either fill in the forms directly on the Internet portal or use their own IT systems to transfer data, for example salary and accounting systems or a year-end accounting package. The companies' own IT systems can transfer pre-filled forms to the portal through a simple interface; the forms can subsequently be completed and signed in the portal. The user also gets an automatic note of forms when deadlines are imminent and necessary online guidance on what forms to send to which public agency. All forms contain relevant information that already exists in the public IT systems and registers. The forms are dynamic so there is no need to answer questions that are not specifically related to the user.

Altinn is a 24/7 solution based on a .NET platform. The solution is an open standard (XML, SOAP) solution, and integration with the IT systems for the enterprises is implemented through the help of web services. Altinn is designed for any security level and the software ensures that access to and treatment of data are restricted to people and software with proper access rights. Security mechanisms are incorporated for secure storage and tracking of data.

The plan for the future is to incorporate most of existing public forms in the portal and the number is constantly growing. Even citizens will in the future be able to use Altinn as the goal is to create a "Highway for collection of information". User feedback enables continuous improvement of the user interface.

Source: www.altinn.no.

Few quality assessment exercises have been undertaken at central government level in 2001. The government portal (Norway.no), in collaboration with the Western Norway Research Institute and Statskonsult, undertook an assessment of government websites on the basis of quality criteria. Five hundred and twenty nine government and municipal organisations were assessed and were given points ranging from 1 to 6 stars. The results show that most of the websites fell in the middle category (3 stars) with few achieving either 1 or 6 stars.

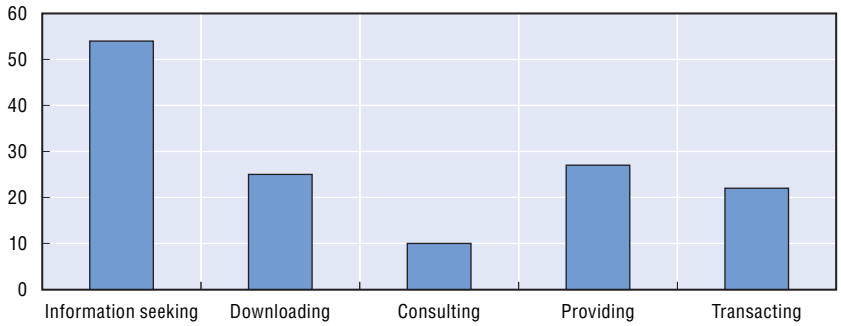
7.4. Access to electronic public services

In Norway the government has adopted a "no wrong door" policy regarding access to public services. Citizens and businesses can access public services through different channels (*e.g.* Internet, telephone, in-person, etc.). The OECD survey shows that lack of customer access to the Internet is not perceived as an important constraint by 69% of respondents.

A survey conducted in 2003 indicated that Norwegians prefer to use the telephone and the Internet when contacting public authorities and are more likely to use the Internet for seeking information rather than transacting with government online (Figure 7.3). Reasons could relate to lack of users' experience and skills with regards to e-commerce and e-government. The OECD survey indicates that more than 50% of ministries and agencies consider "inexperience regarding the use of online services or lack of the necessary skills" as being a constraint for consumer demand. Another reason could be lack of services of this type.

In Norway, as in most OECD countries, the Internet has become the main channel for the delivery of electronic public services. From the OECD survey it emerged that government organisations provide most of their electronic

Figure 7.3. **What Norwegians do when they interact with government online (2003)**



Source: TNS (2003), Government Online: an international perspective.

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services through Web sites (77%) and online portals (43%), while the use of voice services, SMS and WAP as service delivery channels is still relatively limited (Figure 7.4). Given the high penetration of mobile phones in Norway, this result indicates that solutions could be further explored to increase the provision of electronic services through these channels. An example of use of SMS to deliver public services is the electronic submission of tax: users can choose to submit tax declaration by phone, SMS or over the Internet.

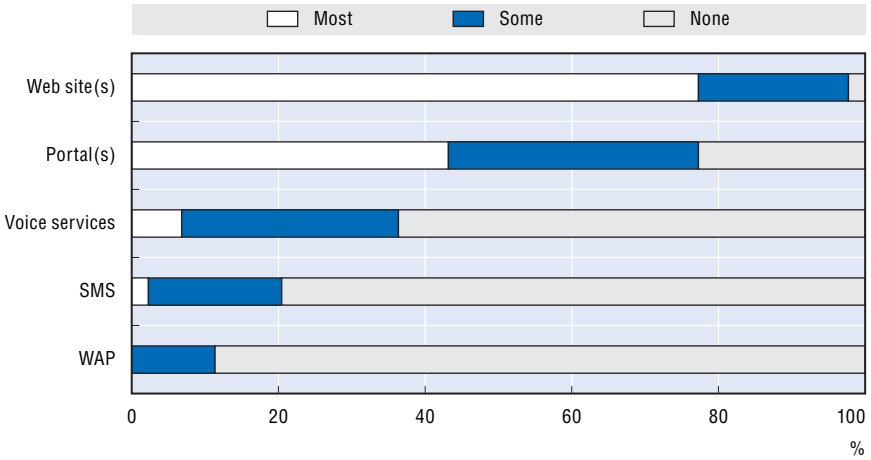
Traditional and electronic channels for the delivery of public services co-exist in Norway. Only 40% of the survey respondents reported providing some services exclusively via electronic channels.

7.5. User-focused e-government strategy

User orientation of services is well integrated not only in e-government policy documents but also in the broader vision for public sector reform. Government policy documents mention the use of systematic user surveys for public agencies in order to understand user needs and stress the importance of adjusting services to individual needs.

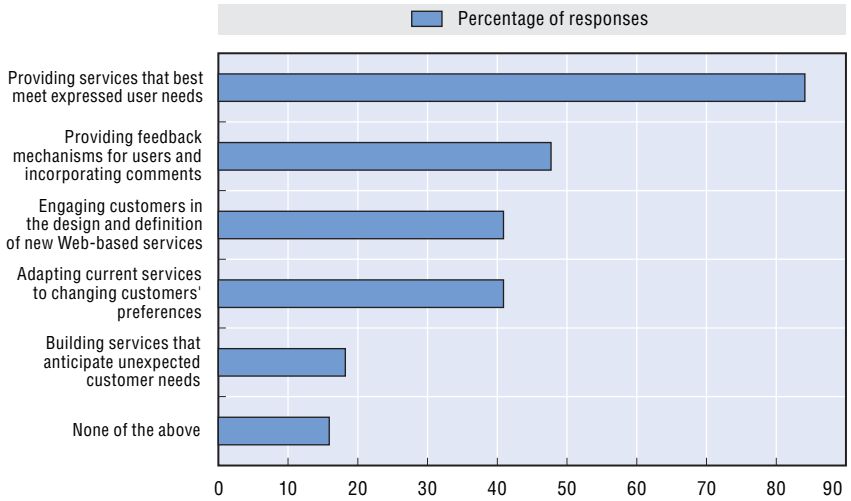
However, individual organisations have set limited objectives concerning the implementation of user-focused e-government. The OECD survey showed that 84% of the respondents reported that their e-government strategies included the generic goal of providing services that best meet user needs, while less than 50% of respondents reported that their e-government strategy explicitly "provides feedback mechanism for users" or "engage[s] customers in the design and definition of new web-based services" (see Figure 7.5). OECD interviews with

Figure 7.4. **Channels for e-government in Norway**



Source: OECD E-government Survey: Norway.

Figure 7.5. **User-focused e-government strategy**



Source: OECD E-government Survey: Norway.

officials suggest that agencies seem to be lagging behind in terms of anticipating user needs and involving users in the definition of services. They are more likely to use instruments for understanding user demand that concentrate on the population already being served by e-government, not on potential new users. This seems to be suggested by the use of customer surveys (66% of respondents), web hits (52%) and electronic feedback (38.6%) as mechanisms to understand user demand. Gallup Norway conducts regular survey on users of the student loans and grants system developed by the State Educational Loan Fund (SELF), which also has established a user group services.

Key points 7.1

- ***Despite Norway's high Internet penetration and the readiness of the population to use the Internet, too few efforts have been made when it comes to finding out what the users/customers really want.***

7.6. Enabling joined-up services

Implementing user-focused e-government requires governments to organise services around citizens needs, not around government structures. This requires government agencies to be able to work together in the provision

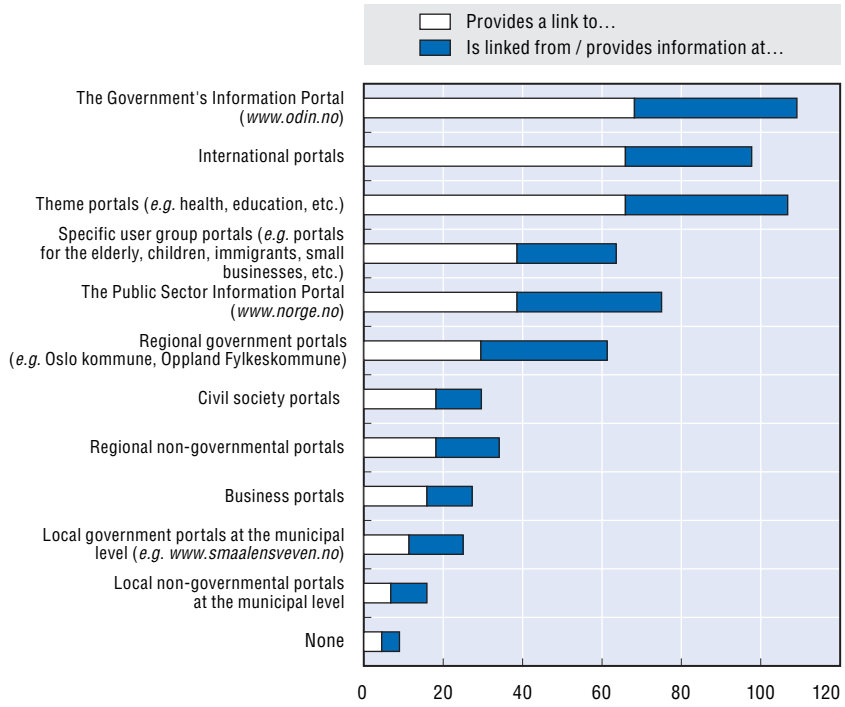
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of services. One of the solutions adopted by most government agencies is the development and implementation of service portals that link agency Web sites and provide single points of access to government services for citizens and businesses.

As in most OECD countries, in Norway portals have become a common tool to provide citizens and businesses with access to information on public services and government activities. The OECD survey shows that very few respondents (4.5%) reported that their organisation Web site is not linked to any portal, while most of the organisations reported being connected to some kind of portal. While most government organisations (68% of respondents) are likely to be connected to the government portal (Odin.no), a large number of ministries and agencies also reported providing links to thematic and international portals (Figure 7.6). The Ministry of Agriculture is linked to and contributes to the Ministry of Foreign Affairs' portal (*www.norway.info*).

However, building user-focused e-government requires that agencies and ministries go beyond simply aggregating information into a single location and organise and present information and services in a user-friendly way in

Figure 7.6. **Portal connectivity in Norway**



Source: OECD E-government Survey: Norway.

Box 7.3. **E-government Portals in Norway**

- **The Government information portal (Odin.no):** provides access to information on government activities and links to ministries' Web sites. The portal is intended to make information and news from the government and ministries available on the Internet in the interests of having a more open and accessible central government. Odin.no is a joint electronic information service for the government and ministries and is managed under the responsibility of the Ministry of Modernisation. Each ministry has its own editorial office and is responsible for providing the content.
- **The Norway portal (Norway.info):** provides a single point of entry to Norwegian embassies' Web sites by geographic area. The Portal is also organised around a common graphic interface and structure for all embassies and representatives and provides a comprehensive collection of articles and background information about Norway written by specialists in various fields.
- **Smaalensveven.no:** is a regional, public Web site for ten municipalities in inner Østfold. In addition to joint pages for the region, each municipality has its own home page. The main themes for the portal are public services, recreation, culture and business. The portal is financed by the ten municipalities taking part.
- **Ehandel.no:** is the portal for the e-procurement initiatives of the Ministry of Modernisation. It contains editorial material on the usage of e-procurement in public sector entities and their suppliers, gives guidance on how to start trading electronically, presents case descriptions and access to an operational e-procurement tool. The main target groups of the portal is public sector entities, suppliers to the public sector and management/technical consultants that want to offer e-procurement implementation services to both parties.
- **The Health Portal** (Helseportalen): provides information on health, food and food supplements. The portal also functions as a medium for organisations, suppliers and other institutions in the health food sector. Emphasis is placed on quality assurance of natural products and dissemination of information on research in this area (the portal is privately financed).
- **The Youth Portal (Ung.no):** is a portal for governmental information on the rights, possibilities and obligations of young people. The portal is a gateway to all the kinds of information that a young person might need and is especially target to youths between 14 and 20 years old.
- **Kunnskapsnettverk:** is a portal solution that focuses on building horizontal knowledge and learning networks across Norway's municipalities. The portal connects different networks' private and virtual workspaces and the public portal. Network members and their competences, experiences and contributions appear on the Web, making human capital visible and accessible.

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accordance with citizen needs (*e.g.* by organising information of services around life events). The norge.no portal features this type of organisation.

Concerning initiatives at central government, the Norwegian government seems to be moving faster in implementing initiatives aimed at ensuring that public services are easily accessible, sufficiently joined up and based on user requirements. The government is currently working on setting up a service oriented architecture around a brand new citizen portal (Min Side) that will focus on cross-government services and will be launched by the end of 2005. While in the first phase Min Side will offer a number of limited services only from central government agencies, in the second phase local Min Side will offer services from both central government and municipalities. The government has also assigned the newly established agency Norge.no the responsibility of developing evaluation criteria of public websites, with the purpose of setting up shared standards for testing the user-friendliness and availability of services.

The government has also given Norge.no responsibility for the "Life IT" (LivsIT) project. LifeIT is a standard way to get information from the whole public sector through municipal portals. Municipality portals that adopt these standards receive and display information organised around different life situations (*e.g.* marriage, parents, unemployment, etc.). The standards are developed and managed by Statskonsult.

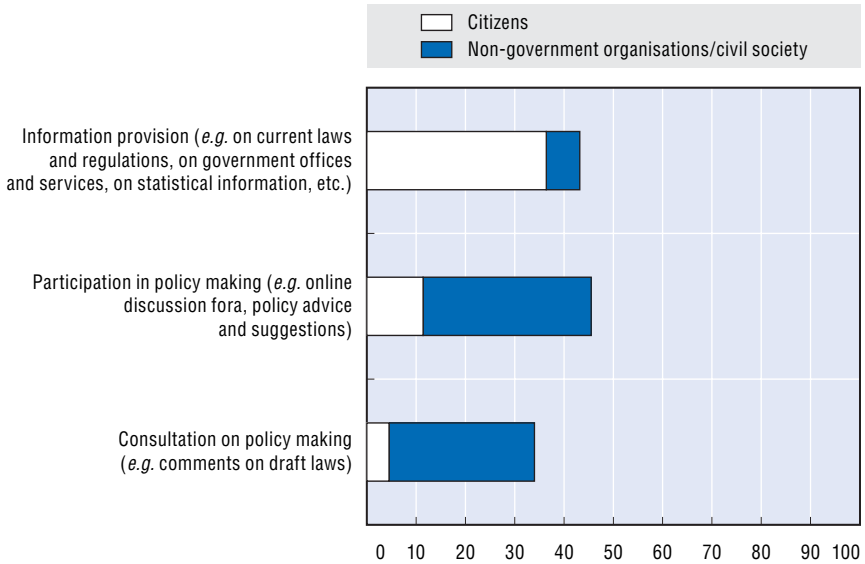
Joining up information and services through portals requires a high level of collaboration between agencies, both on technical (*e.g.* data standardisation) and non-technical (*e.g.* setting up responsibilities for updating info and links) aspects of a project. In Norway collaboration among agencies is relatively high in the area of establishing common portals. In the OECD survey, when asked about the extent to which they collaborate in selected e-government areas (*e.g.* IT infrastructure, technical standards, etc.), survey respondents indicated that "establishing common portals for the delivery of seamless services" is one of the principle areas where they are currently working together (36.4%).

7.7. E-engagement initiatives in Norway

The use of ICTs in government has the potential to expand the scope, breadth and depth of government interaction with citizens and other key stakeholders.

In Norway there is a limited level of citizen engagement through ICTs. There are relatively few projects being undertaken by central government to improve citizens' online consultation and participation in policy – making. Most e-government initiatives that do exist are targeted to providing information to citizens, rather than engaging them in e-consultation and e-participation.

Figure 7.7. **Demand for e-engagement activities in Norway**



Source: OECD E-government Survey: Norway.

Government seems to be experiencing a low demand for this kind of activity. The OECD survey shows that while respondents experience request for information as the largest demand coming from citizens (Figure 7.1), 11% reported receiving demands for participation in policy making (*e.g.* through online discussion forums, policy advice) from citizens and less than 4% of respondents experience citizen demand for online consultation (*e.g.* comments on proposed legislation). In each of the areas of active participation agencies face more demand from civil society organisations than from individuals (Figure 7.7).

E-engagement activities in Norway are more likely to support e-government at local level. A project of the Ministry of Children and Family Affairs is looking at how ICT can be used with local and regional authorities to get young people interested in politics and to participate in local planning. Experiments on e-voting have also taken place at the local level (see Box 7.4).

The low level of demand for e-engagement activities in Norway can be explained and better understood in light of the current debate on the condition of democracy in Norway. The conclusion of a recent report on Power and Democracy in Norway[5] stated that parties and non-government organisations have weakened as channels for broad-based public movements. In this context, e-government and ICTs can be important instruments to facilitate the channelling of ideas and enhance public debate and participation in decision-making processes in government.

Box 7.4. **E-voting in Norway**

The Ministry of Local Government and Development accepted pilot projects in three municipalities at local elections in 2003. Voting in the pilots was carried out in the polling stations using voting machines with touch screens. An evaluation of the tests showed that the system was well accepted by the electorate and local election officers. However, the evaluation report, which followed the pilots, also stated that questions regarding e-voting and security needed further clarification. The Norwegian government therefore has stopped further use of the system until a working group appointed by the Ministry delivers its views on these questions. The working group will submit their report to the Ministry in December 2005.

Source: The Administration and Cost of Election (ACE) Project – *http://focus.at.org/e-voting/countries*.

Notes

1. Government Online Study 2003, TNS Global, 2003.
2. Statistics Norway (2003).
3. Statistics Norway (2003).
4. eNorway Status Report (2004).
5. Power and Democracy – a general study 1998 – 2003, Main findings presented at an OECD seminar in September 2004.

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Chapter 8

Monitoring and Evaluation

With eNorway, the government has been successful in setting up a framework for measuring progress in the development of the information society. As yet however, there is no whole-of-government framework for monitoring progress and assessing the impact of e-government initiatives at agency and ministry level. Few organisations within the Norwegian government have such frameworks. Agencies' results and achievements are often incorporated and described in annual reports but they are de-linked from discussion of targets and goals. Lack of central government guidance and of precise targets and goals have been perceived as a reason for the slowness of ministries and agencies to implement monitoring and evaluation of e-government. Justifying returns on investment has become a key issue for agencies in seeking funds and as part of the overall push for greater efficiency, but, as elsewhere, the methodology is only now being developed. The challenge is how to share the frameworks that have been implemented and the lessons learned.

This chapter looks at e-government monitoring and evaluation activities being undertaken in Norway at the national, ministry and agency levels. It presents the criteria used in monitoring and evaluating e-government, and discusses the extent to which results are made available within government, across government and outside the organisation. It also looks at how responsibilities for monitoring are organised within government organisations.

8.1. Monitoring and evaluation at the national level

Norway has been successful in setting up a system of indicators for measuring progress in the development of the information society, building on the framework set up by the European Union (eEurope). However, a whole-of-government framework for monitoring and evaluating e-government at ministry and agency level is still not in place.

The *e*Norway status report assesses progress on the basis of a number of general indicators set up at national level by Statistics Norway and aligned to those developed in the eEurope benchmarking exercise (*e.g.* percentage of population that regularly uses the Internet, percentage of households with Internet access at home, Internet access costs, etc.). However, while the *e*Norway status report provides a good picture of how Norway stands in terms of key indicators of information society development, it does not give a clear indication of how results have been achieved or evaluated at ministry and agency level. This is a problem in terms of Norway's ability to set the right e-government goals for itself and to know that they are being achieved. Part of the problem is that, as discussed in Chapter 2, *e*Norway sets general objectives and directions but does not specify precise goals, targets or deadlines at ministry and agency level.

Another aspect of the problem may be a lack of central responsibility for making agencies and ministries accountable for e-government. While the Ministry of Modernisation has responsibility for implementing and monitoring the progress of the national e-government initiative, it does not have central responsibility for holding ministries and agencies accountable for reaching certain goals. As a consequence, those bodies seem to be lacking central guidance on monitoring and evaluation – a view reinforced by interviews with officials.

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Key points 8.1

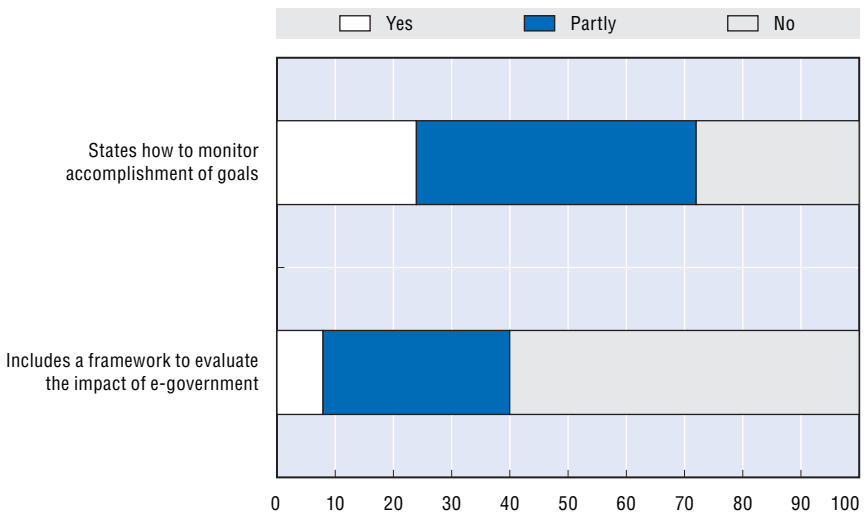
- ***Norway has been successful in setting up a system of indicators for measuring progress in the development of the information society, building on the framework set up by the European Union (eEurope). However, a whole-of-government framework for monitoring and evaluating e-government at the ministry and agency level is still not in place.***

8.2. Monitoring and evaluation at the ministry and agency level

At ministry and agency level, evaluation and monitoring exercises do not seem to be a priority. Survey results indicate that few organisations have included these activities in their e-government strategies. While a majority of the respondents reported having an e-government plan that states explicit goals (62%) and includes a strategy on how to reach them (52%), only 24% reported having an e-government plan that states how to monitor the accomplishment of goals. Even less (8%) stated that they had a framework for evaluating the impact of e-government (see Figure 8.1).

The OECD survey shows that when monitoring and evaluation of e-government takes place, it is more likely to be undertaken as part of the internal activity of organisations rather than as part of a national exercise.

Figure 8.1. **Monitoring and evaluation in the e-government plan**



Source: OECD E-government Survey: Norway.

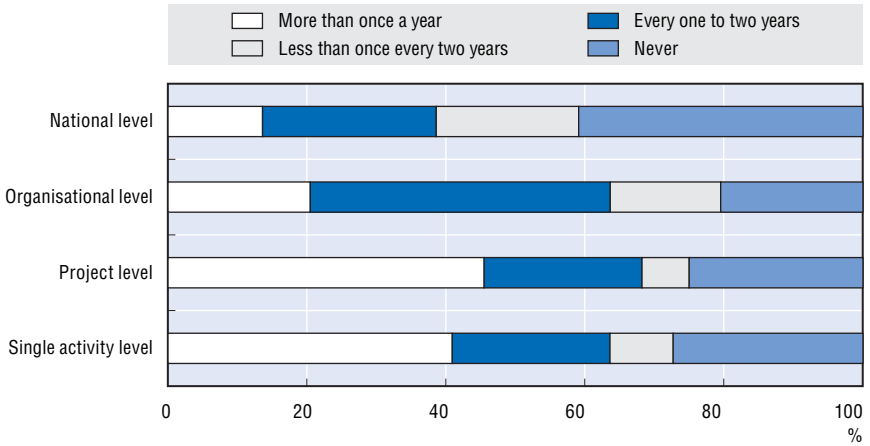
While only 14% of the respondents who indicated undertaking evaluation exercises at the national level reported doing it more than once a year, 45% and 41% of respondents undertaking evaluation processes at the project and single-activity level, respectively, indicated doing so more than once a year (Figure 8.2).

At the project level, there is evidence of external evaluation. The Ministry of Labour and Government Administration asked that IDA (Interchange of Data between Administrations) programme evaluate the first two years of the e-procurement system. The general audit services also performed an evaluation and produced a report in July 2004. The MLGA has performed its own evaluation on e-procurement, doing a call for tender from an outside evaluator.

For the Hoykom programme indicators for quantitative and qualitative benefits have been developed. MoM has formally instructed the program to apply these indicators in all of its projects from 2005 further on.

The survey indicated that more than 40% of respondents had not undertaken any measurement and evaluation activity at national level, presumably because there is no national-level evaluation programme. The very low rate may be related to the complexity and type of evaluations. Most agencies in Norway do not undertake systematic evaluations of their e-government activities, but they report data and figures on activities annually to their ministry. Many agencies are planning to perform evaluation processes, but for most of them no concrete plans exist yet. An example is the Ministry of Foreign Affairs, which is planning evaluation of the new Norway portal (*www.norway.info*).

Figure 8.2. **Level and frequency of monitoring and evaluation**



Source: OECD E-government Survey: Norway.

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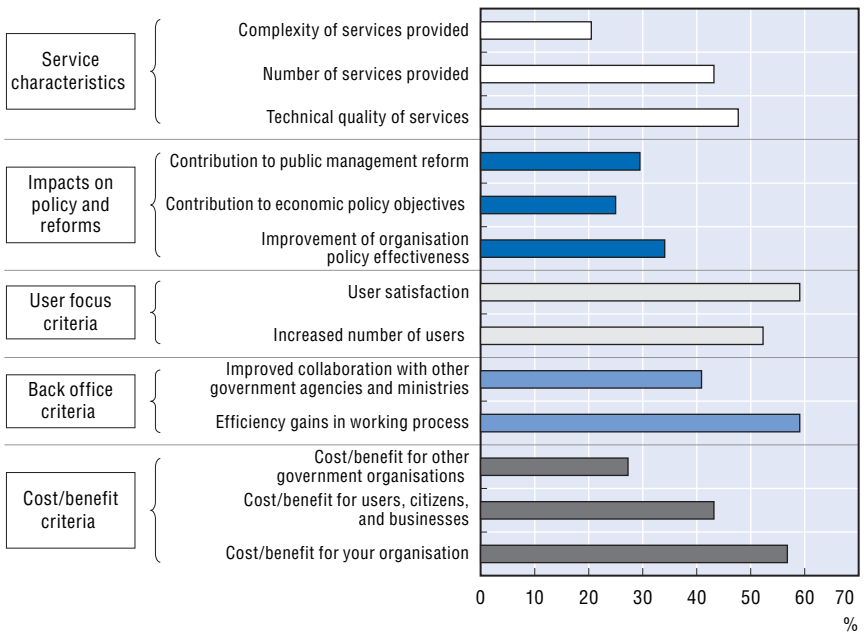
8.3. Criteria included in the evaluation and monitoring processes

E-government monitoring and evaluation activities are linked to the objectives of e-government implementation in Norway, and in particular to enabling efficiency gains and focusing on better-quality services for users. The OECD survey shows that the most important criteria for assessing e-government are efficiency gains in working processes (60%) and user satisfaction (60%). Additionally, a large number of organisations evaluate e-government based on cost-benefit analysis for the organisation (57%) and the number of users serviced (52%) (Figure 8.3).

The most common criterion included in the Norwegian evaluation processes is efficiency gain in the working process (60% of survey respondents). This finding is not unexpected, given the focus on enabling efficiency gains as one of the main objectives for e-government in Norway.

One other principle criterion for e-government evaluation is the benefit to the user, in terms of both quality dimensions (*e.g.* overall user satisfaction) and quantitative dimensions (*e.g.* number of users). As an example, the Tax Administration does a user survey that looks at levels of satisfaction among taxpayers. The survey is outsourced and conducted every third year. This result seems to demonstrate a user service focus that is consistent with the

Figure 8.3. **Criteria used to evaluate e-government**



Source: OECD E-government Survey: Norway.

government's reform vision for the public sector. However, it is not clear to what extent evaluation of user satisfaction feeds into the internal planning and impacts on the provision of services.

Justifying returns on investment has become a key issue for agencies in order to get funding and as part of the overall push for greater efficiency. Cost-benefit analyses are common in the Norwegian evaluation exercises, more so in terms of internal benefits to the organisation than to those accruing to external stakeholders (user, citizens and businesses). Fifty-seven per cent of the survey respondents say that they include cost-benefit for their own organisation and 43% include cost-benefit for the users, citizens and businesses. Twenty-seven per cent undertake cost-benefit analyses that include a focus on the impact on other government organisations. This is consistent with the perception that the presence of unclear costs and benefits of e-government (and the related difficulty of measuring and assessing costs) is not considered to be a very important challenge to e-government implementation by survey respondents. However, it is not clear whether organisations are evaluating costs and benefits using the same standardised criteria across government. The challenge is how to share the frameworks that have been implemented and the lessons learned.

Evaluation exercises do sometimes include the impact of e-government on overall policy objectives, such as economic objectives (*e.g.* economic growth, business productivity) and public management reform issues. 29.5 per cent of the OECD survey respondents answer that they include the contribution to public management reform and 25% to economic policy objectives. E-government is evaluated more on its impact on organisation policy effectiveness than on its contribution to achieving goals external to the organisation.

Key points 8.2

- ***The focus of the evaluation exercises in Norway is closely related with the main goals of e-government, e.g. efficiency gains in working processes, improved technical quality of services, etc.***

8.4. Transparency of evaluation and monitoring results

Sharing results of e-government evaluations outside government can have an impact on government transparency and increase the public's general awareness of the costs and benefits of e-government. The OECD survey shows

that only a limited number of organisations share the results of e-government evaluations (13%) or best practices (30%) with the public. This may indicate the lack of a strong strategy for communicating e-government benefits to the general public. The survey shows that most agencies and ministries do not have a strategy to communicate the e-government plan to people external to the organisation (31% of respondents).

If one look at the sharing of evaluation results within government organisations, the picture is different. The survey shows that nearly 60% of respondents share all the results of evaluation with internal management, and more than 40% of organisations share the same results with all staff in the organisation. This is not surprising given the supposed impact of the results of e-government evaluations on the e-government planning and implementation cycle. Sharing results can also help raise awareness of e-government barriers and bottlenecks and enhance support for cross-agency collaboration.

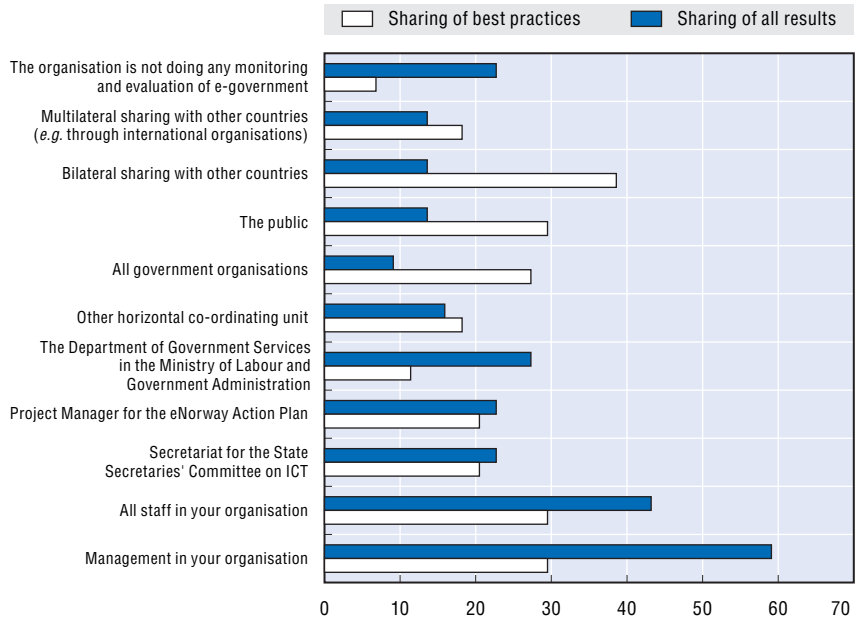
However, when it comes to sharing results outside the organisation with central e-government decision-makers and co-ordinators (*e.g.* Secretariat for the State Secretaries' Committee on ICT, Project Manager for the *e*Norway Action Plan and former Ministry of Labour and Government Administration, Ministry of Trade and Industry), the number of organisations that reported making results of evaluations available decreases (see Figure 8.4). Ministries and agencies are more likely to share cross-government best practice in evaluation rather than all results.

Ministries and agencies in Norway also share the results of e-government monitoring and evaluation activities with other countries and international organisations. However, they are more likely to share examples of best practice than to provide all results of monitoring activities. While only 13% share all results on a bilateral basis with other countries and multilaterally through international organisations, 18% of respondents share best practice with international organisations, and 38% share best practice bilaterally with other countries.

8.5. Evaluation from external audits

Evaluation from external audits is not very common in Norway. About 34% of survey respondents reported never having undergone an external evaluation exercise. Among those who reported doing so, only 16% answered that external audits took place more than once a year, 20.5% every one to two years and 29.5% less than once every two years. For example, a Danish consulting firm has undertaken an evaluation of the 2001-2003 e-government plan in the Ministry of Health and Social Affairs. The result of the evaluation has been positive and the plan is said to have made a difference in

Figure 8.4. **Availability of the result for monitoring and evaluation**



Source: OECD E-government Survey: Norway.

contributing to the development of IT in the health sector. The evaluation mentioned areas of improvement, such as strengthening the link between organisational change and IT development in the health sector and developing non-financial tools to enhance change.

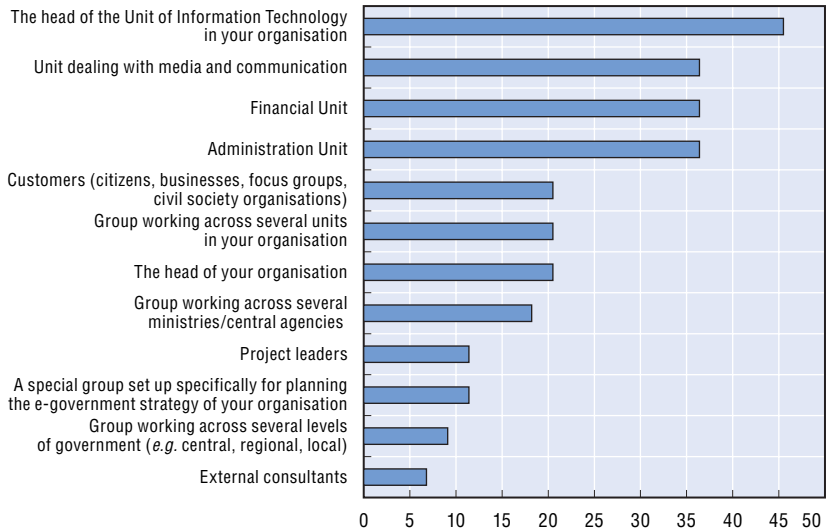
8.6. Responsibilities for monitoring e-government

The monitoring of e-government progress in Norwegian ministries and agencies is more likely to be part of the responsibility of the top IT management in the organisation, rather than a responsibility of the head of the organisation. This could raise the risk that e-government is being treated as a technical issue rather than as a management and organisational tool.

Almost half (45%) of OECD survey respondents indicated the head of the IT unit as having main responsibility for monitoring e-government implementation, while 36% of respondents indicated the financial, administrative, or communication units in their organisations were the key actors dealing with monitoring (Figure 8.5). The role of the financial unit in keeping track of the costs and use of resources associated with e-government is consistent with the e-government objective of enabling efficiency gains.

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Figure 8.5. **Responsibility for monitoring e-government in Norway**



Source: OECD E-government Survey: Norway.

The survey showed that users have a relatively limited role in monitoring e-government development. One instance where this has occurred is in the Ministry of Children and Family Affairs' external evaluation of their internet portal, with input provided by user panels and youth information offices connected with the editors.

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Case Study 1

From Data Collection to Multiple Citizen Services: Core Mission Shift Through the Use of ICT in the Norwegian Mapping Authority

The Norwegian Mapping Authority (NMA) is the lead agency in terms of standardisation and technological activity related to geographic information in Norway. The case of this agency illustrates how government agencies can be transformed when they make strategic use of ICTs rather than simply transferring existing processes online: the NMA saw a major shift in its core mission, from routine map production to the provision of IT services between the mid-1990s and today.

1.1. Background information on the NMA

The Norwegian Mapping Authority is the agency in the Ministry of the Environment responsible for geographical, geospatial, topographical and cadastral information on Norwegian land and sea. The NMA serves as the central government's professional body in the area of maps and geodata, handles the administrative tasks associated with this work and provides nationwide geographic information and services to private and public users. The agency also participates in research and development in the area of mapping technology, co-operates with Norwegian industry and other government agencies in related areas such as export-oriented measures and registers real estate and land for different uses (*e.g.* mortgages and security, used to collect 3-4 billion Norwegian kroner a year in revenue). Finally, the NMA is also responsible for geographical surveys, runs a GEOportal (*www.geonorge.no/gos/*) and publishes fixed lists of tides, sailing instructions and other publications for safety at sea.

Under the strategy for the agency's activities, drawn from a parliamentary white paper called *Digital Norway* published in summer 2004, the NMA will focus on its role as data manager in the years ahead. Data compilation and data transmission, formerly handled by the NMA, will now be handled to a greater extent by external organisations or by other agencies. This represents a major change of focus for the agency. In the past, the NMA has largely dealt with supplying digital data directly to users, whereas the plans now entail that this function be carried out to a greater extent through dealers. Traditional printed maps are already marketed and sold through a number of dealers. The NMA will also emphasise the development of a greater number of technology-based solutions for use in simple and less expensive mapping systems.

1.2. Core mission shift: the role of ICTs in transforming the NMA

Until recently, the NMA had a traditional mapping role: NMA cartographers met the organisation's core mission of producing geographical information by producing maps. In the early 1980s the NMA began standardising geographic information, a task that evolved from being agency-based to being a national and finally international issue between 1991 and 1994. During this time, the NMA also began to get involved in industrial standardisation activities, including the development of new technologies.

At first the NMA began using ICTs for basic storage: its data resources were collected into large mainframe databases in the 1980s. The agency then began exploring the possibility of distributing geographic information through the Internet during the 1990s. The Internet, and the increasingly interoperable nature of ICTs, allowed the NMA to integrate information initially from four different government organisations and later nine to ten organisations through the creation of the GEOportal in 2004. During this period the NMA found itself more in the role of co-ordinating and standardising data than of producing maps and administering cadastral registries.

The NMA's core mission shifted when it began to apply ICTs to standardisation and mapping functions. The mission had centred on mapping output; now it was based on IT services of geographical content. The agency has developed a technology to provide an overlay of different maps tailored to specific users (*e.g.* real estate agents, farmers, industrial or commercial ventures looking for ideal locations, etc.). There are currently two projects applying this technological platform (ACE-GIS) to environmental planning and emergency responses to catastrophes with seven other European agencies in the INSPIRE program. The NMA's ultimate goal is to "e-enable" all of its information services and have them available on the web through standardised interfaces.

Along with the changed core mission there came a shift in the NMA's functions: the agency's leadership in standardisation and technological activity paradoxically shifted its role from standardisation to coordination across the Norwegian government. Meanwhile the focus on IT services led the agency to outsource its more traditional mapping activities. Indeed, the role of the NMA has changed so much that the agency is currently considering completely outsourcing its IT systems. In the end, the agency's role became one of technology co-ordinator for different types of aggregated information that together can be combined to offer a wide array of services and information for the public and the private sector.

The road from mapping agency to IT service agency was not a smooth one. Change took time, funding became more and more scarce as the NMA evolved, available instruments sometimes did not match government objectives, and the

lack of a lead ministry or agency on whole-of-government information standardisation slowed down the NMA. However, the agency has been successful in its evolution, partly because it has adapted continuously to new technologies but mostly because it has delivered tailored IT services to highly demanding users in both the public and private sectors in a seamless and efficient way. For example, farmers can document their property online, breaking down their land by crop suitability. The Ministry of Agriculture can then calculate state subsidies using this information, and it can also overlay data on land boundaries and plan future subsidy programmes. The private sector can then track crop suitability and land inventory for investment decisions. Commercial ventures can determine where specific market needs are not fulfilled. Local authorities can point to possible commercial and industrial developments.

1.3. Conclusions

The case of the NMA illustrates several findings of the OECD's e-government project: e-government can improve governments' ability to deliver on its basic objectives; e-government is more about government than about "e" and, properly applied, e-government holds the potential to transform government. Agencies that pick up the fast pace of the rise of information society still face newer and more complex challenges as they step into unknown terrain.

1.4. Challenges ahead for the NMA

The NMA faces a series of important challenges in order to continue successfully evolving into an efficient and up-to-date IT-based government agency. In an interview with the OECD, the NMA identified some of the most pressing of these, which can be summarised in the following groups:

Budgetary barriers

The main challenge for the NMA is to find the means to recoup investments and develop the mechanisms for longer-term budgetary planning. This way, the agency could invest in frameworks to exploit the existing infrastructure of standards, content, IT system layers, access mechanisms, and interface. The standards and the infrastructure are there, but the NMA still needs the means to know how to use its information in a structured way with a whole-of-government and wider economy perspective. This point is linked to the next challenge.

Drive and leadership

The push for e-government and seamless services has been regarded by officials at the NMA as being mainly an optimistic drive for change, with government placing high hopes in the evolution of technology as an enabler of

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change in and of itself. However, in order to provide direct support to help initiatives such as those of the NMA, central government needs to go beyond rhetorical leadership. The NMA needs a lead agency or ministry to provide practical drive and leadership from a government-wide perspective on data standardisation to support its efforts. The NMA's strategic plans are not real drivers; support from more powerful organisations will be necessary to drive e-government and transformation in Norway.

Privacy and consumer protection issues

Private sector websites have been buying address lists from the NMA's registries, and while these activities involving citizen identity have not yet been outsourced, the NMA needs to pay close attention to privacy and consumer protection issues.

Collaboration

Information linkages across government agencies are still at their pilot stage. The farmer example above is one where IT-based information services provided by the NMA can benefit from a solid and efficient government collaboration framework. However, political interests and personal views have held up some projects, and the government needs to take a more active role to push agencies to collaborate or to explain more fully the benefits of collaboration.

Customer focus

NMA deals with citizen information but it has very little contact with citizens. Nevertheless, citizens do benefit from the eventual strategic application of data and not from the data itself. However, the NMA still needs to adapt more rigorously a customer-focused approach to its service design and delivery, especially taking citizens into account in terms of privacy concerns, service design and new types of value-added services created from its existing data.

Monitoring and evaluation

The NMA has not carried out any formal evaluations. It will need strong formal tools for decision-making and monitoring activities both in order to evaluate the quality of its programmes and to provide the basis for more rigorous investment decisions.

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Case Study 2

From Portal Project to Agency: Norway.no

Norway.no was established in 2005 as a public agency and is known in the country for its management of the Norwegian public sector portal (*www.norge.no*). Before this, the agency had been developed as a project under the jurisdiction of the former Ministry of Labour and Government Administration (MLGA) and run by the County Governor's office in Sogn and Fjordane. The case of *Norway.no* illustrates the process of development of an important Norwegian e-government project (*i.e.* the establishment of a portal) and the challenges inherent in its reorganisation and institutionalisation in the form of a public agency.

2.1. Background

The idea to establish a portal took shape in the context of efforts to achieve administrative simplification. In 1999, the project for a public sector portal was included in the Norwegian Government's program "A simpler Norway". The objective was to give the public sector a more unified appearance and make the search for public institutions and public information simpler. The means identified to achieve this was to create a portal that, in many ways, was similar to a phone book but that also contained a short description of the organisation of the structure and functions of government. The portal also aimed to increase public agencies' online presence and improve the quality of public services on the Internet.

The portal *www.norge.no* was launched by the MLGA (later reorganised to form the Ministry of Modernisation) in January 2000, as part of the government's regional development policy in co-operation with the Norwegian Association of Local and Regional Authorities (KS). A number of other public bodies, such as the Western Norway Research Group and Statskonsult, and some private vendors were also involved in the establishment of the portal. An official from the Prime Minister's office was directly involved with the portal project *www.norge.no* during the first half-year of its operation. The Norwegian Centre for Information Service of the MLGA was assigned shared responsibility for the portal project with the County Governor's Office in Sogn og Fjordane, which was responsible in particular for the daily running of the portal. In 2002, at the same time that the Norwegian Center for Information Service became part of the newly corporatised Statskonsult, the citizen information services it had provided were integrated with the portal service. In June 2004 a complete English version of the portal was launched (*www.norway.no*).

As of 1 January 2005, *Norway.no* has been reorganised as a public agency within the Ministry of Modernisation. The decision to transform the portal into an agency followed an evaluation of the *portal* project undertaken by the MLGA, which came to the conclusion that the project had survived the trial period and that the name (Norge.no) and web address (*www.norge.no*) were now common property.

2.2. Main features

Until 2005, *Norway.no*'s main responsibilities have been to run and develop its portal and citizen help desk services, with the objectives of: 1) simplifying the process of obtaining and using public information and services provided by public bodies, 2) catalysing public sector organisations' efforts to develop an Internet presence, and 3) improving the quality of public services by providing a single gateway to the public sector on the Internet (see Box 20 for a description of the portal's main features). Via its Internet portal, *Norway.no* links to external websites that belong to the public sector, at both central and local government level.

Along with the delivering information and services through the Internet "channel", *Norway.no* features a citizen help desk which users can contact by other channels including phone, e-mail, sms, chat, fax or written letters. The help desk aids users in finding information about public services, laws, regulations, duties and rights, etc. In cases of citizens needing specific advice about individual cases, or the interpretation of a Norwegian law, *Norway.no* can direct users to the relevant public agency.

In addition to these services, *Norway.no* has now also been given responsibility for: 1) co-ordination, initiation and development of tasks relating to information policy within the public sector, including portal and website development; 2) conducting a national evaluation of public Web sites; 3) ensuring that agencies develop Web solutions that take into account the needs of disabled users and adhere to Web content accessibility guidelines and 4) co-ordinating the development of the LifeIT (LivsIT) project, a categorising system for public information.

2.3. Norway.no: from provision of information to policy guidance

The process of changing the portal project into a public agency, while helping the portal gain attention from the top levels of government, did not involve a redefinition of the role of the old portal project-based organisation. At the time, this raised the question of whether a new mandate for *Norway.no* will be needed to include not only portal development and operation but also the new responsibilities being assigned to *Norway.no* for policy and standardisation in the areas of website implementation and development.

At the time of OECD interviews with government officials, there seemed to be a demand emerging from other agencies for *Norway.no* to provide policy guidance and common frameworks in order to assist them in development of websites and portal solutions. Today, despite the fact that the new agency has been assigned new responsibilities noted above, it is not yet clear how and to what extent its implementation of these responsibilities will respond to agencies' demand for more guidance and support.

2.4. Challenges for the development of the portal

Enhancing its visibility

One of the challenges for *Norway.no* is achieving and maintaining high visibility, both within government and outside. Despite the collection of access and usage statistics provided by its portal, *www.norge.no*, it is not clear how well the portal is known by the general public. An online survey of users conducted in 2002 showed that 40% of respondents were visiting the portal for the first time. Reasons for this may include the limited budget available for communications campaigns, and the fact that marketing the portal was considered to be a relatively low priority by the MLGA. It is not clear how the statistics may have changed since 2002.

More attention should be paid to the definition of a common policy for ensuring that all government sites are linked to the portal. While the portal provides links to the websites of all ministries, agencies and local authorities, not all are linked in return to the portal. The OECD survey shows that less than 40% of respondents reported providing a link to the public sector portal. Some positive grounds for achieving this exist. A 2002 report from Statskonsult indicates that there is awareness among staff responsible for maintaining and developing public portals of the need for better co-ordination between them, and a more systematic approach to the provision of links (Statskonsult (2002), "Portals in practice"). However, it is not clear whether this awareness extends to those responsible for public websites.

Evaluation of the benefits of the portal

Evaluation of the benefits of the portal for users (*e.g.* in terms of improved accessibility to services) is still limited. There have been two evaluations of *www.norge.no*; the last one was carried out by a group of five people from the organisation and two external advisors in 2004.

Norway.no – Odin.no: collaboration but different roles

Norway.no has some contacts with *Odin.no* (the government information portal). They have some common interests – for example, in developing search engines and database structures. They also have the same target groups of

users, but whereas *Norway.no* represents the whole public sector, *Odin.no* only covers central government. There is no structured collaboration between the two portals in defining common strategies for reaching out to a wider audience. Part of the reason for this is that the two portals are filling what seem to be regarded as two distinct functions. While the objective of *Odin.no* is to provide information on government activities, *Norway.no*'s portal is aimed at helping the user find where information is located. However, while OECD interviews with government officials indicate that the objectives of the portals are felt to be clear and not to overlap, nothing is yet known about the public's perception of the differences between the two and whether the distinction is useful or not.

Box 2.1. **Odin.no and Norway.no**

If the functions of the portals are compared to the structure of a document, *Norway.no* would be the context index including a short introduction. *Odin.no* on the other hand would be the government chapter in the document. All parts are needed to make the document complete and comprehensive.

Odin.no is the joint electronic information service for the government and ministries. Its objective is to make information and news from the government and ministries publicly available on the Internet, in order to make central government more open and accessible. Each ministry is responsible for the provision of content to the portal and has its own editorial office, while Odin's central editorial function is placed under the Government Administration Services in the Ministry of Modernisation. All ministries are represented with the same visual identity, they use the same templates for publishing on the website and organise information in the same way on their local Odin pages.

On the other hand, *Norway.no*'s objective is to help users find where the information they need is located. It does not contain any original information or downloadable documents concerning government or specific organisations; when it comes to government issues it often provides a link to *Odin.no*.

Future developments and challenges for Norway.no

Norway.no will continue to operate its public sector portal focused on providing citizens with easy access to public information and services. Its objective will be to increase the amount of traffic using its Internet portals, telephone helpline, e-mail service and other help desk contact channels.

In addition to this, *Norway.no* will also focus on carrying out its newly assigned responsibilities (*i.e.* policies and standards definition) alongside its

traditional ones. While *Norway.no*'s new role may address a demand for more guidance expressed by some agencies, a clearer policy statement for *Norway.no* reflecting its new tasks and responsibilities may, if not already provided, be beneficial in providing it with a strong mandate to meet agencies' demand.

OECD was advised that *Norway.no* will also have a new role in the co-ordination of public portals and in the promotion of collaboration between other Internet portals in Norway and Scandinavia, with the aim of simplifying and co-ordinating services and use of resources. *Norway.no* will initiate and organise forums where developers, administrators and users are represented.

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ANNEX A

Norway's Institutional and Public Governance Context

In order to set the development of e-government in a broader context, this section provides basic economic statistics for the public sector along with indications on the general institutional and public governance arrangements under which e-government is being developed in Norway. The section also synthesises the main features of Norway's political and administrative regimes based on a classification made by Pollitt and Bouckart[1] and applied to the Norwegian case by Pål Sørgaard.[2]

Key role of the public sector in the economy

The Norwegian governance model is based on the state's central role both in the economy and society. Rooted in the principles of equity and solidarity that guide public policy-making, the state holds responsibility for ensuring high-quality public services for a highly geographically dispersed population.

The public sector is a relatively large part of the Norwegian economy, with total government expenditure accounting for over 47% of GDP in 2002.[3] This places Norway slightly above the mean for OECD countries, which is 44%.[4] Government activity accounts for 16% of GDP (compared to 17% for the oil and gas extraction industry). The bulk of public spending supports a generous welfare system, health and the educational sector. In 2002, social security transfers accounted for 14.8% of GDP, while public health expenditures were 85% of total health expenditures.[5] Norway ranks higher than the average for OECD countries in terms of public educational spending (6.7% of GDP in 2000 compared to a 5.2% OECD mean[6]).

A key feature of the Norwegian economy is the high degree of public ownership. This reflects the traditional role of the state as service provider and strong public-private co-operation to achieve overall asset creation. Historically the government participated in financing enterprises through

state banks, government funds and transfers, especially after the banking crisis in the 80s. Gradual reduction in public ownership has occurred in different sectors (*e.g.* transport, telecommunications) accompanied by measures aimed at improving management of state ownership and increasing market competition (*e.g.* the transformation of most of the public-owned companies into limited companies).

The role of the public sector as an employer has experienced strong growth in the last decades. Out of a labour force of almost 2.3 million in 2002, the public sector accounted for about 32% (*i.e.* 730 000 people) of which about 37% (*i.e.* 267 000 people) are in the central government.[7] This also reflects a change in the Norwegian employment structure across industries over the last decade, with a shift from primary and secondary industries towards tertiary industries, including public services. In 2002, primary industries employed 4% of the labour force and secondary industries around 22%, while the tertiary industries account for a total of 75%.[8] The overall unemployment rate is relatively low compared to the average for OECD countries (4.5% in 2003).

Local government has significant devolved responsibilities for the provision of public services, particularly in the area of education, health care and public transportation. Local government accounted for around 47% of government final consumption expenditure in 2002 and for nearly 63% of public sector employment.[9] The high number of employees in local government partially reflects the dispersed distribution of population in small municipalities. In Norway nearly half of the population live in small municipalities with less than 20 000 inhabitants.

Regional policies have set the stage for a larger portion of public tasks to be handled at the local level, to support a more cost-effective public service delivery system. However, this has also raised the issue of the capacity of municipalities to meet the demand and central standards for service provisions.

Growing spending for an ageing population and declining oil resources have highlighted the need for public sector reform to improve overall economic efficiency and help Norway face increased international competition. Reforms carried out in the last decade have gone in the direction of separating the state's administrative, regulatory and business functions, increasing public sector exposure to competition and enhancing the liberalisation of certain sectors such as telecommunications and postal services. The Public Sector Modernisation Plan, launched in 2002, has focused on improving efficiency and flexibility in the public sector through administrative simplification, better regulatory arrangements, increased competition and new management arrangements.

Institutional and governance arrangements

While this report focuses on the role of central government in e-government development and implementation, it is important to understand the basic values and institutional and governance arrangements in Norway that constitute the background for e-government development.

Norway's administrative culture permeates the structure and mechanisms of government, reflecting the traditional Nordic values of openness, pragmatism and consensus based-decision making in public affairs. As an example, the use of informal rather than formal dialogue as a co-ordinating mechanism is part of the administrative cultural background, and is diffused across government.

The geographical configuration of Norway has resulted in a strong traditional concern for sovereignty and local government. Norway has a two-tier system of central and local government, with two separate branches of sub-national governments: counties and municipalities. The counties and municipalities have the same administrative status, and central government has the overriding authority and supervision of both.

At the central level, Norway has a tradition of strong ministerial autonomy and parliamentary-based political leadership, with large ministries and a relatively small Prime Minister's Office. While ministers are, under the constitution, responsible to the Parliament in their respective areas, they enjoy a high degree of autonomy in defining and implementing government policies in their sectors. This is also reflected in the weak role of central administrative bodies in initiating administrative reforms, which have often originated within sectoral ministries or agencies with little participation from other administrations and limited initial political backing. As shown in the case of internal administrative policy review, senior public employees have taken over the role of politicians as key participants in the review process.[10]

However, three important forces ensure government cohesion and act to promote integrated policy making: 1) frequent and regular discussions and decisions by the full Cabinet on all important issues, 2) use of inter-ministerial committees and working groups, and 3) vesting of responsibility for finance and economic policy in a single ministry (Ministry of Finance).[11]

At local level, the organisation of central government's[12] structures and functions in Norway supports the delivery of public services and lays the groundwork for increased co-ordination of central government initiatives. The vertical organisational structure of central government administration is rather extended and in certain sectors consists of one to three levels outside each ministry (directorate, regional/county/district office, local office). This has allowed a number of central government's tasks to be handled by field offices and institutions. Co-ordination of central government bodies and policies at local level is ensured by the county governors, who represent the central government in the counties.

Box A.1. **Central and local government in Norway**

In the case of general service delivery and government-citizen relation, the development of e-government in Norway is governed by the division of responsibilities across levels of government. In particular, counties and municipalities enjoy a high level of independence and a major responsibility for public service delivery: ⅔ of Norway's public services are provided and delivered at local government level.

The framework for the activities of the counties and municipalities is laid down by the Parliament (Storting) through legislation and decisions regarding local government financing. The Storting determines the division of functions between the different levels of government. Government can only assign new functions to local government by means of legislation or decisions made by the Storting. However, it is an important principle that counties and municipalities may voluntarily assume tasks or functions that have not been assigned to others by law.

Central government is responsible for core central functions (*e.g.* defense, foreign policy, police, justice), higher education and universities, the National Insurance Scheme, transport (*e.g.* the national road network and railways), policy regarding refugees and immigrants, and two main national hospitals.

The counties are responsible for upper secondary school, hospitals and specialist health service, child welfare institutions, prevention of drug and alcohol abuse, country roads, local transports and museums.

Municipalities are responsible for nurseries/kindergartens, child welfare, primary and lower secondary schools, public libraries, primary health care, financial support for welfare clients, care for the elderly and disabled, fire departments, harbours, municipal roads, water supply, sewage, garbage collection and disposal, organisation of land usage within the municipality (*e.g.* the laying out of land for industrial or commercial use or housing).

Co-ordination of government measures concerning municipalities and counties is ensured by the Minister of Local Government and Regional Development, who also is responsible for overseeing the distribution of revenue between local municipalities and county authorities and drawing up the overall budgetary framework for local government in the light of the national budget. The Norwegian Association of Local and Regional Authorities, a consultative body representing all the municipalities and counties in Norway, also has a co-ordination function as it acts as a collective bargaining agent *vis-à-vis* central government on employment matters.

Classification of the Norwegian politico-administrative regime

Form of government	**Constitutional monarchy:** with a parliamentary system of government. The functions of the king are mainly ceremonial.
State structure	**Unitary:** no federation.
Executive government	**Intermediate/consensual:** long tradition of minority governments. Minority rule is frequent and results in discussions that create weak governments and too many detailed decisions in parliament.
Centralised/decentralised	**Decentralised:** municipalities enjoy considerable independence (safeguarded by the Constitution). **Fairly fragmented:** ministries are quite independent and each minister is individually responsible to parliament.
Minister/mandarin relations	**Separate:** mandarins and ministers have "separate" career paths. **Not politicised:** top civil servants don't openly refer to their political sympathies.
Administrative culture	**Pluralistic/consensual:** influence of Anglo-Saxon ideas.
Public management	Ministry of Modernisation.
Diversity of policy advice	**Mainly civil service:** also input from trade/business unions/organisations.
Major affiliations	The European Economic Area (EEA) and the North Atlantic Treaty Organisation (NATO).

Notes

1. Pollitt and Boukaert (2000), *Public Management Reforms: A comparative analysis*. Oxford University Press, Oxford.
2. Pål Sørgaard (2000), *IT Co-Ordination and Public Management Reform – A comparison between Finland and Norway,* Ministry of Finance, Finland.
3. OECD (2004), *OECD In Figures*.
4. OECD (2004), *OECD In Figures*. Note that Poland and Turkey data are not available and not included in calculation of the average. Canada, Korea and Switzerland are 2001 figures; New Zealand is 1997, Mexico is 2003.
5. OECD (2004), *OECD In Figures*.
6. OECD (2003), *Education at a Glance*.
7. Statistics Norway (2003).
8. *Labour Force Survey*, Statistics Norway (2003).
9. Statistics Norway (2003).
10. OECD (1999), *OECD Strategic Review and Reform – Norway*, Paper prepared for the OECD Symposium on Government of the Future, 14-15 September 1999.
11. OECD (2003), *OECD Reviews of Regulatory Reform, Norway: Preparing for the Future*.
12. Central government is defined, for the purpose of this review, as being composed of ministries and central administrative agencies outside the ministries which have 1) legal responsibilities for the whole country, 2) executive assignments, 3) professional staff, and are directly subordinated to the Council of Ministries. Adapted from Lægreid, and Roness, P. G. (1983).

ANNEX B

Reports, Strategies, Decisions and Acts Related to E-government

This part reviews the main Norwegian reports, strategies and acts related to e-government. It focuses on those specifically mentioning electronic services, e-enablers and e-engagement.

Box B.1. **Visions, strategies and decisions related to e-government in Norway from 1991 to 2003**

1990

- Programme for National Infrastructure for IT (1990-1992) organised collaboration between seven large government agencies in the area of standardisation and co-operation to promote better public services.

1991

- Report to the Storting on the government's administration and personnel policies (Report No. 35), Ministry of Labour and Government Administration.
- Sector plan for IT in Public Administration.

1992

- White Paper No. 35 (1991-1992) on Management and Personnel Policy in Government Administration, Ministry of Labour and Government Administration.

1993

- IT-plan for the Public Administration, 1993-1995.
- Central Government Information Policy (first version – revised in 2001).

1994

- The IT-based information structure in Norway – status and requirements (the Steine Report).

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Box B.1. **Visions, strategies and decisions related to e-government in Norway from 1991 to 2003** *(cont.)*

1996

- The Norwegian Way to the Information Society – Bit by Bit, Report from the State Secretaries' Committee on ICT.

1997

- The Public Administration Network Project, Ministry of National Planning and Co-ordination and Norwegian Association of Local and Regional Authorities.

1998

- "Norway on the Cutting Edge" – IT plan for Industry 1998-2001, Ministry of Trade and Industry.

1999

- White Paper No. 41 (1998-1999) on Electronic Trade and Commerce, Ministry of Trade and Industry.
- Electronic Government Cross-sectoral Development of Information Technology in the Central Government, Action Plan for 1999-2001, Ministry of Labour and Government Administration.

2000

- One Place One Telephone Number – a platform for the establishment of one-stop shops, Report from the working group on public one-stop shops.
- *e*Norway, Action Plan 1.0, Ministry of Trade and Industry.
- *e*Norway, Action Plan 2.0, Ministry of Trade and Industry.
- "A Vulnerable Society", Vulnerability Commission's green paper, NOU (2000:24).

2001

- *e*Norway, Action Plan 3.0, Ministry of Trade and Industry.
- Central Government Information Policy, Goals Principles and Consequences, Ministry of Labour and Government Administration.
- Step by Step – Programme for Innovation of the Public Sector in Norway. Ministry of Labour and Government Administration.
- Strategy for exporting and internationalising the Norwegian ICT industry.
- Without Pen and Ink – The Use of Digital Signatures in Electronic Interaction with and within Public Administration, Norwegian Public Report, NOU 2001:10, Ministry of Labour and Government Administration.
- Law on electronic signatures, Ministry of Trade and Industry.
- 24/7 Public Administration: Strategy and Measures, Ministry of Labour and Government Administration.

Box B.1. **Visions, strategies and decisions related to e-government in Norway from 1991 to 2003** *(cont.)*

2002

- Modernising the public sector in Norway – making it more efficient and user-oriented. Statement to parliament 24.01.02, Ministry of Labour and Government Administration.
- *e*Norway 2005, Ministry of Trade and Industry.
- eNorway Status Reports.
- Action Plan: Simplifying Norway, Ministry of Trade and Industry.
- National strategy for information security, Ministry of Trade and Industry, Ministry of Justice, Ministry of Defence.
- Regulation on electronic communication with and within the public administration, Ministry of Labour and Government Administration.
- Strategy for Electronic Content, Ministry of Trade and Industry.

2003

- Strategy for ICT in the Public Sector – Strategy 2003-2005, Ministry of Labour and Government Administration.
- White Paper on Broadband.
- Strategy for Norway's ICT Research 2003-2004, Ministry of Trade and Industry.

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ANNEX C

Synopsis of History and Key Decisions

Norway's first work on Information Technology (IT) dates back to the 1970s and 80s. Norway took a decentralised approach to IT developments.[1] In the mid 1980s, ICT policy was addressed first by initiating a study on ICT vulnerability in society and then by appointing a standing committee ("Datapolitisk råd") to give ministries and the cabinet advice on a broad range of IT policy issues. At the same time a high-speed network for inter-ministerial communications was initiated. During a long period, the use of IT was perceived as a technical instrument to rationalise the public administration and was not to be considered as an object for political leadership. Yet, this approach has changed over time and IT has been integrated as a tool in the policy-making process.

Main drivers for the development of an information technology

With regard to information technology policy planning at the government level in Norway, several objectives have been put forward from 1991 in government programmes and reports. These reports provided a vision on information technology across different policy areas like trade and industry, communication, administration, education and regional development. The main policy message was that ICT should be used to modernise and make the public administration more efficient. The development of an explicit e-government strategy did not, however, take place before 1999.

First steps towards an IT policy

In the late 80s, IT policy efforts went into infrastructure development. In 1988-92, the programme *National Infrastructure for Electronic Common Data Handling*[2] set out a framework for standardisation, electronic data exchange and information resource management. The infrastructure programme's main goal was to make access to all information simple and uniform and to

remove technological and organisational obstacles for exchange of information. The focus was put on cost-benefit analysis (*e.g.* which areas were the most efficient for exchange) and on information resource management (pre-Internet), including common channels.

The work on developing a co-ordinated IT policy strategy was first indicated in the Official Norwegian Report NOU 1988:40, *Computer Policy in the Central Government in the 1990s*. At the same time, work on the co-ordination of public registers was ongoing (NOU 1988:15, "Samspill om grunndata"). The Commission behind the report focused on the need for co-ordination within services and sectors, and regarded it as crucial that special requirements were laid down regarding the formulation of an overall computer (data) policy and concrete strategic plans for the various government services.

In the beginning of the 90s, a real focus was placed on developing strategic plans for IT use. Up to this point, most IT systems had been developed from the bottom up with little policy focus or guidance. In 1991 the Ministry of Labour and Government Administration presented a white paper to the parliament (Storting) (St.meld.nr. 35 1991-1992) on Management and Personnel Policy in Government Administration. The white paper outlined strategies of how IT could be used as an instrument for effective governance, reorganisation and co-ordination. The document stated that IT offered the possibilities of better informing the citizens and the industry about the work of the government and of making the administration more efficient. The strategy took a decentralised approach to the planning and utilisation of IT and each ministry was responsible for the planning in their own sectors. The role of the Ministry of Labour and Government Administration was to co-ordinate and to improve areas where IT was used ineffectively.

Based on the need for better communication policies, Norway's first government information policy was adopted in 1993. The policy document set out goals and principles for information and communication activities in the public administration with a limited impact on the development of electronic information and e-government services. The policy, which was revised in 2001, created the basis for the government's information activities. Since its adoption in 1993, ministries and directorates have implemented the policy to an increasing extent. The information policy has turned information and communication into an instrument for achieving central government objectives and is a tool to place the responsibility for information with agency management.

Improving the communication between the central and the local level

In 1994 the focus on IT became more political and the Minister of Labour and Government Administration emphasised in a report to Parliament the importance of improvement and change through more and improved

communication between the state and municipal level.[3] A working group with the mandate to identify the use of IT to increase the communication and co-ordination within the government was set up. The working group presented the report *The IT Based Information Structure in Norway – Status and Requirements*. The working group was composed of representatives from nine ministries and the Prime Minister's Office. The report gave an overview of the development of IT in education, finance, environment and justice. The findings showed that the there was a lack of cross-cutting activities and therefore a need to establish systems that could accommodate such activities. The report created the basis for two new initiatives by the Ministry of Labour and Government Administration:

1. The Government regional information net (SRI) which was established in 1996. The purpose was to give electronic communication solutions to all central government agencies in the counties. The goal for SRI was that all employees in the agencies should be able to exchange e-mail and facilitate information exchange between each other and with the ministries.
2. The Norwegian government initiated the Public Administration Network Project in 1996 with a view to establishing a secure, trustworthy and effective communications infrastructure for the Norwegian Public sector. The establishments responsible for the project were the Ministry of Planning and Co-ordination on behalf of the Government and the Norwegian Association of Local and Regional Authorities on behalf of the municipal sector. In 1997 they presented *the Public Administration Network Project*. It was a cross-sectoral co-operation project spanning the municipal sector and central government under the so called *KOSTIT-strategy*. The project aimed to ensure simple, secure and cost-effective electronic exchange and information access both within the public administration, and outwards, between users.

The Public Administration Network Project's main achievement was the institution of a series of frameworks agreements based on common requirement specifications, covering data communications, network products and services, data products, Internet services, etc., as well as TTP-services and digital signature. The project also intended to form the basis for better use of joint information resources. It was divided into two phases: the first focused on infrastructure within data and telecommunication through the establishment of inter working options. The Ministry of Labour and Government Administration and the Norwegian Association of Local and Regional Authorities entered into a framework agreement with three suppliers relating to the delivery of data and telecommunications services to public sector entities in the Autumn of 1997. The second phase aimed to make arrangements for a goal-oriented co-ordination of the services and products of the public sector entities in the data and telecommunications area. The network project procurement programmes aimed to support and simplify the individual enterprises' procurement processes.

An evaluation of the project in 1999 showed that the project was well known in the central public administration but less known in the municipal sector. Many actors also expressed a desire for more co-ordination and extension of the electronic collaboration. The evaluation also showed that many actors knew about the project but lacked direct experience with its content and had no notion of how it worked in practise. The evaluation pointed out that improved skills were important when continuing to develop electronic services. However, the project was ended in 2001 with the change in government.

KOSTRA (Municipality-State-Reporting) was another electronic reporting system that all municipalities were using when reporting to the state. The KOSTRA project started in 1995 as a project with four municipalities as participants.[4] This pilot project developed a first version of a new system for electronic data reporting and publishing. After the first pilot period the government decided that all local governments should report according to the new system. The number of municipalities participating in the system has increased gradually, and the first full-scale reporting took place in March 2002. From July 2002 KOSTRA has been in full operation.

The key co-ordinator: the Ministry of Labour and Government Administration

The role of the Ministry of Labour and Government Administration (MLGA) in the development of a national IT policy dates back to 1982 and the Report to the Storting, *Decentralisation and Efficiency of Electronic Administrative Processes in the Public Administration* (Report No. 12, 1982-1983). The MLGA was given the role of central institution for co-ordination of electronic common data handling. In the beginning of the 90s it was also stated that the Ministry was to play a leading role in the development of an e-government strategy and to develop standardisation policies.

The Directorate of Public Management (Statskonsult) has also played an important role in the development of a uniform Norwegian IT policy. The role of Statskonsult has changed over time: three major reorganisations have taken place, in 1986, 1996 and in 2004 (Statskonsult is from January 2004 a state-owned limited company). Statskonsult's most central role was its function as advisor and provider of standards and requirements specifications for networking and computer applications. The Directorate was responsible for the development of systems and electronic common data handling in the public administration. The Directorate also had the responsibility of overviewing administrative routines and giving advice on what processes could be done more efficiently with the help of common solutions. Thirdly, the Directorate was given the co-ordinated responsibility, together with the MLGA, for standardisation in the public administration.

MLGA and Statskonsult have focused their work on influencing institutional changes and offering guidance on how to use IT as an effective instrument as possible.

In 1996 it was suggested that Norway needed an IT minister. However, the government was reluctant to nominate an IT-minister and instead the State Secretaries Committee on ICT was established under the Prime Minister's Office (later transferred to the Ministry of Communication and then to the Ministry of Planning). In 1997 the overall responsibility for co-ordinating ICT policy in society was transferred from MLGA to MTI. MLGA still retained the responsibility for ICT policy issues in government. MTI was assigned more responsibilities on IT related issues and in general played the role of Norway's IT minister. As a result of the latest reshuffling in the ministries, the ICT strategic resources in MTI and MLGA have from late June 2004 become joined together in MLGA to constitute a strengthened base for government reform and modernisation through the application of technology, reporting to the newly established Minister of Modernisation.

The first government IT plan

The first outcome from State Secretaries Committee on ICT was the report *The Norwegian Way to the Information Society – Bit by Bit*, published in 1996. This was the first whole-of-government IT plan. The report formed the basis for a co-ordinated Norwegian IT policy and the strategy made proposals concerning the policies and measures involved in building the Norwegian road to the information society. It described the development of information technology in Norway and drew attention to concrete measures that were to be carried out. The report gave the signal that there was a need for more electronic communication. However, the plan did not go into how the targets should be achieved. The point of departure was that Norway should make use of information technology in ways that furthered the government's aims for a more secure and fair society. The report stated that there must be further development of the co-operation between the authorities and the private sector. The private and public sectors were to co-operate on utilising the potential of information technology. Further, it was pointed out that the authorities were to ensure that laws and regulations were consistent with the technological potential, and that they did not stand in the way of developments. However, it was also emphasised that the development towards an information society was not to create new inequalities between those who mastered the technology and understood its potential, and those who refused or were unable to make use of it. The politico-administrative institutions were to think more systematically and homogeneously around the use of IT.

The importance of more cross-sectoral communication was again emphasised in a second public administration declaration in 1996. The goal was to make the administration more comprehensive and open towards the users. In 1996 all the official documents were published on the government's Web site ODIN (ODIN was launched in 1995 and became permanent from January 1997).

Public registers: the basis for establishing an effective Norwegian e-government

There had been a broad political consensus during a long period on the importance of the work to facilitate and make more efficient the public information management systems. On this basis, and as a follow-up to the State Secretaries Committee's report "Bit by Bit", Statskonsult was given, in 1998, the assignment by the MLGA to make electronic administrative processes a common working method in the public administration. The project was called *Program for elektronisk saksbehandling (ELSAK)*[5] and ran between 1998 and 2001, leading up to common set of requirements for electronic handling of administrative processes.

In 1999, the *Program for Electronic Data Exchange and Reporting Systems (PEDI)*[6] was set up by the MLGA and MTI within the budget period of 1999-2001. Statskonsult had since 1990 worked to make public electronic information easily accessible for the public and private sectors. In reality, the work started off with the *National Infrastructure for IT programme* in 1990-1992. The main goal was to make it easier and more efficient for users in the public administration to communicate and exchange information and also to provide easy access to electronic information for outside users from the business community and citizens in general. The work on National Infrastructure for the IT plan was followed up in the programme *IT-plan for the Public Administration*, 1993-1995. Parts of the work with the IT plan were organised in a project called NISE (National Infrastructure for EDB – standardised provision of electronic communication).[7] NISE was a concept for standardised communication channels for electronic information. In the report *Common Databases for Inspectorate Agencies*[8] from 1995 it was proposed to build up common databases for co-ordinated reporting of data for inspectorate agencies.

Make the Norwegian IT industry competitive

In the end of the 90s there was a debate on the competitiveness of the Norwegian IT industry. Statistics showed that Norway had been at the forefront in terms of deploying new technology, but this lead had not been well enough exploited. Use of IT in industry was at a lower level than in other Nordic countries.[9] On this background, the Ministry of Trade and Industry presented in 1998 the plan "*Norway on the Cutting Edge*"– *IT-plan for the Industry 1998-2001*,

which was based on the vision in which sophisticated IT applications became one of Norway's most important advantages in the near future.

In order to strengthen international competitiveness, and in an effort to strengthen Norwegian IT-potential, the *Strategy for exporting and internationalising the Norwegian ICT industry* was presented in 2001. The strategy was prepared in co-operation between private and public players and was aimed to raise awareness within the Norwegian ICT industry of its requirements, opportunities and challenges in the international arena.

Integrating electronic government in the central government

The first action plan that set out a government-wide course for electronic government was launched in 1999. The Electronic Government – Cross-Sectoral development of information technology in the central government – Action Plan for 1999-2001 was prepared by the Ministry of Labour and Government Administration. The action plan pointed out that e-government was to be a driving force for reorganisation and renewal of public administration. The Ministry of Labour and Government Administration was assigned responsibility for initiating and developing measures to achieve results in cross-sectoral areas which included Year 2000 preparations, a coherent infrastructure with national coverage for the public sector embracing the Public Administration Network Co-operation, central government's cross-sectoral network, electronic signatures and infrastructure for internal and external electronic communication with the government, information security, information services on the Internet, electronic administrative procedures and electronic commerce for public procurement. As the Norwegian public administration traditionally has been decentralised, the specialist responsibility and the use of policy instruments for the solution of tasks were to great extent assigned to the individual sectors and entities.

The 2001 version of *The Central Government Information Policy of 1993* also pointed out the importance of co-ordination and reorganisation, and seamless government was for the first time specified as an important goal. Flexibility, effectiveness and greater autonomy were key concepts in the revised version. Enhanced service and the development of a twenty-four hour public administration were also set out as important goals.

Transfer of ICT policy responsibility to the Ministry of Trade and Industry: creation of a national ICT strategy

In 2000, the government formally decided to institute a national ICT policy – *e*Norway. The *e*Norway plan was prepared by the Ministry of Trade and Industry as a response to meet the goals set forth in *e*Europe 2002. The plan

created the basis for the Norwegian government's ICT strategy, composed of the following three main targets: *i)* creating value in industry by increased innovation and competition in Norwegian industry, *ii)* efficiency and quality in the public sector, *iii)* involvement and identity through access and knowledge for everyone. In order to prepare the plan the MTI went to all ministries and asked about their goals and activities. Its purpose was to give directions and ideas and inspire agencies and ministries. The overall goal of the plan was to integrate ICT in all aspects of Norwegian society. The first version of the plan (1.0) was launched on 29 June 2000. The version 1.0 was followed by 2.0. and was regularly updated. The *e*Norway 3.0 was published in June 2001 and e-commerce and public procurement were introduced as areas where further development was to be taken. E-commerce had been put forward since the *Programme for Electronic Commerce in the Norwegian Public Sector* in 1999.

The *e*Norway plans were operative and described where Norway stood, what had to be done, who was responsible and when the actions were to be implemented. The plan was to be revised every six months. So far the Ministry of Trade and Industry has presented three status reports. In 2002 it presented *eNorway 2005* which was linked to the *e*Europe 2005. *e*Norway 2005 has four different levels of action:

- Create a good framework for *e*Norway through streamlined regulations, good funding schemes and cultivated conditions to boost innovation and research in the IT domain.
- Accessibility and security in information systems. Motivate the roll-out of broadband and establishment of electronic signatures.
- Skills for change: IT was to contribute to reinforcing learning and participation for the individuals and business.
- Electronic content

Attractive content was introduced in *e*Norway 2005 as an important aspect to consider. Therefore, in 2002 the government presented a *Strategy for Electronic Content*. The strategy aimed to chart the most important barriers and challenges that would have to be overcome in order to best exploit the full potential of IT.

Revitalise the public administration with the help of ICT

Modernisation of the public sector through the use of ICT had been on the political agenda during the late 80s and 90s. However, the first modernisation plan to include the ICT as a tool for public sector reforms was initiated in 2000 by the government. It was a plan aimed at revitalising the public sector. The Ministry of Labour and Government Administration was given the assignment to fulfil the plan and in 2001 the Ministry presented the strategy *Step by Step* –

Programme for Innovation and Modernisation of the Public Sector. The strategy was composed of nine concrete reforms. Concerning the ICT in the public sector the reforms concentrated on the following areas: *i)* user-focused electronic services, *ii)* internal administrative systems, *iii)* instruments for electronic administrative processes, *iv)* co-ordination within the public sector, the users and the industry. One of the nine reforms was the establishment of a 24/7 government and one-stop shops in order to deliver better services to users. A *Public Sector of Innovation Unit* was created under the Ministry of Labour and Government Administration in order to co-ordinate the work.

The government took the initiative of establishing municipal one-stop shops in 1992. The Ministry of Labour and Government Administration was responsible for the project while Statskonsult had the responsibility for project management.[10] During the trial period one-stop shops were established in seven municipalities. The purpose was to make the municipalities more service- and user-oriented. The project became very successful and in 1999 the government decided that all municipalities should establish one-stop shops. The purpose was to give both central and municipal services to the users.

In January 2002 the new government, led by the Conservatives, put before parliament an additional modernisation plan for the public sector: *Modernizing the Public Sector in Norway – Making It More Simpler, Efficient and User-oriented*. E-government was presented as one of five horizontal projects in the public sector. A cabinet committee oversaw the implementation of the programme. The basic intention behind the government's reform proposal was to create a simpler administration; among the measures proposed were a clearer distinction between public administration and public service provision, and a more user-sensitive financial support system allowing greater freedom of choice to the services/providers available. The government also wanted to facilitate greater freedom as to how public service providers organise their activities.

A strategy for an ICT structure for the whole public administration

As part of the modernisation process, *the Strategy for ICT in the Public Sector for 2003-2005* was presented in 2003. Work with the plan began in June 2002 and was mostly known for the fact that the public administration ended its central agreement with Microsoft on the purchase of Office and Windows (*e.g.* the Select agreements). However, the strategy promoted user-oriented services, increased efficiency and simplification at the local level. It set out principles for the whole public sector and emphasised support for good local solutions by creating a common national ICT infrastructure and framework conditions. The main goal was that the practical utilisation of ICT remains a local responsibility. A proactive ICT development was to take account of the need for a functioning infrastructure to enable co-ordination between public ICT systems in the

various sectors, administrative levels and geographical locations. The strategy also emphasised the importance of setting up systems for reception of electronic reporting, recycling and co-ordinating public data and the co-ordinated use of public key infrastructure (PKI). In accordance with the modernisation principles of delegation and decentralisation, the strategy stated that it must take place at the local level, in sectors, agencies and municipalities.

Simplify the relations between the public administration and the business community

On the basis of the modernisation plan, the Ministry of Trade and Industry was given responsibility for co-ordinating the work on modernisation and simplification towards the business community. In 2002, the Ministry of Trade and Industry published the action plan "*Simplifying Norway*" which contained a series of specific actions in order to enhance framework conditions for the business society, aimed at *i)* reducing administrative burdens for Norwegian business: create a climate conducive to optimal economic growth and make legal framework as easy as possible to comply with. It also called for long-term commitment and co-operation between government and the business sector; *ii)* online reporting*:* the transition to online reporting was the most important action on the work to reduce the burdens related to reporting obligations. It was stated that all government agencies should be able to receive reports online from industry by the end of 2004.

As a response to the report prepared by the MTI, the ALTINN project was created in 2003. The ALTINN project was the initial source in establishing a common net-based solution for reporting financial data from businesses to the Directorate of Taxes, Statistics of Norway and the Brønnøysund Register of Legal Entities. The project aimed to be on the cutting edge within the area of online reporting, and providing valuable experience for further development.

Security

The State Secretaries Committee for ICT had in 1998 already pointed out the necessity of working on ICT vulnerability issues. A Vulnerability Commission was created in 1999 with the mandate to study vulnerability in the Norwegian society in a wide perspective. The Vulnerability Commission's green paper was presented in July 2000 and pointed out that measures were indeed needed. The commission proposed the development of a national strategy for information security.

On the basis of the green paper, the Ministry of Trade and Industry put forward in 2000 a *National Strategy for Information Security,* consisting of a prioritised list of measures to be implemented. The strategy aimed to:

i) reduce vulnerabilities in critical IT-infrastructure and systems and build a culture of security, *ii)* facilitate secure electronic commerce, *e.g.* by providing solutions for electronic signature and electronic identity, *iii)* establish a coherent policy base for the authorities, *iv)* introduce suitable co-ordination of efforts in the field of IT-security on the national level. The strategy was approved in 2003.

To put forward the work on security the Ministry of Trade and Industry established the Centre for Information Security (SIS) in 2002. SIS was responsible for co-ordinating activities related to ICT security in Norway. The centre was to receive reports about security-related incidents from companies and departments, and worked on obtaining an overall impression of threats to Norwegian ICT systems.

The eRegulation project: giving electronic communication the same legal status as paper-based communication

Modern electronic administration requires a modern legal framework. Against that background the *e*Regulation project was set up in 1999. The purpose was to propose changes that were to be carried out in order to erase all legal obstacles for establishing effective electronic communication. The project was set up with the collaboration of three ministries: the Ministry of Trade and Industry, the Ministry of Justice and the Ministry of Labour and Government Administration. However, all ministries were to make propositions on legal changes that were to be modified in their sectors. The Ministry of Trade and Industry had, as the project leader, the responsibility to gather all the different propositions for legal (judicial) changes.

In 2001 a Government bill,[11] with all the different propositions for legal modifications, was presented to the parliament (Storting). With few exceptions the proposed changes gave electronic communication the same legal status as paperbased communication.

On the basis of the government bill, *Regulation on Electronic Communication with and within the Public Administration*, prepared by Ministry of Labour and Government Administration, was ratified on 1 July 2002. The regulation created the legal framework for a secure and effective use of electronic communication. To make the regulation known in the public sector, Statskonsult was given the responsibility of providing guidance as to how the regulations were to be used in practice.

Establishing the framework for a 24/7 administration

As a response to the modernisation plan of 2000, the Ministry of Labour and Government Administration presented in 2001 the strategy "24/7 Public

Administration". The strategy on 24/7 administration stated that: *i)* public information and public services should be available in electronic forms by means of self-service solutions 24 hours a day, seven days a week *ii)* additional telephone services should be available *iii)* one-stop-shops in all municipalities. Pushed forward by a political advisor during an eight-month period, the plan made each ministry responsible for carrying out strategies among its agencies. The policy was finalised in September 2001 but follow-up work terminated later the same year with the change in government.

In 2001, the government-appointed committee presented the Official Norwegian report NOU 2001:10 "*Without Pen and Ink – The Use of Digital Signature in Electronic Interaction with and within Public Administrations*". The purpose of the report was to lay down the framework for achieving 24/7 administration targets and establishing suitable solutions supporting the use of digital signatures for electronic case processing, the provision of electronic services, and electronic administrative procedures, including financial administration and procurement. Such solutions require a secure, efficient and reliable infrastructure.

The report stated that the introduction and use of digital signatures and accompanying infrastructure involved a number of technological, legal, organisational and administrative challenges that had to be dealt with.

In late 2000 the Ministry of Trade and Industry presented the draft law on electronic signature. The law entered into force in 2001 and it implemented the EU directive on common framework for electronic signatures. It contained detailed provisions on the most significant requirements for the electronic identification of persons and gave qualified electronic signatures the same legal effect in the administration as traditional signatures.

On the basis of the *e*Norway plan of 2005 and the target of accessibility, the government published in 2003 *a White Paper on Broadband*. The vision stated that the electronic infrastructure should: *i)* cover all parts of the country, *ii)* provide competitive advantages for Norwegian industry, *iii)* foster growth among knowledge-based business and *iv)* contribute to the modernisation of the public sector. Norway has chosen a market-based strategy for the roll-out of broadband, in line with OECD recommendations. The so-called "HØYKOM programme" aimed to stimulate dissemination of broadband communication in Norway, especially in remote areas. The programme runs for a six-year period, starting in 1999 and ending in 2004.

In the public administration's ICT strategy for 2003-2005, digital identities and digital signatures were mentioned as an important element in developing electronic services. The government's requirement for electronic ID and electronic signatures will further enable electronic communication with and within the public administration.

Notes

1. Public data handling – decentralisation and efficiency, NOU 1978:48.
2. National Infrastructure for electronic common data handling.
3. *http://odin.dep.no/odinarkiv/norsk/dep/ad/1996/pressem/034005-070020/index-dok000-b-n-a.html*.
4. *www.ssb.no/kostra/*.
5. Final report from the Program for Electronic data handling (Sluttrapport fra Program for elektronisk saksbehandling). Statskonsult 2002:14.
6. Public Registers – the basis for establishing an effective e-government. (Offentlige register – grunnlaget for den elektroniske forvaltningen). Report from Statskonsult 2002:2.
7. Online provision of public electronic information, Statskonsult 1996.
8. Common databases for Inspectorate Agencies, Statskonsult 1995:8.
9. Use of ICT in Nordic Enterprises 2000/200, Statistics Norway 2002, Eurostat 2002.
10. "Ett sted, ett telefonnummer – en platform for etablering av offentlige servicekontorer" (one place one telephone number – a platform for the estbalishment of one-stop shops), p. 20.
11. Ot.prp. nr 9 (2000-2001).

ANNEX D

Methodology

Definition of the analytical framework

The Norway peer review methodology was developed by the OECD over the period from 2002 to 2004. The methodology takes into account the OECD framework for examining e-government that was developed in "The e-Government Imperative" (OECD 2003), and the work that went into the OECD publication "E-Government for Better Government" (OECD 2005). The methodology was tested in a pilot review of e-government in Finland, which led to the publication of the report: "OECD e-Government Studies: Finland" (OECD 2003). In 2004, the OECD E-Government Project adopted the OECD methodology for peer reviews, as laid out in "Peer Review: An OECD Tool for Co-operation and Change" (OECD 2003). Using this analytical framework, the OECD has conducted reviews of Mexico and is undertaking a review of Denmark. Additional reviews are planned for 2005-2006.

The development of the OECD e-government peer review methodology is an ongoing process, but the general framework will be preserved so as to allow for comparability among countries. The OECD will continue to ensure that the methodology used is updated and as relevant as possible for OECD countries.

In the development of the methodology, the OECD kept in mind that:

- The OECD should assign great importance to statistical rigour and quality when measuring and describing variables.
- Comparable descriptive characteristics of variables are necessary for building an international classification of e-government experiences.
- The OECD E-Government Project should compare its approach to those of other OECD directorates, and collect lessons learned for future reference and sharing with other directorates.

As the first step for a country review, the OECD Secretariat develops an agreement with the country authorities concerning the objectives, analytical framework and timeline of the study. The terms of reference set out the areas

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to be studied and structure the issues to provide an overall view of e-government implementation and impacts.

The review is structured around the notion of a policy cycle in which e-government goals, strategies and initiatives are developed and diffused centrally, as individual e-government projects are initiated at the agency level. How these efforts interact leads to a focus on co-ordination issues for the development and implementation of e-government across the central government. This has been a recurring issue in discussions with e-government officials and experts.

As part of the study the Secretariat also provides definitions of terms such as "e-government", "external barriers" and "e-government skills". A full glossary is provided in Annex 5 of this report.

Inputs

The Norway study is primarily qualitative in nature, presenting a combination of observations and judgements gleaned from reports and official documents, survey responses and interviews. The study has four main inputs:

- Reports and official documents.
- The OECD e-government survey.
- Interviews with government officials.
- Peer review meeting.

Reports and official documents

The study brought together a wide range of government documents across sectors and competencies, which provided insight into how various planning processes are co-ordinated in Norway. In particular, information was gathered from main OECD reports of Norway (*e.g.* OECD Review of Regulatory Reform – Norway, and OECD Economic Surveys: Norway). The study also drew on academic research and journal articles on public management reform, e-government and the information society in Norway. This approach was based on the notion that e-government cannot be addressed in isolation, but should be observed from a wider public management perspective.

OECD survey of e-government in Norway

The OECD survey on e-government was originally developed in 2002 and revised in 2003 based on the experience of the Finland review. A revised version of the survey was presented to the OECD Steering Group on the Complementary Areas of Work on E-Government at a meeting in Paris in December 2003. Comments from the Steering Group were incorporated into the final version of the survey.

Within the OECD Directorate of Governance and Territorial Development, the survey was sent to colleagues working on regulatory reform, territorial

development and government indicators. It was also sent to the Statistical Directorate of the OECD and to the Directorate for Science, Technology and Industry – in particular experts on the information society, privacy and security, and ICT statistics.

In February 2004, the OECD administered the survey to ministries and agencies in the Norwegian government. The survey was targeted at government officials with responsibility relevant to e-government within ministries and agencies of the central administration. The survey's sample of central government agencies and ministries was jointly selected by the OECD and the Norwegian government. Central government is defined, for the purpose of this review, as being composed of ministries and central administrative agencies outside the ministries which have 1) legal responsibilities for the whole country, 2) executive assignments, 3) professional staff; and which report directly to the Council of Ministries.* The survey sample also includes a number of different bodies (*e.g.* state enterprises, state-owned limited companies) that are effectively part of central government administration through their affiliation to it, but are not covered by the strict Norwegian definition given above.

As seen from Table 1, the OECD surveyed all ministries with an exception for the Prime Minister's Office. The response rate for the ministries was 65%. 75 of the 82 central agencies, directorates and public enterprises were covered and the response rate here was 45%. The survey looked at ministry/agency characteristics, asked their opinion on e-government challenges, barriers and priorities, and allowed them to self-classify the progress of their e-government initiatives. It should be kept in mind that the data results are qualitative and subjective, implying no possibility of performing tests of significance; no definitive conclusions can be drawn.

The survey was provided online, in a multiple-choice format. Invitations to the take the survey were sent out in February 2003 with two reminders, one in May 2003 and one in August 2003. The questions were referring to the current time if not otherwise stated.

Interviews with government officials

The OECD E-Government team had two sets of interviews with Norwegian government officials. The first, which took place in March 2004, was a set of exploratory interviews, designed to help the OECD understand the key elements regarding e-government in Norway. The OECD team met with 5 ministries and 6 agencies. The interviews were scheduled by the Ministry of Labour and Government Administration, with input from the OECD, so as to gain insight into

* Adapted from Lægreid, and Roness, P. G. (1983). This definition of central government has been adopted for the purpose of this report.

Table D.1. **Responses to the OECD survey**

	Total	OECD sample	Responses	Valid responses	Response rate %
Ministries and central agencies	100	92	45	45	49
Ministries	18	17	11	11	65
Central government agencies	82	75	34	34	45
Ministries and agencies according to administrative branch					
Prime Minister's Office	1	0	0	0	0
Ministry of Agriculture and Food	12	4	3	3	75
Ministry of Children and Family Affairs	11	6	1	1	17
Ministry of Culture and Church Affairs	39	8	2	2	25
Ministry of Defence	9	3	1	1	33
Ministry of Education and Research	22	6	4	4	67
Ministry of Finance	12	6	4	4	67
Ministry of Fisheries and Coastal Affairs	8	3	1	1	33
Ministry of Foreign Affairs	5	2	0	0	0
Ministry of Health and Care Service	8	3	2	2	67
Ministry of Justice and Police	29	6	1	1	17
Ministry of Modernisation	5	6	3	3	50
Ministry of Local Government and Regional Development	16	4	2	2	66
Ministry of Petroleum and Energy	4	3	2	2	100
Ministry of Labour and Social Affairs	22	14	7	8	52
Ministry of Trade and Industry	16	8	3	3	50
Ministry of Transport and Communications	8	3	1	2	50
Ministry of the Environment	8	7	6	6	67

the main issues and problems regarding e-government in Norway. The OECD met with a mix of organisations that were relatively advanced and less advanced with regard to e-government. The exploratory interviews generally lasted one hour, and focused on the successes and challenges of implementing e-government. These exploratory interviews were not meant to be comprehensive, but to assist the OECD with the reformulation of the survey, and to develop an understanding of areas that merited further research.

The second set of interviews took place in May 2004. These in-depth interviews with government officials were carried out by four members of the OECD Secretariat plus three peer reviewers: Arne Granholm (Sweden), Mark Gladwin (United Kingdom) and Louis Felipe Pesquera (Mexico). The peer review team undertook a total of 33 interviews with both ministries and agencies.

The interviews followed a structured set of questions, covering each of the main themes of the report. The interviews focused on the more informal issues that could not be captured with the written survey. Officials were given the option of keeping the interviews confidential.

Interviews covered all of the ministries, plus a cross-sample of agencies chosen to represent advanced, average and lagging e-government performance. In addition to government officials, the OECD interviewed one representative from the association of local authorities.

Peer Review Meeting

In the assessment phase of an OECD Peer Review, the main findings of the review are discussed in a plenary meeting of the body responsible for the review. The examiners lead the discussion, but the whole body is encouraged to participate extensively. Following discussions, and in some case negotiations, among the members of the body, including the reviewed country, the final report is adopted, or just noted by the whole body. Generally, approval of the final report is by consensus, unless the procedures of the particular peer review specify otherwise ("Peer Review: An OECD Tool for Co-operation and Change", OECD 2003).

The main findings of the OECD Peer Review of E-Government in Norway were circulated to all OECD countries for comments in July 2004, and presented for discussion at the OECD E-Government Symposium for Senior E-Government Officials which took place in Seoul (Korea) in July 2004. Countries took this opportunity to use their own expertise on e-government to provide insightful commentary on the report. Following the peer review meeting, the OECD Secretariat revised the final text, taking into account country comments. The review was also submitted to the Public Governance Committee under the written procedure prior to publication.

Independence, neutrality and verification of inputs

Within a framework approved by the Norwegian government, the OECD conducted the study with its own staff and independent peer reviewers. The study was conducted with guidance and financing from the Norwegian Ministry of Labour and Government Administration, but the Ministry did not influence the final conclusions or bias the study regarding its own role in e-government design and implementation.

The report was drafted by the OECD Secretariat with the input of the three peer reviewers from Sweden, the United Kingdom and Mexico. The text also benefited from fact checking by the Ministry of Labour and Government Administration and other relevant ministries that participated in the in-depth interviews. The OECD regularly briefed the Norwegian Ministry of Labour and Government Administration and the OECD Steering Group on the Complementary Areas of Work on E-Government on the progress and procedures of the Norway review.

ANNEX E

Glossary

This glossary was compiled for the purpose of this study, and describes how the terms are used in this report.

AUTHENTICATION – a security measure for checking a user's identity before being allowed Internet or intranet access, typically by entering a user identity and/or password.

BACK OFFICE – the internal operations of an organisation that support core processes and are not accessible or visible to the general public.

EXTERNAL BARRIERS – external barriers to e-government are obstacles need to be resolved with the help of other actors (*e.g.* in central administrations) in order to be overcome. They often concern breakdowns, missing components or lack of flexibility in the government-wide frameworks that enable e-government. The result is often the inability to achieve a whole-of-government or seamless perspective in e-government implementation.

CHANNELS – means of accessing services (*e.g.* Internet, telephone, visit to a government office). Different types of customers use different service access channels.

E-GOVERNMENT – the use of information and communication technologies (ICTs), and particularly the Internet, as a tool to achieve better government.

FRONT OFFICE – refers to government as its constituents see it, meaning the information and service providers, and the interaction between government and both citizens and business.

INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT) – refers to both computer and communication technology. IT (information technology) is defined as any equipment or interconnected system (subsystem) of equipment that includes all forms of technology used to create, store, manipulate, manage, move, display, switch, interchange, transmit or receive information in its various forms. Information can be in the form of: business data; voice conversations; still images; motion pictures; multimedia presentations and

other forms including those not yet conceived. The meaning of communication refers to a system of shared symbols and meanings that binds people together into a group, a community, or a culture. The word communication was added to IT so as to make a network of the usage of Information Technology.*

INFORMATION MANAGEMENT (IM) – operations which develop and maintain the information reserves and information processes of an organisation.

INFORMATION NETWORK – a system of IT hardware and services which provides users with delivery and retrieval services in a given area (*e.g.* electronic mail, directories and video services);

INFORMATION NETWORK INFRASTRUCTURE – the whole system of transmission links, access procedures, legal and general frameworks, and the basic and supportive services of the information network;

INFORMATION SOCIETY (IS) – a society which makes extensive use of information networks and ICT, produces large quantities of information and communications products and services, and has a diversified content industry.

INFORMATION TECHNOLOGY (IT) – means the hardware, software and methods used for the automatic processing and transfer of data.

INTEROPERABILITY – the ability for organisations to share information and data (*e.g.* by using common standards).

MIDDLEWARE – Middleware is software that integrates services and distributed applications across the Internet or local area networks, and may provide a set of services such as authentication, messaging, transactions, etc. Middleware allows government organisations to share data between front office service delivery channels and back offices applications and processes, and is increasingly perceived as a technology for delivery of joined-up e-government services.

ONE-STOP SHOP – a government office where services by multiple public administration authorities are available on the same visit.

ONLINE GOVERNMENT SERVICES – services provided by, but not necessarily supplied by, the public administration to citizens, businesses and organisations as well as to other public administration units through information networks.

PORTAL – this is a dedicated service that co-ordinates and presents information and services from different, independent suppliers into one interface, typically a Web site. The information is categorised in accordance with given criteria related to users' needs.

* Adapted from *http://afrinet.intnet.mu/competition2002/rcpl2/ict/frameless/definition.htm*.

PUBLIC KEY INFRASTRUCTURE (PKI) – PKI is a method for authenticating a message sender or encrypting a message. It enables users of an insecure public network, such as the Internet, to securely and privately exchange data through the use of a public and a private cryptographic key pair that is obtained and shared through a trusted authority. It provides for a *digital certificate* that can identify an individual or an organisation and directory services that can store and, when necessary, revoke the certificates.

SEAMLESS SERVICES – this means presenting easy to use, function-driven services to the public. Seamless services provide citizens with what they need to know in a particular topic or client grouping, without having to know which government level or agency they must contact to get it. It provides all the information and services a user needs in one Web site.

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Norway

Norway has long been active in using Information and Communication Technology (ICT), which has provided an important tool for achieving gains in government efficiency, for improving the quality of public services and for modernising government. Norway's efforts to become a leader in the use of ICT in government have been supported by a high level of Internet penetration in Norwegian society and a burgeoning information society.

This report looks at the progress to date and the remaining challenges the Norwegian government faces in implementing e-government. The report provides a detailed analysis of the e-government policy cycle, focusing on the role of the central state as a policy actor. The report also provides proposals for action to improve the delivery of electronic services to citizens, understand public demand for online services and participation in government, develop frameworks for monitoring and evaluation of e-government, respond to agencies' demands for more central guidance, and improve co-ordination.

This review is the first study that undertakes an in-depth analysis of e-government in Norway from a whole-of-government perspective. It is part of a series of national e-government reviews conducted by the OECD E-Government Project. Other reviews in this cycle cover Finland, Mexico and Denmark, with additional reviews under way. The report is based on the OECD synthesis reports *The e-Government Imperative* (2003) and *E-Government for Better Government* (2005). The common framework provided by the OECD assists countries in evaluating their e-government policies, ensures international compatibility of findings and systematically builds up a body of empirical evidence regarding good e-government practices.

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