OECD e-Government Studies

Denmark: Efficient e-Government for Smarter Public Service Delivery

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Foreword

Since the 2005 OECD E-Government Study, Denmark has adopted a national e-government strategy – "Towards Better Digital Service, Increased Efficiency and Stronger Collaboration" – covering the period 2007-10, which generally follows-up on the OECD proposals for action.

This 2010 e-government country study, which should not be seen as a comprehensive and extended e-government review, aims to assess the progresses made on e-government by Denmark since 2005 as a result of the current e-government strategy and to assess the main challenges and questions to be addressed in order to put forward a number of proposals for action which shall enable Denmark to further exploit its privileged position in terms of e-government development through the delivery of high-quality and cost effective services.

This report focuses on the analysis of a number of key areas that correspond to the main challenges identified by the Danish government – but which are not unique to Denmark – in its current efforts to bring e-government development forward. These challenges are in fact shared by a majority OECD countries, as they are increasingly focusing their efforts on broadening the perspective of e-government programmes to enhance its value as a driver for efficiency and effectiveness, while sustaining ongoing service delivery improvement. These areas are:

- *the impact of e-government on the public sector modernisation and efficiency efforts;*
- *the impact of the e-government organisational structure and arrangements on e-government development and implementation;*
- *the need to address issues related to user take-up;*
- *the assessment of the benefits realisation of e-government projects.*

The report was completed in March 2010. It draws on a survey of the Danish central, regional, and local government organisations administered in September-October 2009 on an extensive review of information about e-government in Denmark, and on a series of interviews with Danish officials and commentators held in October 2009. Peer reviewers from the governments of Australia, the Netherlands and the United Kingdom contributed to the review process and to the drafting of the report. Their participation helped set Danish initiatives in an international context and identify lessons for other OECD countries to learn from.

The analytical framework of the report is based on three OECD synthesis reports: The e-Government Imperative (2003), e-Government for Better Government (2005), Rethinking e-Government Services: User-centred Approaches (2009). The review was carried out under the auspices of the OECD Network of Senior E-Government Officials, which considered its main findings as part of the Work Programme of the Public Governance and Territorial Development Directorate within the OECD.

Under the leadership of Christian Vergez and Yih-Jeou Wang, the review was managed and written by Barbara-Chiara Ubaldi, assisted by Carine Tyler and Tara Staub. Special thanks to the three peer reviewers: Ann Steward (Australia), Kees Keuzenkamp (Netherlands), and Bill McCluggage (United Kingdom). The OECD gratefully acknowledges the excellent co-operation of the Danish administration in the preparation of the report.

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Assessment and Proposals for Action

Core messages in the four areas of focus

In order to address the challenges highlighted in the report, the Danish government could consider the following:

Broadening the vision of the public sector:

- Broadening and strengthening the e-government vision taking into consideration that enabling societal-wide efficiency and effectiveness could realise better use of public resources at large – *i.e.* to help improve public service delivery, to enable citizens to better access services – without losing sight of the necessary focus on efficiency and effectiveness.
- Defining a roadmap which translates vision into action to: widely promote the top-tier e-government enabled initiatives and ensure that investments are aligned with national strategic goals; prioritise and rationalise efforts; demonstrate interconnectedness and interoperability between projects; set implementation timeframes and expected outcomes; spot and exploit synergies and economies of scale; and secure public trust and support.
- Focusing on a coherent digitisation of government processes rather than singularly on e-government as an individual policy area to reinforce the role of e-government in the successful delivery of public sector goals (*e.g.* de-bureaucratisation strategy); to ensure e-government is recognised as a core component of other programmes; to identify the dependencies and timeframes; and to facilitate the interaction and joint-efforts of different ministries to support the implementation of new projects.

Reinforcing the organisation of the public sector:

- Reinforcing the adopted joint-approach: through the strengthening of the existing cross-governmental collaboration and co-ordination structure (*e.g.* the Joint Committee for Cross Governmental Co-ordination and its sub-bodies – the Domain Boards) providing it with the necessary mandate and management tools (*e.g.* budget and leadership); and through concrete activities and projects (*e.g.* development of joint solutions in all areas, as appropriate) to sustain an integrated and coherent e-government implementation within and across levels of government.
- Strengthening the engagement with sub-national level organisations to achieve greater use and full exploitation of digital services supported by a joint-collaboration approach to e-government projects across all levels of government.

Core messages in the four areas of focus *(cont.)*

Enhancing capacities within the public sector:

- Improving data standardisation and the use and flow of public sector information within and across levels of government to better meet the needs of citizens, businesses or governments and improve cross-governmental collaboration by clarifying the primary holder of core data and the conditions for access or reuse by multiple parties (in- and outside government).
- Developing core capacities and skill competencies in the public sector to meet and support the growing demand for project management and design – particularly in the case of large ICT projects – and to support successful e-government implementation, full exploitation and leveraging of e-government projects and advances in the modernisation agenda.
- Implementing and further enhancing the use of the Business Case Model, and adopting its use to support more robust investment analysis and strong monitoring of the follow-up of the projects' implementation to ensure that the benefits – both in terms of traditional efficiency and broader benefits – are reaped throughout the process.

Strengthening citizens and businesses' engagement:

- Enhancing the public awareness of existing e-government services through a targeted promotion and marketing effort to increase user take-up.
- Developing a strong and effective channel-management strategy to support e-government initiatives across the whole public sector.
- Incorporating in public service design and delivery the views of citizens and businesses in order to reflect their needs and increase the services' effectiveness, quality and responsiveness.

Main findings

Denmark is at the forefront of e-government development and implementation and holds leading positions in all international rankings. This is the result of the continuous commitment and strategic approach shown by the Danish government in using ICT to strengthen the performance of its public sector to provide high-quality public services to its citizens and businesses. In recognition of the instrumental value of e-government to boost the quality, efficiency and effectiveness of the public sector, and to foster co-ordination and co-operation across levels of government, thus increasing the citizens' trust in their government, Denmark believes that e-government is a "must". Pressured by the strong emphasis on efficiency and effectiveness due to the budgetary and fiscal imbalances brought about by the latest economic recession, Denmark could seek to exploit its sophisticated e-government enabling environment and its advantage of being a "world champion" in using ICT to harvest the broader benefits of e-government.

Key points

Translating the main finding into goals and concrete actions would mean:

- Broadening the e-government vision taking into consideration that enabling societal-wide efficiency and effectiveness might reinforce the potential to better use public resources at large – *e.g.* to help improve public service delivery, enable citizens to better access services, reach out to the vulnerable parts of the population and foster open government – without losing sight of the necessary focus on efficiency and effectiveness.

In order to attain these goals the Danish government could:

- Leverage the adopted joint approach and strengthen the existing cross-governmental collaboration and co-ordination structures (*e.g.* the Steering Committee for Joint Cross Governmental Co-operation[1] and its sub-bodies, *i.e.* the Domain Boards[2]) to sustain an integrated and coherent e-government implementation within and across levels of government by providing such structures with the necessary mandate and management tools (*e.g.* in terms of budget and leadership).
- Enhance the public awareness of already implemented e-government solutions through a massive promotion and marketing effort to motivate and increase the use of the e-government services already in place. To this end, a strong and effective channel-management strategy also needs to be put in place, and relentlessly pursued by the whole public sector.

Key points *(cont.)*

- Incorporate in public service design and delivery the views of citizens and businesses regarding their needs in order to link the services' increased effectiveness, quality and responsiveness to the enhanced engagement of the users and a sounder knowledge of their needs.

Key challenges and proposals for action

The Danish government has asked the OECD to conduct a follow-up country study to the 2005 OECD E-Government Study.[3] Recommendations from this study were largely followed by the Danish government to inform the national e-government strategy covering the 2007-10 timeframe.[4] This report should not be seen as a comprehensive and extended e-government study, but as an attempt to highlight the main challenges and questions to be addressed by the Danish government in 2010 and onward. The continuous development of e-government is demanding and resource-intensive even for a mature e-government country like Denmark. This report will guide policy makers who are in the process of taking stock of the progresses made since 2005 with regard to e-government development to inform a new e-government strategy and address the priorities as identified in the Government Work Programme "Denmark 2020 – Knowledge, Growth, Prosperity, Welfare" ("*Danmark 2020 – Viden, vækst, velstand, velfærd*").[5] It will ensure an optimal use of e-government to make the public administration more efficient, effective and self-sustained.

The sections below highlight the main findings in the areas of focus of the report and put forward proposals for action. As this study presents the richness of initiatives and actions so far adopted by the Danish government on e-government and proposes actions related to areas and challenges which are commonly shared by a number of OECD countries, the intention is to provide a useful tool to support e-government policy-making in Denmark as well as in other OECD countries.

This follow-up study focuses on the analysis of the following areas:

- the impact of e-government on the public sector modernisation and efficiency efforts;
- the impact of the e-government organisational structure and arrangements on e-government development and implementation;
- the need to increase user take-up; and
- the benefits realisation of e-government projects.

Area of focus one: The impact of e-government on public sector modernisation and efficiency

The adoption of a holistic approach to e-government development can increase its impact as key enabler for public sector modernisation and efficiency. Placing e-government in the wider context of other public agendas and reform programmes can help ensure the effective alignment and coherence of the various policy areas. This, in turn, can facilitate and promote the systematic monitoring and assessment of progress achieved through cross-cutting reforms and programmes. Mapping and monitoring the status and results of existing initiatives, in connection with the development of new ones, is an important exercise. It allows the exploitation of synergies and creation of economies of scale, the rationalisation and prioritisation of efforts, the adoption of early corrective actions and reallocation of funds as needed; and ensures the integration and consistency of initiatives. Denmark recognises the instrumental value of e-government as a tool to support public sector reform efforts and sustain the goals of other public sector agendas such as increased modernisation and efficiency. This is why the Danish government has, over the past decade, focused on using ICT to enable the efficient, effective and flexible functioning of the public sector and the delivery of modern public services. However, the country study has revealed a number of aspects where the government's intervention would lead to important improvements.

Key assessment

- The Danish government has made considerable efforts to ensure the alignment of the e-government programme with targeted public sector reform initiatives (*e.g.* the Quality Reform, De-bureaucratisation Programme) and the co-ordination of the various governance bodies in charge of their implementation. However, the exploitation of e-government and innovation as means to drive change, at times, still appears to be siloed. The public sector at large has limited appreciation of the value and impact of e-government across areas and on reform and modernisation efforts. Even though the overall perception on the alignment of the central and subnational use of innovation and ICT and of the development of specific digital solutions within the framework of the national e-government strategies (*e.g.* medi-card, Document Box, and digital signatures) is generally positive, the alignment is only partially realised and not yet fully exploited. It is present in some agencies, but not consistently as part of an overall approach. What could be strengthened is a holistic and coherent vision of how e-government and innovation can be used by the country to exploit its opportunities as a digital economy as well as a comprehensive picture of those initiatives that would enable them to fully exploit their

potential across the whole public sector. The Danish government has realised that e-government has a key instrumental value to push reforms forward at all levels of government and where it is used it should be clearly integrated. Strengthening the link between the e-government agenda and the various programmes can increase the impact of its strategic potential. The government organisational settings may help bring together the different public sector modernisation efforts (*e.g.* de-bureaucratisation, reduction of administrative burdens, public management, e-government) as they can foster a greater integration of the agendas and an effective co-ordination of the initiatives.

Proposals for action

To strengthen the alignment between e-government and the different public sector reform agendas, the Danish government could consider the following proposals for action:

- **Setting an e-government vision for the future and a roadmap identifying top priority initiatives:** As many projects are being implemented and others are planned, a clear e-government vision indicating Denmark's goals for the future, outlining the criterion for choosing priority areas and allocating resources could support a strategic selection of key initiatives and improve the possibility that these initiatives deliver the expected outcomes and create the intended value in the Danish public sector. The vision could set the national goals and indicate how the e-government and innovation agendas can help achieve results in specific sectors or across areas, at the central or at the subnational levels.

  A clear vision for the future could ensure that e-government and innovation are embedded in the strategic thinking whereas the definition of a roadmap could foster the reconciliation of innovation-led and efficiency-led approaches through specific initiatives and projects. The roadmap, to be structured in line with such a vision, could also ensure that the selected initiatives meet the achievement of the goals set in the vision – within single sectors or across areas at the central or sub-national levels of government – and that the use of ICT is well integrated in the policy areas. The roadmap could be tied to a cross-agency priority system and more clearly identify the dependencies and timeframes holistically and provide all parties with a more consistent and targeted pathway for the future.

  Mapping out, agreeing upon, linking and promoting widely the top-tier initiatives is a critical exercise. The roadmap for the realisation of the strategic vision allows the prioritisation of initiatives, the rationalisation of efforts, as well as the demonstration of the interconnectedness between projects, implementation timeframes and expected outcomes to spot and

create synergies and avoid overlaps. This would foster the consistency of systems design and development and the exploitation of synergies and economies of scale to jointly develop operations, and facilitate the reallocation of funds as needed.

Consultation with internal and external stakeholders (*e.g.* various segments of the population including trade unions, business representatives) as part of the mapping exercise would enable early action to be taken to stop any work that is not aligned, and to reallocate resources accordingly. The mapping could further improve the digitisation of the public sector both in the citizen-oriented and business-oriented areas, could facilitate a renewed framework for targeted investments aligned with the national strategic goals as well as a consistent reporting on progresses and a framework for cohesive decision making and increased public trust.

- **Focusing on government processes rather than on e-government as an individual policy area to provide a stronger connection:** The government could consider re-examining the various streams of work within the central government as well as the linkages to the activities undertaken at the subnational levels, which relate to e-government. This approach could assist in the clear identification of dependencies and timeframes based on a whole-of-government approach as laid out in the work on enterprise architecture and the provision of a more consistent and targeted pathway for the future. In addition, this would assist in providing a stronger line of sight over the importance and validity of the work in accordance with the above-mentioned e-government vision statement and roadmap and would support co-operation between and across ministries. ***This approach could reinforce the ties between e-government and other public sector goals (e.g. de-bureaucratisation strategy) to ensure e-government is recognised as a core component. It could also facilitate the interaction and joint efforts of different ministries to support the implementation of new projects.*** To strengthen this interconnection, the roadmap could foresee the development of joint solutions on common problems whenever possible. Such an approach would also go some way to address points raised during the study concerning the need for better co-ordination in specific government processes (*e.g.* public registers and public procurement). Building on this, the government could consider extending this approach to all business areas whenever possible.
- **Developing, adopting and implementing a common approach embracing a broader vision of e-government:** The government could consider a change in perception – and in practice – of e-government from being primarily an instrument for better administration and efficiency gains in the back-office to being a means to deliver more effective and improved services and support other policy goals. This could imply focusing on the

use of e-government not just to increase efficiency of administrative services but also to support improved service delivery in the core service areas such as health, social care and education, where better does not necessarily mean more efficient processes. Clearly, as the improvement of services comes at a cost, the need to achieve economic efficiency gains while improving service delivery needs to be taken into account. The focus may shift to an outcome-oriented one (*e.g.* more effective education) rather than being driven by administrative efficiency-gains. Restoring the link between e-government and better service delivery could also increase the political focus on e-government.

- **Strengthening the link between e-government and the further improvement of service delivery could forge** a vision and an understanding of how e-government can contribute to a wide range of policy areas and societal gains rather than focusing solely on budget related ones. A robust analysis of the ICT requirements needed to support this approach would be necessary to secure a choice of applications based on a comprehensive set of criteria. This could also lead, within specific areas (*e.g.* in education), to a further improvement of the e-government solutions through a more demand-driven development. This would imply a certain level of services co-design based on the involvement of the users.

Area of focus two: The governance framework for e-government development and implementation

Particularly in a period of fiscal and financial constraints, which are partly the consequences of the economic recession experienced by OECD countries in 2008-09, OECD countries are increasingly trying to transform their operations and services from "doing more and better with less" to "do the same with even less". Achieving this result through public sector modernisation, reduction of administrative burdens and improved service delivery to citizens and businesses via a number of e-government initiatives in a multi-agency set-up requires collaboration and co-ordination across levels of government to ensure coherency and integration.

A system of strong governance that reflects a strategic vision of a whole-of-government approach for coherent e-government development and implementation will drive an enhanced integration and/or sharing of information, data and systems, and setting of priorities. This approach is likely to deliver co-ordination and co-operation across the levels of government. Easy access to and sharing of, information and data perceived as public value increased transparency and openness of government's operations, enhanced capacity to listen to and involve the citizens – facilitated

by the use of Web 2.0 technologies among other things – are pivotal requirements for the fostering of an efficient, open and responsive government. This may on the one hand require upfront investments in the set-up, but on the other hand in a medium- to longer-term perspective, provide a platform for contributions to new economic growth. Securing the continuous support of the political leadership, centrally and subnationally, taking full ownership of and responsibility for the e-government agenda is vital to the successful implementation of the national e-government programme. These are the key challenges shared by most OECD member countries and tackled through national e-government strategies.

Key assessments

- The Danish government has focused on the establishment of frameworks and structures to engender multi-level collaboration and co-operation across levels of government to foster co-ordination across functional areas and support an efficient and effective development of e-government. Although the current governance frameworks have led to the achievement of considerable e-government progress, it could benefit from further strengthening. Specifically, renewed organisational structures supporting public sector co-operation across levels of government to agree and provide common solutions to shared problems would overcome the continued silo-based activity. Likewise, continuous involvement and support at the political level would provide visible sponsorship and a more direct connection to national priorities to make cross governmental co-operation work better (*e.g.* in the area of child care, how does the government ensure that all ministries and levels of government co-operate to provide common solutions?).
- The mandate of the Steering Committee for Cross Governmental Co-operation (STS) is neither sufficiently clear nor authoritative. Conceived to ensure co-ordination across areas and with the support of the political leadership to push through the broad e-government agenda (*e.g.* public sector reforms and improved service delivery), its focus on technical related-matters has outbalanced the space devoted to the discussion and decision making on the national vision and future strategic priorities. Additionally, the established *Domain Boards* could be more effective in bringing forward e-government development in the single areas, as originally envisaged and in informing the discussions made within the STS. Currently, the Domain Board's effectiveness is being hindered by their structure reflecting that of the STS, the lack of a specific mandate and of management tools to implement such a mandate (*e.g.* a budget), and a focus that is neither political, nor fully technical.
- The fragmentation of responsibilities and the absence of a visible champion charged with driving the implementation forward, has also resulted in the

value and role of e-government and of its strategic and economic advantages for Denmark not being clear to the political leadership. The Structural Reform of the Danish public sector has also contributed to this position sometimes resulting in a fractured approach "state-regions-municipalities" in the co-ordination and power-sharing between the central government, the regions and the municipalities. There is at times an imbalance and a limited alignment between the priorities as seen by the central government and those perceived at subnational levels. This reinforces the case for having a more effective central focal point to co-ordinate the setting of the direction and to set and agree on priorities, interdependencies and timetables for achievements.

Proposals for action

In order to tackle the above issues, the government could consider the following actions:

- **Revisit and strengthen the organisational structure and co-ordination mechanisms** to enhance the effective co-ordination between the ministries sitting in the STS, as this could help to **bring about the required political leadership** and lighten the strong focus of the e-government agenda on the economic and financial perspective. This implies several actions:
  - **The government could consider strengthening the role and responsibilities of a co-ordinating body such as the STS as a political driver for e-government development.** This could be achieved by vesting the existing STS with powers to set priorities, providing it with the necessary mandate, access to funds and with reporting obligations to the government on progress made (*i.e.* formally report to government and be accountable on achievements). Empowering such a co-ordinating body would mean enabling it to support visionary cross-governmental projects such as those pushing for integration (*e.g.* ensuring the adoption of standards and establishment of a common ICT architecture) and taking responsibility particularly for big ICT projects as drivers for innovation. A sharper link between the political and strategic discussions in high-level co-ordinating meetings of the STS (*e.g.* STS with political representation) supported by more technically-oriented ones with the representation of various ministries (*e.g.* the participation of high-level senior civil servants with the required technical knowledge) could provide more efficient and effective discussions and decision-making. The revised structure could better facilitate the identification of shared outcomes, resolve common problems, provide the right focus and content of the discussion given the type and level of representation attending the meetings, and facilitate the proper level of buy-in to support the development of common solutions and systems. The focus would shift to be not only on efficiency but also on the

support of policies as well as on the improvement of processes and implementation.

- **Revisiting the role and competencies of the Domain Boards** to increase their effectiveness. Subject to any change to the STS as mentioned above, the organisation, competencies and mandate of the domain boards would require revisiting. The Domain Boards could be more effectively used to inform decision-making at the STS level, *e.g.* the Domain Boards could be obliged to function as initiative-taking bodies, such as presenting proposals to the STS on how to better use e-government to support improved service delivery within their sector, identify potential solution to common problems.

- **Improve the cross-governmental collaboration through concrete activities and projects** (*e.g.* the law on geospatial data). The speed of development of joint solutions in all areas could be increased (*e.g.* the principle of sharing of data and use of information should be promoted and increasingly used as it will help to break down the silo approach and foster collaboration). The adoption of a new vision (*e.g.* a new e-government strategy) sufficiently robust for the next five years to enable the sharing of data and integration of services could be promoted and the partnership approach could be more strongly sustained. The new vision would thus support a stronger affirmative approach towards the principle of collaboration across levels of government.

- **Strengthen the subnational level:**
  - Since the Structural Reform, the municipalities appear to have strengthened their desire towards collaboration, for instance by engaging in creating joint-solutions. This should be encouraged and extended in order to achieve a greater use of digital services supported by a joint-collaboration across all levels of government. This would ensure that e-government is brought back to, and discussed in, the political agenda of the municipalities and that its full potential is exploited. Mapping what the local government is doing in relation to the implementation of the various initiatives could enable the public to gain insight into the municipalities' performance and increase their accountability and transparency. This could make it easier to highlight local successes and potentially facilitate a re-assessment of the role of the local government in relation to electronic service delivery and to the development of a joint channel strategy.

Area of focus three: Towards a more citizen and business-centric approach

Ensuring the availability of a technically skilled labour force within the public sector, a high level of broadband penetration and citizens' ability to access and

use the services and information provided electronically are prerequisites for a society to exploit the opportunities offered by e-government and to facilitate increased user take-up. Improving the dialogue and forging connections between the government and users in the co-creation of policies and in the co-design of services is a feature of leading governments worldwide. The availability of new technologies (*e.g.* Web 2.0, tele-presence), the increased demands from citizens, third sectors, businesses and others for services to be made available in the way that best suits their needs, places increasing pressure on the public sector to remain up-to-date and proficient in the necessary ICT skills.

Key assessments

- A focus on smarter, better and cheaper use of technology can free up resources to be devoted to higher national priorities. Defining government processes from the citizens' perspective (users vs. providers) and strengthening the use of Web 2.0 technologies, could further help achieve value for money. This could also help to highlight the focus on the core public policy and service areas and not narrowly on the administrative side. In the educational area, for instance, while solutions have been built and enhanced to make the administrative processes more efficient, further attention could be given to educational content development and to the provision of new educational methods realising the potentials of digitisation.
- In general, the government has not maximised the use of available ICT platforms for service delivery to citizens. In most cases, the platforms are in place but the existing channel management strategy does not match the platform development level. The national e-government strategy covering the 2007-10 timeframe was actually foreseen as a cross-governmental channel management strategy. Thus, even though the individual authorities were expected to be responsible for developing their channel management strategies, the Domain Boards were supposed to play a more active role in the definition of the channel management strategy for services delivered across agencies. The need to have a channel management strategy did not receive the attention originally expected, and a new channel management strategy is needed, supported by a refreshed communication strategy. These could help to improve awareness, both internally and externally, and to fully exploit existing opportunities. The roles of the citizen portals and business portals in the service delivery to citizens and businesses should be clarified. A stronger dialogue and co-operation between the government and businesses, and government and the citizens for joint initiatives and projects is needed. Listening to the needs of business practitioners and citizens while

designing services would have a positive impact across the public and private sector. This could include more direct involvement of representatives of the various segments of the population in the designing of services to better understand how e-government can respond to special needs.

The structural reform has resulted in the local government in Denmark becoming the first point of contact in many instances between the citizens and the public authorities. While not all elements of the reform have fully settled in practice, there are areas where further efficiency can be leveraged by creating centralised shared services for processes that can be managed electronically (*i.e.* completely rule based, without human interference). From the central point of view, however, shared services are seen as a technical discussion about efficiency, whereas from the local governments' perspective it is perceived as a loss of autonomy and reduction of decisional power which is particularly relevant in cases requiring special attention.

Proposals for action

In order to tackle the above challenges, the Government of Denmark could consider the following actions:

- **Develop a cross governmental channel management strategy.** The choice of fostering the use of online channels or adopting mandatory solutions to enable the delivery of services to the more e-ready groups (*e.g.* students) could be pursued and sustained by the use of incentives as appropriate (*e.g.* monetary incentives, as well as in-kind incentives). Emphasis could be placed, for example, on advantages associated only with the online delivery of services which could not be offered in connection with offline delivery (*e.g.* faster turnaround time, higher service levels or administration fees).
- **Develop a new marketing and communication strategy** to ensure that users are aware of the services available on line.
- **Adopt an approach that prioritises end-users' needs** and aims at realising the potentials of digitisation to improve citizens' life (*e.g.* providing new kinds of services which are capable of fulfilling new personalised requests). The government could strengthen its capacity to assess users' needs (both citizens and businesses) and involve user groups through the use of Web 2.0 technologies to listen to the citizens, engage them in the design of services and in the co-production of policies and to forge collective initiatives and interaction. In addition, the government could consider strengthening the application of the principles on public consultations in order to make them an integral and systematic part of the process of public services design and delivery – including at the political level. This could be done particularly with regard to content development so that stakeholders' views could be taken into account when policies and digitisation of services are being

developed. Limiting the discussion only to the various government levels can be counterproductive in terms of user take-up. By enlarging the public consultation and involvement, the government could ensure that the development walks on two legs: meeting the citizens where they are using ICT to make services more efficient, while keeping in mind the more vulnerable groups that cannot access the online services (*i.e.* the "meeting the citizens where they are" approach). Ways could be envisaged, for instance, to increase the participation of young citizens on the co-design of services.

Strengthening the dialogue with businesses and citizens would raise the level of public awareness and recognition of the government's initiatives to improve service delivery by adding value through e-government. This would help to focus on the development of more demand-driven applications with the greater involvement of users, including co-production, thereby realising overall benefits of improved service delivery and increased efficiency. As a result, the public buy-in and use of e-government services could increase.

- **Benchmarking and monitoring the efforts and improvements made by the various agencies and ministries to digitise processes and operations** could help increase the level of transparency and improve public visibility. The identification of champions at all levels of government, particularly in relation to the implementation of e-government initiatives and user uptake, could help demonstrate the various ministries' involvement and performance with regard to digitisation, which would be a strong driver in the long term. The transparency and public visibility of the recognition could function as incentives for continuous improvement. Resources could be utilised to better showcase – and thus support and facilitate – central as well as subnational successes.

Area of focus four: E-government benefits realisation

An overall assessment of the effective realisation of e-government benefits requires, among other things, an analysis of the business case models and methodologies used to measure and evaluate the achievement of specific benefits and the impact of e-government projects. In order to achieve the full benefits of e-government, all governments should consider how to use e-government to enable better performance in all core business areas (*e.g.* healthcare, education and better decision making) where "better" does not solely mean more or cutting costs. This implies a wider notion of both efficiency and effectiveness, whereas increased effectiveness is measured in

terms of e-government contributions to support and advance broader societal goals of political prioritised policy areas. A systematic and consistent use by all levels of government of a business case methodology driven by a broader view can also lead to increased efficiency gains in wider societal terms. Adopting a funding mechanism and establishing a governance model that require investments based on sound business cases, clear outcomes and benefits to be achieved can also help demonstrate the benefits and value of e-government.

Key assessments

- There is a risk factor for large ICT projects linked to an inadequate availability of competencies and skills in the public sector (*e.g.* inadequate capability and maturity of experience to undertake particular projects and to understand certain risks related to the implementation process, to manage procurement especially for large ICT projects, to assess programmes' costs profiling, and to manage business case processes). There is not a comprehensive view of the core competencies and skills in place across the public sector, nor of those that will be required in the future to support the broader public sector reform objectives of the government. In addition, civil servants do not seem to fully value the importance of project management skills. This situation has a negative impact on the benefits realisation and on programme success in the public sector. For instance, it leads to delays in the implementation of large projects, to costs blow outs, to failure to deliver expected benefits and to a situation where the government institutions do not always have the capacity to harvest the full value of existing e-government projects.
- The business case model used by the Ministry of Finance is based on international standards for ICT projects and business cases. It delivers a financial overview and allows the users to compare the planned value and objectives to the estimated costs and investments. However, it is perceived as being used with a main focus on the efficiency of administrative processes. This narrower focus may not enable the government to harvest the full efficiency gains from e-government projects and use this tool as an effective driver for necessary changes of processes and work habits. Additionally, it places limited attention to the impact on citizens and businesses and to the prerequisites for increased user take-up when choosing the most adequate e-government solution. The business case is mandatory at the state level for projects with a budget larger than DKK 10 million. One main limitation is, however, that the business case model is precise and detailed regarding the financial measurements and requirements but less detailed regarding how to follow-up on the realisation of the more societal, qualitative and policy oriented benefits.

- Taking into account concerns related to pure efficiency-gains (*i.e.* cost reduction, possible savings) is widely recognised and endorsed; however, the focus on savings may have an impact on e-government initiatives at large, as the broader benefits of e-government and the role of innovative technology deployment in support of improved public services may implicitly be overshadowed by the overarching fiscal driver. The current focus of the business case model, while relevant, should not be the only driving aspect. A revised business case model could be used to enhance a more effective management across the government, including breaking down stove-piped working habits.
- The government is not fully exploiting the opportunity of using e-government to share citizens' information, while complying with privacy and security obligations. Better use, and flow, of public sector information within and across levels of government is needed as well as a stronger clarity on who is the primary holder of core data across the government and on how it can be accessed or reused by multiple and endorsed parties to better meet the needs of citizens, businesses or the government. The need for data standardisation (*e.g.* health, environment), together with the definition of ICT standards, is also seen as an issue by many stakeholders that requires attention to improve the communication between systems.

Proposals for action

To tackle the challenges listed above, the Danish government may wish to consider:

- **Focusing on developing capacities and competencies to ensure full exploitation and leverage of e-government projects**. The government could place a stronger focus on competencies and skills renewal, which would mean developing core competencies and skills to meet and support the growing demand in the public sector on project and programme management and design related issues, particularly in the case of large ICT projects. This would enable the government to match the capacities available within the public sector with the ICT demands, to ensure support for e-government implementation as well as advances in the modernisation agenda. This could be undertaken in the context of the overall roadmap as described earlier in this document. The need to develop specific skills could be integrated in the career paths of civil servants. Having on the job training and ICT professionals that are also recognised practitioners could be an additional option. To address the scarce availability of the required competencies the government could also oblige public agencies to streamline services, simplify and consolidate the systems as much as possible with a preference for "reuse" rather than build separately. This could help ensure that the core capabilities internally

needed would be the most common ones and in the rare cases of need for specialised ones they could be outsourced.

- The government may also wish to pursue a *Centre of Excellence model to* serve as a shared service centre for the entire public sector (*e.g.* with civil servants responsible for projects with an ICT component). These, or similar actions, could establish a level of proficiency within the government as a basis for sustained public sector capability and could ensure the availability of experts according to needs and thus balance the demand and reliance on external expertise.

- **Better ensuring the full exploitation and leverage** of e-government projects – such as the citizen and business portals – and of the associated capabilities at all levels of government. The government could, for instance, identify and prioritise future ICT enabled requirements and strategic and tactical investments, including seed funding of ICT initiatives, that are cross-agency. This could provide the opportunity to target economic benefits, even when this means moving from big contracts to smaller pilot projects.

- **Improving information and data management through:**
  - The adoption of an information policy covering major areas concerning public information management (*e.g.* the governmental creation and dissemination of information; the development, regulation, and usage of information infrastructure; the institutional and legal infrastructure).
  - The improvement of the structure and arrangements for data identification and management through the nomination of lead agencies responsible for retaining and managing those elements of data that will facilitate a measurable improvement in service delivery and a greater reuse across the government, be that for citizens, businesses or for the functions of government administration. This would enable the public sector to separate services from data ownership (*e.g.* having a leading institution would support shared services – for example in hospitals).
  - Applying the principle of sharing information and data could mean that re-use could be promoted and applied increasingly and lead to the abolishment of siloed approaches, thus avoiding duplication of unnecessary data storage within different government institutions. Adopting the full policy goals behind European Commission's "Public Sector Information Directive"[6] as a basis for assisting in better management and use of data across the government and the private sector would unlock government data to enable others to identify and extend its economic value by creating new and innovative products and services that are not bound by the functions of a single entity or agency.

- **Revising the business case model and the benefits realisation tools:**
  - The government could develop, adopt and apply a business case model that better takes into account a broader set of criteria which would sustain the selection of projects supporting a whole-of-government perspective. The aim would be to bridge the gaps between citizen and business interests on one side and the government's view in the choice of the digital solutions on the other. Such a business case model could also provide for taking input from end-user consultation into consideration, as appropriate, and for identifying what needs to be integrated in order to reap the benefits of projects, both in terms of traditional (administrative) efficiency and broader efficiency and effectiveness considerations. A revised business case model could also help in putting more emphasis on the ICT standards and on the working procedures (definition and description of processes and tasks). This could help to achieve a real cross-government approach and get shared services across governments. Such a business case model could lead to the selection of smaller project, where it could be possible to use, for instance, standard software components. The requirement specifications could be more process oriented, increasing the emphasis on having to show how things are done as opposed to solely proving narrow administrative savings potentials.
  - Increasing the use of benefits realisation tools (*i.e.* benefits profiles, benefits maps, benefits realisation plans) to identify the distinct outcome and benefits from projects. This implies being more disciplined in using *ex post* assessment tools for a coherent monitoring, evaluation and follow-up on projects. The revision of the business case model could address this need and foresee its stronger use to monitor the follow-up of the projects' implementation to ensure that the benefits are reaped throughout the process.

Notes

1. "Styregruppen for Tværoffentligt Samarbejde" or STS.
2. With the launching of the National E-government Strategy, the Steering Committee for Joint Cross-Government Co-operation (STS) had to set the managerial parts of the work to support the implementation of the national digital agenda. In order to ensure that work would be done, four Domain Management Boards were designated in selected domains (*i.e.* well-defined public businesses/areas). Each Domain Management Board was conceived as a co-ordination forum for mandatory co-operation across authorities within a specific sector.
3. OECD (2006), *OECD e-Government Studies: Denmark*, OECD, Paris.
4. "Towards Better Digital Service, Increased Efficiency and Stronger Collaboration", The Danish Government Strategy 2007-2010.

5. The Government Programme "Denmark 2020 – Knowledge, Growth, Prosperity, Welfare" ("Danmark 2020 – Viden, vækst, velstand, velfærd") was released 24 February 2010 as a new work programme for the Danish government.
6. Directive 2003/98/EC of the European Parliament and of the Council of 17 November 2003 on the re-use of public sector information. *http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003L0098:EN:HTML*

Avant-propos

Depuis l'Étude de l'OCDE de 2005 sur l'administration électronique, le Danemark a adopté une stratégie nationale dans ce domaine, intitulée « Vers un meilleur service numérique, plus d'efficience et une collaboration plus étroite », qui couvre la période 2007-10, et suit de façon générale les propositions d'action de l'OCDE.

Cette étude de suivi 2010 sur l'administration électronique au Danemark, dont la finalité n'est pas de rendre compte de façon exhaustive et détaillée la situation de l'administration électronique dans le pays, vise à évaluer les progrès accomplis par le pays depuis 2005 dans ce domaine sous l'effet de la stratégie en cours, et à déterminer les principaux défis et les principales problématiques à prendre en compte pour formuler un certain nombre de propositions d'action. Celles-ci permettront au Danemark de tirer encore plus parti de sa position privilégiée en termes de développement de l'administration électronique pour assurer une prestation de services de haute qualité et d'un bon rapport coût-efficacité.

Le rapport ci-après est articulé autour de l'analyse d'un certain nombre de domaines clés, qui correspondent aux principaux défis identifiés par le gouvernement danois dans les efforts qu'il déploie pour développer encore davantage l'administration électronique, mais qui ne sont pas spécifiques au Danemark. Ces défis sont de fait communs à la majorité des pays de l'OCDE, lesquels concentrent de plus en plus leurs efforts sur l'élargissement du champ d'action des programmes d'administration électronique, de manière à gagner encore en termes d'efficience et d'efficacité, tout en continuant d'améliorer en permanence la prestation de ce type de services. Les aspects pris en compte sont les suivants :

- *l'impact de l'administration électronique sur les efforts de modernisation et d'amélioration de l'efficience du secteur public ;*
- *l'impact de la structure organisationnelle et des dispositions relatives à l'administration électronique sur la façon dont s'organisent son développement et sa mise en œuvre ;*
- *la nécessité de prendre en compte les questions liées à l'adoption par les utilisateurs ; et*
- *l'évaluation des retombées concrètes des projets d'administration électronique.*

Le rapport a été achevé en mars 2010. Il se base sur une enquête auprès des administrations locales, régionales et centrales danoises, réalisée en septembre-octobre 2009, sur une analyse approfondie des informations relatives à

l'administration électronique au Danemark, et sur une série d'entretiens avec des responsables publics et observateurs danois tenue en octobre 2009. Des représentants des gouvernements d'Australie, des Pays-Bas et du Royaume-Uni ont participé au processus d'examen et à la rédaction du rapport. Leur participation a permis de resituer les initiatives danoises dans le contexte international et d'identifier les enseignements à tirer pour les autres pays de l'OCDE.

Le cadre analytique du rapport repose sur trois rapports de synthèse de l'OCDE : L'administration électronique: un impératif (2003), vers une meilleure administration (2005) et Repenser les services d'administration électronique : approches centrées sur les usagers (2009). L'examen s'est déroulé sous les auspices du Réseau OCDE de hauts responsables de l'administration électronique, qui en a examiné les principales conclusions dans le cadre du Programme de travail de la Direction de la gouvernance publique et du développement territorial de l'OCDE.

Sous la conduite de Christian Vergez et de Yih-Jeou Wang, l'examen a été organisé et le rapport a été rédigé par Barbara-Chiara Ubaldi, assistée de Carine Tyler et de Tara Staub. Les auteurs remercient tout spécialement les trois examinateurs : Ann Steward (Australie), Kees Keuzenkamp (Pays-Bas) et Bill McCluggage (Royaume-Uni). L'OCDE remercie chaleureusement l'administration danoise pour l'excellente coopération dont elle a fait preuve dans la préparation de ce rapport.

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Évaluations et propositions d'action

Principales idées dans les quatre domaines étudiés

Afin de pouvoir relever les défis mis en évidence dans ce rapport, le gouvernement danois pourrait envisager ce qui suit :

Élargir la vision du secteur public :

- Élargir et renforcer la vision de l'administration électronique, sachant que favoriser la rentabilité et l'efficience, au niveau de l'ensemble de la société, permettrait une meilleure utilisation des ressources publiques en général (un meilleur service public, un meilleur accès aux services pour les citoyens), sans perdre de vue la nécessaire attention à accorder à la rentabilité et à l'efficience.
- Définir une feuille de route pour traduire cette vision en action afin : de promouvoir de façon générale les meilleurs projets d'administration électronique et de faire en sorte que les investissements soient alignés avec les objectifs stratégiques nationaux ; de classer les initiatives par ordre de priorité et de les rationaliser ; de mettre en évidence l'interdépendance et l'interopérabilité entre les projets ; de mettre en place des calendriers de mise en œuvre et des résultats prévisionnels ; d'identifier et d'exploiter les synergies et les économies d'échelle ; et d'obtenir la confiance et le soutien du public.
- Se soucier d'une numérisation cohérente des processus gouvernementaux plutôt que de l'administration électronique en tant que domaine d'action particulier, afin de renforcer le rôle que joue l'administration électronique pour mener à bien les objectifs du secteur public (*p. ex.* stratégie de réduction de la bureaucratie) ; faire reconnaître l'administration électronique en tant que composante essentielle d'autres programmes ; caractériser les dépendances et les calendriers, et faciliter les interactions et les efforts conjoints entre les différents ministères pour soutenir la mise en œuvre des nouveaux projets.

Principales idées dans les quatre domaines étudiés *(suite)*

Renforcer l'organisation du secteur public :

- Consolider l'approche conjointe adoptée, à travers le renforcement de la structure actuelle de coordination et de collaboration interadministration (*p.ex.* le Groupe de pilotage pour la coordination interadministration et les organismes qui en dépendent, les Conseils de domaine) en lui conférant l'autorité et les outils de gestion nécessaires (*p.ex.* outils budgétaires et compétence en matière de pilotage), ainsi que la réalisation d'activités et de projets concrets (*p.ex.* développement de solutions communes dans tous les domaines, le cas échéant) pour faciliter une mise en œuvre intégrée et cohérente de l'administration électronique à tous les échelons administratifs.
- Renforcer l'engagement avec les organisations de niveau infranational pour parvenir à une utilisation accrue des services numériques et à leur pleine exploitation, en s'appuyant sur une approche de collaboration conjointe pour les projets d'administration électronique à tous les échelons administratifs.

Renforcer les capacités au sein du secteur public :

- Améliorer la normalisation des données ainsi que l'utilisation et la circulation des informations du secteur public à tous les échelons administratifs pour mieux répondre aux besoins des usagers, des entreprises et des administrations et faire progresser la collaboration entre les instances gouvernementales, en précisant quel est le détenteur principal des données essentielles et les conditions d'accès et de réutilisation de ces données par les différentes parties (au sein du gouvernement et à l'extérieur).
- Développer des capacités clés et des compétences dans le secteur public pour satisfaire et soutenir une demande croissante en termes de gestion et de conception de projets et de programmes – surtout pour les grands projets de TIC – et pour soutenir efficacement la mise en œuvre de l'administration électronique, son exploitation poussée et faciliter ainsi les projets et les avancées en matière d'administration électronique dans le cadre du programme de modernisation.
- Pousser plus loin le développement et l'utilisation du modèle de validation économique et l'adopter pour favoriser une analyse plus rigoureuse des investissements et suivre de près la mise en œuvre des projets et s'assurer ainsi que les bénéfices sont récoltés sur toute la chaîne du processus, aussi bien en termes d'efficience au sens traditionnel qu'en termes de retombées au sens le plus général.

Principales idées dans les quatre domaines étudiés *(suite)*

Renforcer l'implication des usagers et des entreprises :

- Sensibiliser davantage le public grâce à un effort ciblé de communication et de marketing, pour qu'il soit plus enclin à utiliser les services d'administration électronique existants.
- Développer une stratégie solide et efficace de gestion de canaux pour soutenir les projets d'administration électronique dans l'ensemble du secteur public.
- Tenir compte, dans la conception et l'offre des services publics, de l'opinion des usagers et des entreprises, afin de refléter leurs besoins et d'accroître l'efficacité, la qualité et la réactivité des services.

Principales observations

Depuis plusieurs années, le Danemark est à la pointe du développement de l'administration électronique et dans tous les classements internationaux, il arrive en tête en ce qui concerne son déploiement. C'est là le résultat de l'engagement constant et de l'approche stratégique dont fait preuve le Gouvernement danois, qui a utilisé les TIC pour améliorer le fonctionnement de son secteur public et pour offrir un service public de qualité à ses citoyens et à ses entreprises. Ayant compris que l'administration électronique permettait d'améliorer la qualité, l'efficience et la rentabilité du secteur public, de promouvoir la coordination et la coopération entre les différents échelons administratifs et de renforcer ainsi la confiance des citoyens dans leur gouvernement, le Danemark considère l'administration électronique comme incontournable. L'accent étant mis fortement sur l'efficience et sur les performances, du fait des déséquilibres budgétaires et fiscaux créés par la dernière crise économique, le Danemark, face à cette pression, pourrait chercher à tirer parti d'un contexte riche et favorable, ainsi que de son avantage en tant que « champion mondial », pour s'appuyer également sur les TIC et profiter ainsi des retombées plus générales de l'administration électronique.

Points essentiels

Pour traduire ces principales observations en objectifs concrets et en actions concrètes, il faudrait :

- Élargir la vision de l'administration électronique en tenant compte du fait que faciliter l'efficience et la performance à l'échelle de toute la société peut conduire à une meilleure utilisation des ressources publiques en général – *p.ex.* améliorer l'offre de services publics et l'accès des usagers aux services, atteindre les couches vulnérables de la population et promouvoir une administration ouverte – sans perdre de vue les impératifs de rentabilité et d'efficience.

Pour mener à bien ces objectifs, le gouvernement danois pourrait :

- Prendre appui sur l'approche concertée adoptée et renforcer les structures existantes de collaboration et de coordination interadministration (*p.ex.* le groupe de pilotage pour la coordination interadministration[1] et les organismes qui en dépendent, c'est-à-dire les Conseils de domaine[2]) pour faciliter une mise en œuvre intégrée et cohérente de l'administration électronique à tous les échelons administratifs en donnant à ces structures l'autorité et les outils de gestion nécessaires (*p.ex.* outils budgétaires et compétence en matière de pilotage).

Points essentiels *(suite)*

- Sensibiliser davantage le public grâce à un effort ciblé de communication et de marketing, pour qu'il soit plus enclin à utiliser les services d'administration électronique existants. À cette fin, il importe aussi de mettre en place une stratégie solide et efficace de gestion de canaux, qui soit suivie de manière systématique par l'ensemble du secteur public.
- Tenir compte, dans la conception et l'offre des services publics, de l'opinion des usagers et des entreprises, afin de lier l'efficacité, la qualité et la réactivité accrues des services à une plus grande implication des usagers et à une meilleure compréhension de leurs besoins.

Principales difficultés et propositions d'action

Le gouvernement danois a demandé à l'OCDE de réaliser une étude de suivi par pays dans le prolongement de l'étude de l'OCDE sur l'administration électronique de 2005[3]. Les recommandations formulées dans cette étude ont été partiellement suivies par le gouvernement danois dans le cadre de sa stratégie nationale d'administration électronique couvrant la période 2007-10[4]. Le présent rapport ne doit pas être considéré comme une étude globale et exhaustive sur l'administration électronique, mais comme un essai de mise en évidence des principaux défis et des principales questions que le gouvernement danois doit résoudre à compter de 2010 en vue d'une utilisation optimale de l'administration électronique qui rende l'administration publique plus efficace, plus efficiente et plus autonome. Le développement constant de l'administration électronique engendre d'importantes contraintes et mobilise beaucoup de ressources, même pour un pays avancé en matière d'administration électronique comme le Danemark, et le présent rapport devrait donc aider le gouvernement dans son entreprise. Ce rapport peut guider les décideurs politiques qui tirent actuellement le bilan des progrès réalisés depuis 2005 en matière de développement de l'administration électronique, et leur donner des éléments pour définir une nouvelle stratégie en la matière et prendre en compte les priorités mentionnées dans le Programme de travail gouvernemental « Danemark 2020 – Savoir, croissance, Prospérité, bien-être » (« *Danmark 2020 – Viden, vækst, velstand, velfærd* »)[5].

Les sections qui suivent mettent en évidence les principales observations concernant les aspects sur lesquels ce rapport est centré et elles avancent des propositions d'action. Étant donné la richesse des initiatives et des actions entreprises à ce jour par le gouvernement danois dans le domaine de l'administration électronique et les actions proposées – concernant les domaines et problématiques communément observés dans un certain

nombre de pays de l'OCDE – l'idée est d'offrir un instrument pratique sur lequel peuvent s'appuyer les décideurs publics en matière d'administration électronique au Danemark ainsi que dans d'autres pays de l'OCDE.

- L'étude de suivi analyse donc plus spécifiquement les aspects suivants :
- l'impact de l'administration électronique sur la modernisation du secteur public et sur la recherche de gains d'efficience ;
- l'impact de la structure organisationnelle et des dispositions relatives à l'administration électronique sur la façon dont s'organisent le développement et le déploiement de l'administration électronique ;
- la nécessité d'accroître son adoption par les usagers ; et
- la concrétisation des retombées des projets d'administration électronique.

Premier aspect : l'impact de l'administration électronique sur la modernisation et sur l'efficience du secteur public

L'adoption d'une approche holistique du développement de l'administration électronique peut accroître son impact en tant que facteur déterminant de modernisation et d'efficience du secteur public. Placer l'administration électronique dans le contexte plus large des autres programmes de politique publique et de réforme peut aider à assurer un alignement approprié et une cohérence entre les différents domaines d'action. Cela peut alors permettre ou faciliter un contrôle et une évaluation systématiques des progrès accomplis dans le cadre des réformes et des programmes de nature transversale. Le recensement et le suivi de l'avancement et des réalisations des projets en cours, lors du développement des nouveaux projets, est un élément important. C'est ce qui permet l'exploitation des synergies et la création d'économies d'échelle, la rationalisation et la hiérarchisation des efforts, l'adoption rapide d'actions correctives et la réallocation des fonds lorsque cela est nécessaire, tout en garantissant l'intégration et la cohérence des projets. Le Danemark reconnaît le rôle déterminant que joue l'administration électronique en appuyant les efforts de réforme du secteur public et en contribuant à d'autres objectifs du secteur public, comme la poursuite de la modernisation et la recherche de gains d'efficience. C'est la raison pour laquelle le gouvernement danois, au cours de ces dix dernières années, s'est attaché à utiliser les TIC pour assurer un fonctionnement efficient, efficace et souple du secteur public et la prestation de services publics modernes. L'étude par pays a cependant mis en évidence un certain nombre d'aspects sur lesquels l'intervention du gouvernement conduirait à d'importantes améliorations.

Bilan principal

- Le gouvernement danois a fait des efforts considérables pour faire concorder son programme d'administration électronique avec ses projets ciblés de réforme du secteur public (*p.ex.* réforme d'amélioration de la qualité, programme de réduction de la bureaucratie) et pour coordonner les diverses instances de gouvernance chargées de son déploiement. Cependant, l'utilisation de l'administration électronique et de l'innovation comme facteurs de changement semble encore parfois se faire de façon cloisonnée. Le secteur public, globalement parlant, n'apprécie pas encore à leur juste mesure l'importance de l'administration électronique et son impact dans les différents domaines et sur les efforts de réforme et de modernisation. Même si la perception est globalement positive quant à l'intérêt d'harmoniser l'utilisation, au niveau central et au niveau infranational, de l'innovation et des TIC, et le développement de solutions numériques spécifiques dans le cadre des stratégies nationales d'administration électronique (*p.ex.* Medi-Card, Document Box et signatures numériques), cette harmonisation n'est que partielle dans les faits et n'est pas encore pleinement exploitée. Elle existe dans certains organismes, mais elle ne s'inscrit pas toujours dans une approche globale. Ce qui pourrait être renforcé, c'est une vision holistique et cohérente de la façon dont l'administration électronique et l'innovation peuvent être utilisées par le pays pour exploiter ses atouts en tant qu'économie numérique, complétée par un tableau détaillé des initiatives qui permettrait d'en exploiter pleinement le potentiel dans l'ensemble du secteur public. Le gouvernement danois s'est rendu compte que l'administration électronique revêtait une importance fondamentale comme moyen de faire avancer les réformes à tous les échelons administratifs, et que là où elle était utilisée, il fallait qu'elle soit clairement intégrée. Renforcer le lien entre la politique de développement de l'administration électronique et les différents programmes peut accentuer l'impact de ce potentiel stratégique. Les schémas organisationnels de l'administration peuvent aider à unifier les différents efforts de modernisation du secteur public (*p.ex.* réduction de la bureaucratie, allègement des formalités administratives, gestion publique, administration électronique) dans la mesure où ils peuvent favoriser l'intégration des programmes d'action et une coordination efficace des initiatives.

Propositions d'action

Pour mieux harmoniser le programme d'administration électronique avec ceux concernant les différentes réformes du secteur public, le gouvernement danois pourrait envisager les propositions d'action suivantes :

- **Développer une vision et une déclaration de principe concernant l'avenir de l'administration électronique et une feuille de route définissant les**

projets les plus prioritaires : Dans la mesure où un grand nombre de projets sont en cours de réalisation, tandis que d'autres sont en cours de planification, une vision et une déclaration de principe claires, qui indiquent les objectifs du Danemark pour l'avenir et qui mettent en évidence le critère de choix des priorités et de l'allocation des ressources, pourraient faciliter le choix stratégique des initiatives essentielles et accroître la possibilité que ces initiatives donnent les résultats attendus et créent la valeur recherchée dans le secteur public danois. Cette vision pourrait consister à définir les objectifs nationaux et à indiquer de quelle façon les programmes d'administration électronique et d'innovation peuvent permettre d'obtenir des résultats dans des secteurs spécifiques ou dans les différents domaines, au niveau central et au niveau infranational.

Une vision claire pour l'avenir permettrait d'intégrer l'administration électronique et l'innovation dans la réflexion stratégique, tandis que la définition d'une feuille de route aiderait à mieux concilier les approches, fondées sur l'innovation et sur l'efficience, au travers d'initiatives et de projets spécifiques. La feuille de route, qui devrait être organisée autour de cette vision, garantirait par ailleurs que les initiatives sélectionnées permettront d'atteindre les objectifs définis dans cette vision – à l'intérieur de chaque secteur ou dans l'ensemble des différents domaines, au niveau central et au niveau infranational – et que l'utilisation des TIC serait bien intégrée dans les domaines d'intervention publique. La feuille de route pourrait être liée à un système de priorités interadministration, identifier plus clairement, de façon globale, les dépendances et les calendriers, et fournir à toutes les parties une direction à suivre pour l'avenir qui soit plus cohérente et mieux ciblée.

Recenser les initiatives les plus importantes, s'accorder sur ces initiatives, les relier entre elles et en réaliser une large promotion constitue une opération essentielle. La feuille de route destinée à donner forme à la vision stratégique permet de hiérarchiser les initiatives, de rationaliser les efforts et de mettre en évidence les interdépendances entre les projets, les délais de mise en œuvre et les résultats attendus pour détecter et créer des synergies et éviter les redondances. Cela encouragerait une meilleure harmonisation dans la conception et le développement des systèmes et l'exploitation des synergies et des économies d'échelle, en vue d'une exploitation conjointe, et faciliterait la réaffectation des fonds en fonction des besoins.

La consultation des parties prenantes internes et externes (*p.ex.* différents segments de la population, notamment les syndicats et les représentants du patronat), dans le cadre du recensement des initiatives, permettrait d'agir assez tôt pour stopper toute activité qui s'écarterait de la ligne définie et de réaffecter les ressources en conséquence. Le processus de recensement permettrait de surcroît d'améliorer l'informatisation du

secteur public, aussi bien dans les domaines qui concernent les usagers que dans ceux qui concernent les entreprises, et il faciliterait la rénovation du cadre d'intervention pour des investissements ciblés en cohérence avec les objectifs stratégiques nationaux, ainsi qu'un suivi systématique des progrès réalisés, en même temps qu'il fournirait un cadre pour une prise de décisions concertée et pour une plus grande confiance du public.

- **Se concentrer sur les processus administratifs plutôt que sur l'administration électronique en tant que domaine d'action, pour mieux resserrer les liens :** Le gouvernement pourrait envisager de réexaminer les diverses filières d'activités au sein de l'administration centrale ainsi que les interactions avec les activités exercées au niveau infranational, qui sont en rapport avec l'administration électronique. Cette démarche, fondée sur la vision décloisonnée de l'administration présentée dans le travail sur l'architecture administrative, pourrait aider à identifier clairement les dépendances et les contraintes de temps et elle offrirait à tous les acteurs une direction plus cohérente et mieux ciblée pour l'avenir. Par ailleurs, elle aiderait à percevoir plus clairement l'importance et la validité de travailler, dans le sens de la vision et de la feuille de route pour l'administration électronique, évoquées précédemment, et elle faciliterait la coopération entre les ministères. ***Cette démarche pourrait renforcer les liens entre l'administration électronique et les autres objectifs du secteur public (p.ex. la stratégie de réduction de la bureaucratie) et faire ainsi que l'administration électronique soit étroitement intégrée et reconnue comme une composante essentielle. Elle faciliterait aussi les échanges et les efforts concertés entre les différents ministères pour soutenir la mise en œuvre des nouveaux projets.*** Afin de renforcer cette interconnexion, la feuille de route pourrait prévoir l'élaboration de solutions conjointes aux problèmes communs, chaque fois que c'est possible, cela aiderait aussi à apporter quelques réponses à certains points soulevés au cours de l'étude concernant le besoin d'une meilleure coordination de processus gouvernementaux spécifiques (*p.ex.* registres publics et marchés publics). Sur cette base, le gouvernement pourrait envisager de généraliser la démarche à tous ses domaines d'intervention, chaque fois qu'il est possible de le faire.

- **Développer, adopter et mettre en œuvre une approche/vision commune fondée sur une conception plus large de l'administration électronique :** le gouvernement pourrait envisager, en théorie comme en pratique, de ne plus considérer l'administration électronique comme essentiellement un instrument permettant de mieux administrer et de réaliser des gains d'efficience dans les services d'arrière-guichet, mais plutôt comme un moyen d'offrir de meilleurs services plus performants, et de contribuer à la réalisation d'autres objectifs politiques. Il faudrait donc peut-être chercher à utiliser l'administration électronique non pas simplement pour rendre les

services administratifs plus performants, mais aussi pour faciliter une meilleure prestation de services dans des secteurs essentiels comme la santé, l'aide sociale et l'éducation, etc., dans lesquels les gains d'efficience ne sont pas la forme exclusive ou principale que peut prendre l'amélioration. À l'évidence, l'amélioration des services ayant un coût, il importe de tenir compte du besoin de réaliser des gains d'efficience économique tout en améliorant la prestation des services. L'accent pourrait donc être mis sur les résultats (*p.ex.* un enseignement plus efficace) plutôt que sur les gains d'efficience administrative. Le rétablissement du lien entre l'administration électronique et une meilleure prestation de services pourrait aussi donner davantage d'importance politique à l'administration électronique.

- ***Mieux coupler le déploiement de l'administration électronique avec de nouvelles améliorations dans la prestation de services permettrait*** de faire ressortir et de comprendre la contribution que l'administration électronique peut apporter dans un large éventail de secteurs d'intervention publique et de domaines pour la collectivité, qui vont bien au-delà des seuls gains budgétaires. Une étude poussée des besoins en applications TIC à cet effet devrait être réalisée pour disposer d'une panoplie répondant à un ensemble détaillé de critères. Dans certains secteurs spécifiques (enseignement *p.ex.*), cela pourrait se traduire par des améliorations supplémentaires des solutions d'administration électronique, du fait d'un développement qui soit davantage fonction de la demande. Cela imposerait aussi une plus grande implication des usagers pour qu'ils puissent contribuer à un certain niveau à l'élaboration de ces solutions.

Deuxième aspect : Le cadre de gouvernance pour le développement et la mise en œuvre de l'administration électronique

Notamment dans la période actuelle de contraintes budgétaires et financières, conséquences en partie de la crise économique de 2008 et 2009, les pays de l'OCDE s'efforcent de plus en plus d'adapter leurs activités et leurs services pour faire non plus « davantage et mieux avec moins » mais « tout autant avec bien moins ». Cela nécessite une modernisation du secteur public, une réduction du fardeau administratif et une meilleure prestation de services aux usagers et aux entreprises – via un certain nombre de projets d'administration électronique dans un contexte caractérisé par une pluralité d'organismes intervenants – qui appellent une collaboration et une coordination entre les différents échelons administratifs, pour assurer la cohérence et l'intégration.

Une gouvernance forte reflétant une vision stratégique décloisonnée de l'action publique pour assurer la cohérence du développement et de la mise en œuvre de l'administration électronique, incitera à plus d'intégration et de partage de l'information, des données et des systèmes et à la hiérarchisation des priorités. Cela devrait assurer la coordination et la coopération entre tous les échelons administratifs. L'accès aisé à l'information et aux données, et le partage de cette information et de ces données, considérées comme une ressource publique, une transparence et une ouverture plus grandes du fonctionnement de l'administration, une meilleure capacité d'écoute et d'implication des usagers – facilitée notamment par le recours aux technologies Web 2.0 – sont autant d'impératifs déterminants pour promouvoir une administration efficiente, ouverte et réactive. Cela suppose sans doute des investissements initiaux, mais dans une perspective à moyen et à long terme, on jette les bases d'une nouvelle croissance économique. Le succès du programme national d'administration électronique exige un soutien sans faille des dirigeants politiques, au niveau central comme au niveau infranational, qui doivent se l'approprier pleinement et en assumer la responsabilité. Ce sont des défis clés communs à la plupart des pays de l'OCDE, auxquels les stratégies nationales d'administration électronique visent à apporter des réponses.

Bilan principal

- Le gouvernement danois s'est attaché à établir des cadres et des structures propres à susciter une collaboration à plusieurs niveaux et une coopération entre les différents échelons administratifs, pour promouvoir la coordination entre les différents domaines fonctionnels et pour faciliter un développement efficient et performant de l'administration électronique. Même si les cadres de gouvernance actuels ont permis un progrès considérable de l'administration électronique, leur renforcement pourrait lui être bénéfique. En particulier, une refonte des structures organisationnelles sur lesquelles se base la coopération dans le secteur public entre les différents échelons administratifs permettant de s'accorder sur des solutions communes aux problèmes communs et de les mettre en place, ferait éclater le cloisonnement des activités. De même, avec une implication et un soutien constants au niveau politique, le parrainage au plus haut niveau et le lien avec les priorités nationales ressortiraient plus directement, et la coopération entre les différentes instances gouvernementales fonctionnerait mieux (*p.ex.* dans le domaine des soins pédiatriques, comment le gouvernement peut-il faire en sorte que tous les ministères et tous les échelons administratifs coopèrent pour aboutir à des solutions communes ?).

- Le mandat du Groupe de pilotage pour la coopération interadministration (STS) n'est pas suffisamment clair et ne fait pas assez autorité. Conçu pour assurer la coordination entre les différents domaines et, avec le soutien des dirigeants politiques, faire progresser le programme global d'administration électronique (*p.ex.* réformes du secteur public et amélioration de la prestation des services), il privilégie les aspects techniques, et ne fait pas de place aux débats et aux décisions concernant la vision nationale et les priorités stratégiques futures. Par ailleurs, les *Conseils de domaine* qui ont été créés pourraient être plus efficaces dans le développement de l'administration électronique dans chaque secteur, comme cela était prévu à l'origine et dans les discussions au sein du STS. Actuellement, l'efficacité des Conseils de domaine est limitée par leur structure, calquée sur celle du STS, par l'absence de mandat spécifique, par l'absence d'outils de gestion permettant de mettre le mandat en application (*p.ex.* un budget), et par une orientation qui n'est ni politique ni vraiment technique.
- L'éparpillement des responsabilités et l'absence d'instance clairement à même de piloter la mise en œuvre ont aussi eu pour conséquence que l'importance et le rôle de l'administration électronique – et ses avantages économiques et stratégiques pour le Danemark – ne paraissent pas évidents aux dirigeants politiques. La réforme structurelle du secteur public au Danemark a aussi contribué à ce point de vue, du fait parfois d'un morcelage « États-régions-municipalités » dans la coordination et le partage du pouvoir entre le gouvernement central, les régions et les municipalités. Il existe parfois un déséquilibre et un certain manque de cohérence entre les priorités telles qu'elles sont considérées par le gouvernement central et telles qu'elles sont perçues au niveau infranational. C'est un argument supplémentaire pour disposer d'un pôle plus efficace chargé de coordonner la définition de la ligne d'action/vision, de fixer et approuver les priorités, de caractériser des interdépendances et de définir des calendriers de réalisation.

Propositions d'action

Afin de résoudre les problèmes mentionnés précédemment, le gouvernement danois pourrait envisager les actions suivantes :

- **Revoir et renforcer la structure organisationnelle et les mécanismes de coordination** pour assurer une coordination plus efficace entre les ministères représentés au STS, ce qui contribuerait à **imprimer la direction politique nécessaire** et à diminuer la forte importance donnée aux aspects économique et financier dans le programme d'administration électronique. Ce qui implique plusieurs actions :
  - **Le gouvernement pourrait envisager de renforcer le rôle et les responsabilités d'un organisme de coordination comme le STS, pour en**

faire une force politique en faveur du développement de l'administration électronique. À cette fin, il conviendrait de doter le STS, tel qu'il existe, du pouvoir de définir des priorités, et de lui donner par ailleurs le mandat nécessaire et l'accès à des ressources financières, assortis de l'obligation de rendre compte au gouvernement sur les progrès accomplis (il serait tenu officiellement de faire rapport au gouvernement et de rendre compte des résultats). Doté ainsi de pouvoirs supplémentaires un tel organisme de coordination serait à même de soutenir des projets interadministration précurseurs, par exemple qui favorisent l'intégration (*p.ex.* conduisant à l'adoption de normes et à l'établissement d'une architecture TIC commune) et d'en assumer la responsabilité, notamment en ce qui concerne les grands projets de TIC favorisant l'innovation. Un couplage plus marqué entre des discussions politiques et stratégiques dans les réunions de coordination de haut niveau du STS (*p.ex.* un STS avec une représentation politique) et des réunions davantage axées sur les aspects techniques et auxquelles divers ministères seraient représentés (*p.ex.* avec la participation de hauts fonctionnaires ayant les connaissances techniques nécessaires) permettrait de rendre plus efficientes et plus efficaces les discussions et les décisions. Cette nouvelle structure serait mieux à même de faciliter l'identification des réalisations communes et la solution de problèmes communs, elle permettrait de donner à la discussion une orientation et un contenu appropriés compte tenu de la nature et du niveau de la représentation des participants aux réunions, et elle susciterait la mobilisation requise pour le développement de solutions et de systèmes communs. L'accent serait déplacé, pour privilégier non seulement l'efficience mais aussi le soutien des politiques publiques et l'amélioration des processus et des applications.

- **Revoir le rôle et les compétences des Conseils de domaine** pour accroître leur efficacité. Tout changement apporté au STS mentionné précédemment impliquerait une révision de l'organisation, des compétences et du mandat des Conseils de domaine. Ces Conseils de domaine pourraient être utilisés plus efficacement pour éclairer la prise de décision au niveau du STS. On pourrait leur donner la mission de servir d'initiateurs, par exemple présenter au STS des propositions pour mieux utiliser l'administration électronique comme moyen d'améliorer la prestation de services dans leur secteur et identifier les solutions possibles à des problèmes communs.

- **Améliorer la collaboration entre administrations par le biais d'activités et de projets concrets** (la législation sur les données géospatiales est un bon exemple). Il serait possible d'accélérer le rythme de développement de solutions conjointes dans tous les domaines (*p.ex.* il conviendrait de

promouvoir et d'appliquer plus largement le principe du partage des données et de l'utilisation de l'information, car cela permettrait d'en finir avec le cloisonnement, et de développer les formes de collaboration). Il serait possible de promouvoir l'adoption d'une nouvelle vision (*p.ex.* une nouvelle stratégie en matière d'administration électronique) suffisamment solide pour permettre sur les cinq ans à venir le partage des données et l'intégration des services, et de défendre davantage les formes de collaboration/partenariat : cette nouvelle vision faciliterait l'adoption du principe de la collaboration entre les différents échelons administratifs.

- **Renforcer le niveau infranational :**
  - Depuis la réforme structurelle, les municipalités semblent manifester une volonté accrue de collaboration, comme elles le montrent par exemple en créant des solutions conjointes. Il conviendrait d'encourager cela et de l'étendre pour que soient davantage utilisés les services numériques, en concertation entre tous les échelons administratifs. Ainsi, l'administration électronique reviendrait à l'ordre du jour dans les programmes politiques des municipalités, et ses possibilités pourraient être pleinement exploitées. Un recensement des activités des autorités locales relatives à la mise en œuvre des diverses initiatives permettrait au public de se faire une idée de la performance des municipalités et rendrait celles-ci plus responsables et plus transparentes. Le succès local de ces actions serait ainsi mieux mis en évidence, et cela pourrait faciliter la réévaluation du rôle des autorités locales dans la prestation des services électroniques et dans le développement d'une stratégie conjointe pour les canaux d'échange avec les citoyens.

Troisième aspect : Vers une approche davantage centrée sur l'usager et sur l'entreprise

La disponibilité d'une main-d'œuvre techniquement qualifiée au sein du secteur public, une forte pénétration du haut débit et la capacité du public d'accéder aux services et à l'information fournis par voie électronique, et de s'en servir, sont des conditions nécessaires pour que la société puisse exploiter les opportunités offertes par l'administration électronique et pour que les usagers puissent plus facilement accompagner cette évolution. L'amélioration du dialogue et l'établissement de liens entre l'administration et les usagers dans le cadre d'une participation conjointe à l'élaboration des mesures et à la définition des services caractérisent les gouvernements à la pointe de ce domaine dans le monde. La disponibilité de nouvelles technologies (*p.ex.* Web 2.0, téléprésence) et la demande de plus en plus pressante du public, du secteur tertiaire, des entreprises et d'autres acteurs

pour disposer de services accessibles de la manière la plus adaptée à leurs besoins imposent de plus en plus fortement au secteur public d'accompagner cette évolution et de disposer des compétences nécessaires dans le domaine des TIC.

Bilan principal

- La recherche d'une utilisation des technologies qui soit plus intelligente, meilleure et moins onéreuse, devrait permettre de dégager des ressources qui pourraient être consacrées à de plus grandes priorités nationales. Définir les processus gouvernementaux en se plaçant du point de vue du public (des usagers, plutôt que des prestataires) et recourir davantage aux technologies Web 2.0 devraient aider par ailleurs à mieux valoriser les ressources financières. Cela permettrait aussi de mettre l'accent sur les principaux domaines de l'action publique et des services publics et non plus simplement sur le côté administratif. Dans le domaine de l'éducation, par exemple, alors que des solutions ont été élaborées et améliorées pour rendre les processus administratifs plus efficients, une plus grande attention pourrait être accordée au développement du contenu éducatif et au recours à de nouvelles méthodes éducatives exploitant les possibilités offertes par la numérisation.
- De façon générale, le gouvernement n'a pas maximisé l'utilisation des plateformes TIC disponibles pour la prestation de services aux usagers. Dans la plupart des cas, ces plateformes sont là, mais la stratégie existante de gestion des canaux n'est pas adaptée au niveau de développement des plateformes. De fait, la stratégie nationale d'administration publique pour la période 2007-2010 avait été envisagée comme une stratégie de gestion inter-administration des canaux. Aussi, même si les différentes instances allaient devoir assumer la responsabilité du développement de leurs propres stratégies de gestion de canaux, les Conseils de domaine étaient censés jouer un rôle plus actif dans la définition d'une telle stratégie pour les services fournis par l'ensemble des organismes gouvernementaux. La nécessité de disposer d'une stratégie de gestion de canaux n'a pas reçu l'attention qu'elle devait recevoir initialement, et une nouvelle stratégie de gestion de canaux s'impose, qui s'appuie sur une stratégie de communication rénovée. On pourrait ainsi escompter une meilleure prise de conscience, en interne comme en externe, et une meilleure exploitation des opportunités existantes. Il conviendrait de clarifier les rôles des portails pour les usagers et ceux pour les entreprises dans la prestation de services aux usagers et aux entreprises. Il faut davantage de dialogue et de coopération entre le gouvernement et les entreprises, ainsi qu'entre le gouvernement et les usagers, pour des initiatives et des projets conjoints. La conception des services devrait se faire en restant à l'écoute des besoins

des acteurs du monde économique et des usagers. Une telle démarche aurait un impact positif sur l'ensemble des secteurs public et privé. On peut imaginer une implication plus directe de représentants des divers segments de la population dans la conception des services, pour une meilleure compréhension de la façon dont l'administration électronique peut satisfaire des besoins particuliers.

Au Danemark, la réforme structurelle a eu pour effet que les autorités locales sont devenues très souvent le premier point de contact entre les usagers et les autorités publiques, et même si la réforme, en pratique, n'est pas pleinement achevée dans tous ses aspects, il existe des domaines dans lesquels l'efficience peut encore être améliorée, notamment par la mise en place de services communs centralisés pour les processus pouvant être gérés de façon électronique (c'est-à-dire basés uniquement sur un ensemble de règles, sans intervention humaine). Cependant, si pour les autorités centrales les services partagés sont perçus comme un problème technique d'efficience, pour les autorités locales ils impliquent une perte d'autonomie et une réduction de leur pouvoir de décision, ce qui peut poser un problème surtout dans des situations nécessitant une attention particulière.

Propositions d'action

Afin de résoudre les problèmes mentionnés précédemment, le Gouvernement danois pourrait envisager les actions suivantes :

- **Développer une stratégie de gestion inter-administration des canaux.** Le choix consistant à promouvoir l'utilisation des canaux en ligne ou à imposer des solutions permettant la prestation de services aux couches de la population les plus à même de se servir des moyens informatiques (*p.ex.* les étudiants) pourrait être maintenu et encouragé, le cas échéant, par des incitations (monétaires par exemple, ou sous d'autres formes). L'accent pourrait ainsi être mis sur les avantages que seule permet la prestation de services en ligne, mais qui ne peuuvent dans le cas d'une prestation hors-ligne. (traitement plus rapide, meilleure qualité du service ou moindres frais administratifs, etc.).
- **Développer une nouvelle stratégie de marketing et de communication** pour faire mieux connaître aux usagers les services disponibles en ligne.
- **Adopter une approche dans laquelle la priorité serait donnée aux besoins des utilisateurs ultimes** et qui viserait à exploiter les possibilités de la numérisation pour améliorer la qualité de vie des usagers (*p.ex.* offre de nouveaux types de services permettant de répondre à de nouvelles demandes personnalisées). Le gouvernement pourrait renforcer sa capacité d'évaluation des besoins des usagers (individus et entreprises) et impliquer des groupes d'usagers via le recours aux technologies Web 2.0 pour être à

l'écoute des citoyens, pour les faire participer à la conception des services et à l'élaboration de mesures de politique publique et pour susciter des initiatives collectives et des échanges. Par ailleurs, le gouvernement pourrait envisager d'imposer un plus large recours aux principes régissant la consultation du public pour en faire une partie intégrante du processus de conception et de prestation des services publics – notamment au niveau politique. Cela pourrait être fait notamment pour l'élaboration des contenus, afin que l'avis des parties prenantes puisse être pris en compte lors de l'élaboration des politiques et de la numérisation des services. Limiter uniquement la discussion aux différents échelons administratifs risque d'être contre-productif, et nuire à l'appropriation par les usagers. En généralisant la consultation et l'implication du public, le gouvernement rendrait le développement de l'administration électronique plus cohérent : les usagers ayant accès aux TIC bénéficieraient de services plus performants tandis que les couches plus vulnérables de la population, qui ne peuvent accéder aux services en ligne, ne seraient pas négligées (« rencontrer l'usager là où il se trouve »). Des moyens pourraient être étudiés, par exemple, pour accroître la participation des jeunes à la conception des services.

- Renforcer le dialogue avec les entreprises et les usagers permettrait de sensibiliser davantage le public aux initiatives gouvernementales destinées à améliorer la prestation des services et à les enrichir grâce à l'administration électronique. Cela permettrait de privilégier le développement d'applications davantage axées sur la demande, grâce à l'implication plus poussée des usagers, notamment dans la production, pour une prestation de services globalement améliorée et plus efficiente. La motivation du public et sa propension à utiliser les services d'administration électronique pourraient s'en trouver accrues.

- **L'évaluation comparative et le suivi des efforts et des progrès accomplis par les divers organismes et ministères dans la numérisation des processus et des activités** permettraient d'accroître la transparence et d'améliorer la visibilité pour le public. L'identification de chefs de file, à tous les échelons administratifs, notamment en ce qui concerne la mise en œuvre des initiatives d'administration électronique et l'adoption de celle-ci par les usagers, permettrait de faire ressortir l'implication et la performance des divers ministères dans le domaine de la numérisation, ce qui serait un puissant facteur sur le long terme. La transparence et la visibilité publique du mérite pourraient servir de stimulants pour poursuivre les améliorations. Des ressources pourraient être mobilisées pour mieux mettre en valeur – et donc soutenir et promouvoir – les succès, au niveau central comme au niveau infranational.

Quatrième aspect : la matérialisation des bénéfices de l'administration électronique

Une évaluation globale de la matérialisation concrète des bénéfices de l'administration électronique implique, entre autres, une analyse des modèles de validation économique et des méthodologies utilisées pour mesurer et évaluer les bénéfices spécifiques et l'impact des projets d'administration électronique. Pour que l'administration électronique soit la plus profitable, le gouvernement quel qu'il soit doit rechercher la manière d'utiliser l'administration électronique qui donne la meilleure performance dans tous les domaines essentiels de l'économie (*p.ex.* santé, éducation et meilleurs processus de décision), le terme « meilleur » ne faisant pas seulement référence au progrès quantitatif ou à la réduction des coûts. Il couvre une notion plus vaste englobant à la fois l'efficience et l'efficacité, cette dernière s'appréciant en termes de contributions de l'administration électronique à la promotion et à l'avancement d'objectifs de société plus larges, dans des domaines d'intervention politiquement prioritaires. L'utilisation systématique et cohérente, à tous les échelons administratifs, d'une méthodologie de validation économique fondée sur une vision plus large peut aussi amener de nouveaux gains d'efficience de façon plus globale pour la collectivité. L'adoption d'un mécanisme de financement et l'institution d'un modèle de gouvernance imposant que les investissements s'effectuent sur la base d'une évaluation économique rationnelle, de résultats clairs et de bénéfices attendus, peuvent aussi contribuer à mettre en évidence les retombées et la valeur ajoutée de l'administration électronique.

Bilan principal

- Il existe un facteur de risque pour les grands projets de TIC, lié à l'inadéquation des qualifications et des compétences dans le secteur public (*p.ex.* capacité inadaptée et expérience insuffisante pour entreprendre certains projets et comprendre certains risques liés au processus de mise en œuvre, à la gestion des marchés publics, surtout pour les grands projets de TIC, à l'évaluation des structures de coût des programmes, à la gestion des processus de validation économique). Il n'existe pas de vision globale des compétences essentielles disponibles dans l'ensemble du secteur public, ni de celles nécessaires dans l'avenir pour appuyer les objectifs globaux de réforme du secteur public qui sont ceux du gouvernement. Par ailleurs, il semblerait que les fonctionnaires n'apprécient pas suffisamment l'importance de disposer de compétences de gestion de projets. Cette situation exerce un impact négatif sur la matérialisation des bénéfices et sur la réussite des programmes dans le secteur public. Ainsi, elle engendre des retards dans la mise en œuvre des grands projets en même temps que

des explosions de coûts, les bénéfices attendus ne se matérialisent pas et les institutions gouvernementales n'ont pas toujours la capacité de tirer le meilleur parti des projets d'administration électronique existants.

- Le modèle de validation économique utilisé par le ministère des Finances est basé sur les normes internationales relatives aux projets et aux critères de validation économique dans le domaine des TIC. Il donne un aperçu financier et permet aux utilisateurs de comparer l'intérêt des projets et les objectifs prévus avec les estimations de coûts et d'investissements. Cependant, il est apparemment utilisé en considérant principalement l'efficience des processus administratifs. En raison de ce positionnement étroit, le gouvernement risque de ne pas pouvoir retirer tous les gains d'efficience des projets d'administration électronique, ni en faire un instrument efficace pour faire évoluer les processus et les méthodes de travail. De plus, il ne porte guère d'attention à l'impact sur les citoyens et les entreprises, ni aux conditions préalables nécessaires à l'adoption par les usagers, lorsqu'il s'agit de choisir la solution la plus adéquate en matière d'administration électronique. La validation économique est obligatoire au niveau de l'État pour les projets dont le budget dépasse DKK 10 millions. Une de ses principales limitations, cependant, est que si elle est précise et détaillée lorsqu'il s'agit des mesures et des exigences financières, elle l'est moins en ce qui concerne la façon dont seront concrétisés les bénéfices de nature plus qualitative, sociétale et politique.
- La prise en compte des préoccupations relatives aux gains d'efficience pure (réduction des coûts, économies possibles, etc.) est largement admise et approuvée ; cependant, le souci de réaliser des économies peut avoir un impact sur les projets d'administration électronique de façon globale, dans la mesure où les bénéfices de l'administration électronique au sens le plus large et le rôle du déploiement des technologies novatrices pour améliorer le service public risquent, de façon implicite, d'être éclipsés par l'impératif budgétaire. L'axe actuel du modèle de validation économique, même s'il est pertinent, ne devrait pas constituer le seul facteur déterminant. Un modèle de validation économique révisé permettrait d'assurer une gestion plus performante au niveau de l'ensemble de l'administration, et notamment d'en finir avec les méthodes de travail compartimentées.
- Le gouvernement n'exploite pas pleinement la possibilité d'utiliser l'administration électronique pour le partage de l'information relative aux citoyens tout en respectant des obligations de confidentialité et de sécurité. Une meilleure utilisation et une meilleure circulation des informations du secteur public, à tous les échelons administratifs, s'imposent, de même que davantage de clarté pour savoir qui doit être considéré comme le détenteur principal de données de base au sein du gouvernement – et comment ces données peuvent être consultées ou réutilisées par diverses parties

habilitées – pour mieux répondre aux besoins des usagers, des entreprises ou du gouvernement. De plus, les parties prenantes sont nombreuses à considérer que la normalisation des données (*p.ex.* dans les domaines de la santé et de l'environnement), et la définition de normes relatives aux TIC, sont des questions qui méritent attention pour améliorer la communication entre les systèmes.

Propositions d'action

Afin de relever les défis recensés ci-dessus, le gouvernement danois souhaitera peut-être envisager ce qui suit :

- **S'attacher à développer les capacités et les compétences afin d'exploiter pleinement les projets d'administration électronique et de mieux tirer parti de leur effet de levier**. Le gouvernement pourrait accorder davantage d'importance au renouvellement des compétences et des qualifications, ce qui impliquerait de développer les compétences et qualifications fondamentales permettant de satisfaire et de soutenir la demande croissante, dans le secteur public, en matière de conception et de gestion des projets et des programmes, surtout pour les grands projets de TIC. Le gouvernement pourrait ainsi adapter les moyens disponibles dans le secteur public aux besoins dans le domaine des TIC, facilitant ainsi le déploiement de l'administration électronique et l'avancement du programme de modernisation. Il pourrait, à cet effet, s'appuyer sur la feuille de route générale dont il a été question précédemment dans ce document. Le besoin de développer des compétences spécifiques pourrait être intégré dans les plans de carrière des fonctionnaires. Une possibilité supplémentaire serait de disposer, sur le lieu de travail, de formateurs et de professionnels des TIC qui auraient aussi une compétence pratique reconnue. Pour résoudre le problème de la rareté des compétences nécessaires, le gouvernement pourrait aussi obliger les organismes publics à rationaliser les services et à simplifier et regrouper les systèmes autant que possible en privilégiant le « réemploi » plutôt qu'un déploiement cloisonné. Ainsi, les principales compétences requises en interne seraient les plus répandues, et dans les rares cas où des compétences plus spécialisées seraient nécessaires, elles pourraient être cherchées à l'extérieur.
  - Le gouvernement peut aussi souhaiter appliquer un *modèle de centre d'excellence,* lequel servirait de centre de services communs pour le secteur public tout entier (*p.ex.* avec des fonctionnaires qui seraient responsables de projets comportant une composante TIC). Ce genre d'initiative permettrait de créer, au sein du gouvernement, un savoir-faire sur lequel s'appuierait le secteur public pour développer ses capacités, et

il pourrait ainsi disposer de spécialistes en fonction des besoins et équilibrer la demande et le recours à un concours externe.

- **Exploiter pleinement les projets d'administration électronique et mieux tirer parti de leur effet de levier** – comme les portails pour les citoyens et les entreprises – de même que les capacités associées à tous les échelons administratifs. Le gouvernement pourrait, par exemple, identifier et classer par priorité les futurs besoins et les investissements stratégiques et tactiques dans le domaine des TIC – notamment le financement initial des initiatives TIC – surtout lorsque plusieurs administrations sont concernées. Ce pourrait être l'occasion de rechercher des retombées économiques, même si cela implique d'abandonner les gros contrats au profit de projets pilotes de moins grande ampleur.
- **Améliorer la gestion de l'information et des données grâce à :**
  - L'adoption d'une politique de l'information couvrant les principaux domaines relatifs à la gestion de l'information publique (*p.ex.* création et diffusion d'information par le gouvernement ; développement, réglementation et utilisation de l'infrastructure de l'information, infrastructure institutionnelle et légale).
  - L'amélioration de la structure et des mécanismes mis en place pour l'identification et la gestion des données, par la désignation d'organismes responsables de la conservation et de la gestion des éléments de données, qui permettront un progrès mesurable de la prestation de services et une plus grande réutilisation dans l'ensemble de l'administration, que ce soit pour les citoyens, pour les entreprises ou pour les différentes fonctions de l'administration publique. Ainsi le secteur public pourra-t-il opérer une séparation entre la responsabilité des services et la responsabilité des données (une institution étant chargée d'assurer les services communs – par exemple dans les hôpitaux).
  - Avec le partage de l'information et des données, il serait possible de promouvoir et de pratiquer davantage leur réemploi, ce qui conduirait à la disparition des approches cloisonnées et éviterait ainsi la duplication inutile du stockage des données au niveau de différents organismes gouvernementaux. L'adoption de l'ensemble des objectifs politiques énoncés dans la « Directive sur l'information du secteur public »[6] de la Commission européenne, comme fondement pour une meilleure gestion et une meilleure utilisation des données au sein tant du gouvernement que du secteur privé, permettrait de libérer l'information gouvernementale, afin que d'autres agents puissent déterminer sa valeur économique et l'accroître en créant des produits et services nouveaux et innovants, qui ne sont pas limités par les missions de tel ou tel organisme ou entité du secteur public.

- **Réviser le modèle de validation économique et les instruments permettant de concrétiser les bénéfices :**
  - Le gouvernement pourrait développer, adopter et appliquer un modèle de validation économique qui prenne mieux en compte un ensemble plus large de critères pour la sélection de projets allant dans le sens d'une vision globale de l'administration. L'objectif serait de combler le fossé entre, d'une part, les intérêts des usagers et ceux des entreprises, et d'autre part, la vision du gouvernement dans le choix des solutions numériques. Un tel modèle pourrait aussi permettre de prendre en compte, le cas échéant, le résultat d'une consultation des utilisateurs finals, et de déterminer ce qu'il convient d'intégrer pour pouvoir retirer tous les bénéfices des projets, aussi bien en termes d'efficience (administrative) au sens traditionnel, qu'en termes d'efficacité et de performance. Un modèle de validation économique pourrait aussi permettre d'insister davantage sur les normes TIC et sur les procédures opérationnelles (définition et description des processus et des tâches). Cela permettrait d'adopter une réelle approche interadministration et de parvenir à des services communs dans l'ensemble des administrations. Un tel modèle de validation économique pourrait conduire à sélectionner des projets plus petits, et il serait alors possible d'utiliser, par exemple, des modules logiciels normalisés. Les spécifications pourraient être davantage axées sur les processus, contraignant ainsi davantage à montrer comment les choses se font plutôt que de simplement démontrer des possibilités restreintes d'économie administrative.
  - Il pourrait également utiliser davantage les instruments permettant de matérialiser les bénéfices (*p.ex.* structures de profits, prévisions de bénéfices, plans de réalisation des bénéfices) pour caractériser les résultats et les bénéfices particuliers des projets. Cela impliquerait plus de discipline dans l'utilisation d'outils d'évaluation *ex post* pour un contrôle, une évaluation et un suivi cohérents des projets. La révision du modèle de validation économique pourrait être l'occasion de répondre à ce besoin et d'envisager une utilisation accrue pour le suivi de la mise en œuvre des projets, de manière à s'assurer que les bénéfices sont récoltés sur toute la chaîne du processus.

Notes

1. « Styregruppen for Tværoffentligt Samarbejde » (STS).
2. Avec le lancement de la Stratégie nationale d'administration électronique, le Groupe de pilotage pour la coordination interadministration (STS) a dû mettre en place des structures de gestion pour faciliter la mise en œuvre du programme national de numérisation. Ainsi, quatre Conseils de domaine ont été constitués

dans des domaines sélectionnés (c'est-à-dire des domaines/activités bien définis relevant du secteur public). Chacun a été conçu comme un forum de coordination pour la coopération imposée entre autorités au sein d'un secteur donné.

3. OCDE (2006), *Études de l'OCDE sur l'administration électronique : Danemark*, OCDE, Paris.
4. « Towards Better Digital Service, Increased Efficiency and Stronger Collaboration », Stratégie du gouvernement danois 2007-2010.
5. Le programme gouvernemental « Danemark 2020 – Savoir, croissance, prospérité, bien-être » (« Danmark 2020 – Viden, vækst, velstand, velfærd ») a été publié le 24 février 2010 en tant que nouveau programme de travail du Gouvernement danois.
6. Directive 2003/98/CE du Parlement européen et du Conseil du 17 novembre 2003 concernant la réutilisation des informations du secteur public. *http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003L0098:FR:HTML*

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Chapter 1

Introduction

The Danish government has adopted a national e-government strategy – "Towards Better Digital Service, Increased Efficiency and Stronger Collaboration" – covering 2007-10, which largely follows-up on the OECD proposals for action embedded in the 2005 OECD E-Government Country Study: Denmark. In relation to the approval of the strategy, new economic settings were established and agreed upon by the state, the regions and the municipalities to implement 35 initiatives. In addition, a fund for assistive technology was created for 2009-15 to co-finance investments in projects that seek to employ labour saving technologies in the public sector and to adopt innovative ways of working and structuring public organisations, i.e. the PWT Foundation – Investments in Public Welfare Technology. The Danish government is in the process of taking stock of the progress made since 2005 with regard to e-government development in order to prepare a new e-government strategy. Aware of its privileged position in terms of sophistication of its e-government enabling environment, and willing to further exploit this advantage to reach out to the most vulnerable segments of the population and ensure the most efficient and effective use of public resources, the government decided to focus on: optimising the impact of e-government on public sector reform, strengthening the organisational structure and arrangements for e-government development and implementation, increasing user take-up, and securing the benefits realisation of e-government projects.

The national e-government strategy: A key policy instrument

The fiscal and financial constraints, which are partly the consequences of the economic recession experienced by OECD countries in 2008-09, have compelled OECD governments to strive to be more efficient.[1] As a result, they are increasingly trying to innovate and transform their operations to be able to "do more and better with less", to modernise their public sector, to reduce administrative burdens and to improve service delivery for citizens and businesses.[2] These are the key challenges shared by most of OECD members, and governments are trying to tackle them coherently by using a number of policy tools including national e-government strategies. They recognize infact their instrumental value as a tool that enables governments to pursue their governments' ends more efficiently and effectively. Denmark, like most other OECD members, conceives e-government not as a goal in itself but as a means to achieve policy ends. E-Government is regarded as the most effective tool – *i.e.* "a necessity and not an option" – to reach efficiency goals within the public sector.

Efficiency may definitely play a key role as an enabler of better government within the context of public sector reforms led by e-government, but it cannot be the only driver taken into account. An e-government strategy driven by a vision that balances increased public sector efficiency and cost cutting benefits with effectiveness and societal impacts – *e.g.* better welfare, improved interaction between the public sector and citizens, improved service delivery – may help to optimise the use of e-government, not only to foster enhanced collaboration, co-ordination and cohesion across the public sector and to enhance its efficient and coherent functioning, but also to achieve better service delivery in various areas and thus, target societal gains. In other words, it may help to achieve efficiency in a broader sense.

In fact, an e-government vision driven by expectations in terms of impact and effects on business and citizen-centric services and not focused solely on economic efficiency gains, can support improved and more responsive electronic public service delivery. It could strengthen the focus on experimenting with new ways to make public services more responsive to public needs by taking full advantage of Web 2.0 technologies to increase public consultations and foster citizens' participation and engagement in public service design and delivery, and committing more fully to the open government agenda. Having more engaged and informed citizens is a

precondition for increasing the number of users satisfied with the e-government services being delivered. This can have a positive impact on the increase of the desired uptake of e-government services and thus enable the realisation of the expected benefits.

The New Public Management principles and the tendency of the e-government research field to study the impact of ICT use in the public sector using frameworks developed for the private sector, have been major initiators of ICT use in governments and have long contributed to the shaping of e-government agendas mainly driven by efficiency performance measures (*i.e.* cost cutting, return on investment), core managerial values and economic gains. Many practitioners[3] point out the limits of this approach with regard to the understanding of the public dimension of e-government and to the adoption of e-government policies capable of maximising its impact on various political agendas and harnessing its benefits in relation to social and political dimensions that private sector frameworks do not account for.

OECD members want to achieve further e-government and ICT development in the public sector to streamline the online delivery of services and information, to enhance its internal coherency and strengthen the interaction between citizens, businesses and the government. In order to achieve this aim, governments will have to increasingly pay more attention to the complexity associated with e-government implementation without downplaying the difference between the deployment of ICT in the public and private sectors. This will enable them to harness the broader impact of e-government not only on efficiency but also on public values such as fairness, equity and equality related to the achievement of objectives set by government programmes and in connection with the delivery of public services to the citizenry and businesses.

The background

Since the 2005 OECD E-Government Study[4], Denmark has adopted a national e-government strategy – "Towards Better Digital Service, Increased Efficiency and Stronger Collaboration" – covering 2007-10, which largely follows-up on the OECD proposals for action. In preparing the current e-government strategy, the Danish government intended to take full advantage of the instrumental value of e-government to make the public administration more efficient, effective and self-sustained. The strategy builds on experiences of collaboration and co-operation within and across levels of government for the development of integrated e-government services and on work done to create an integrated back-office to support improved service delivery. This OECD 2010 e-government country study, which should not be seen as a comprehensive and extended e-government review, aims to

assess the progresses made on e-government by Denmark since 2005 as a result of the current e-government strategy and to assess the main challenges and questions to be addressed in order to put forward a number of proposals for action to inform the next e-government strategy.

A new e-government strategy shall enable the Danish government to tackle not only the issues associated with the 2009 financial economic crisis but also other matters. One of the problems politicians have to deal with is the need to address the concerns associated with an ageing population, to be seen in the long-term. Not only is the possibility of a shrinking labour force an economy-wide issue, but an ageing population creates immediate pressure for changes in both service delivery and in human resources management within governments. While the overall ageing situation is less dramatic in Denmark than it is in other countries due to a relatively slower increase in life expectancy – the population in Denmark is projected to remain close to its present size of 5.38 million by 2050[5] – the situation is much more critical in the public sector. Almost 33% of the Danish state sector employees are over 50, as opposed to 20% in the private sector. Herce, the largest group of employees in the central state sector are those aged 55-59,[6] whereas the private sector is much younger, with the largest group of employees aged 25-39. Fully aware of the instrumental value of e-government, the Danish government has financed and implemented a large number of e-government initiatives to tackle these and similar problems, as described in the paragraphs below.

The e-government context in Denmark

In 2007, in relation to the approval of the e-government strategy 2007-10,[7] new economic settings were established and agreed upon by the state, the regions and the municipalities. According to these new economic settings, DKK 268 million were appropriated in 2007-10 to implement 35 initiatives of the e-government strategy. In addition, DKK 20 million per year were appropriated in 2008-10 to cover the activities of the Digital Taskforce.[8] These appropriations are all joint cross-government appropriations financed equally by the state, the regions and the municipalities. Specific initiatives were also financed by the different parties, *e.g.* the Ministry of Finance (initiative on public registers), the Ministry of Economics and Business Affairs (initiative on the business portal), and Danish regions and Local Government Denmark (initiative on digital leadership). Furthermore, specific initiatives have received additional joint cross government appropriations in the yearly political negotiations on the regional and municipal budgets, *e.g.* the appropriation of DKK 205 million for the period 2009-14 for a new ICT security infrastructure (Public Key Infrastructure or PKI) supporting the digital signature.

In addition to the wealth of initiatives financed with the appropriations described in the paragraph above, a fund for assistive technology was established – the PWT Foundation. The PWT Foundation – Investments in Public Welfare Technology – previously known as the ABT-fund, of DKK 3 billion for the period 2009-15,[9] was established to co-finance investments in projects that seek to employ labour saving technologies in the public sector and to adopt innovative ways of working and structuring public organisations. These investments aim at harnessing the potential of e-government to support political agendas such as efficiency, effectiveness, modernisation and quality development in the public sector, to ensure high quality public services for citizens and businesses, and to tackle the main issues associated with the ageing population as described previously in this introduction. They build on the efforts made by the Danish government for several decades to develop the national ICT infrastructure and to achieve a broadened understanding on, and exploit the full potential of, ICT use in government. The latter has the aim to increase processes automation and achieve efficiencies in public administration, and to pursue a vigorous e-government programme spanning the whole of the public sector. This is in line with the trends of the previous biennium, for instance, in 2008 Denmark spent 2.8% of the GDP on ICT equipment, software and services.

As a result of its continuous commitment and strategic approach, the Danish government is a front-runner in the development of the Information Society. According to a number of Information Society structural indicators, Denmark shows the best performances among OECD countries. Indeed Denmark ranks first[10] in terms of broadband penetration rate (it has a fixed broadband penetration of 37.3% over an EU27 average of 23.9% and an OECD average of 22.8%), and features complete coverage of fixed broadband networks. Eighty-three per cent of households have access to the Internet at home (over an EU27 average of 65%) and 92% of Internet connected households subscribe to broadband. Use of mobile phones to access the Internet is more than double the European Union average. In 2009, 10% of individuals used mobile phones to access the Internet, over an EU27 average of 4%. Denmark is thus, one of the top countries regarding broadband connectivity for citizens.

Denmark is also one of the front-runners in terms of regular and frequent use of the Internet, with 82% of the population accessing the Internet at least once a week and 72% almost every day,[11] with 67% of the population[12] having used the Internet in the last three months to interact with the public authorities (with the level going up to 90% in the case of businesses).[13] These figures are well above the European Union averages and the low growth in regular Internet users registered in Denmark since the 2005 OECD E-Government Study can be attributed to its already very high rate. In addition,

the proportion of individuals never having used the Internet is amongst the lowest in the EU, at 11%. With 84% of the 20 basic public services for citizens[14] and 86% of the basic business services[15] available on line, Denmark also records among the best performances in Europe in terms of sophistication of e-government services.

The Danish government is in the process of taking stock of the progress made since 2005 with regard to e-government development to prepare the new e-government strategy. Aware of its privileged position in terms of sophistication of its e-government enabling environment, and willing to further exploit this advantage to reach out to the most vulnerable segments of the population and ensure the most efficient and effective use of public resources, the government, in collaboration with the OECD, decided to focus this follow-up review on the analysis of a number of key areas:

- the impact of e-government on the public sector modernisation and efficiency efforts;
- the impact of the e-government organisational structure and arrangements on e-government development and implementation;
- the need to address issues related to user take-up;
- the assessment of the benefits realisation of e-government projects.

The areas of focus of this report correspond to the main challenges identified by the Danish government in its current efforts to bring e-government development forward, but they are not unique to Denmark. These challenges are in fact faced by the majority of OECD countries, as they are increasingly focusing their efforts on broadening the focus of e-government programmes to enhance its value as a driver in order to enhance efficiency and effectiveness, while sustaining ongoing service delivery improvement. Online services enable governments to be more relevant to their citizens and businesses by meeting new needs and demands and by matching the level of services' quality with users' expectations. For instance, e-government services provide governments with a greater ability to respond to individual users' needs through customised or integrated offerings while maintaining consistent quality of service delivery across the country. Strengthening the e-government vision has meant for the vast majority of OECD countries, embracing a citizen-focused and/or business-focused and whole-of-government approach to e-government development. This new approach, which is pursued by many OECD countries, is leading to rearranging governments' on line and offline organisational structures. These trends create new challenges for OECD countries which relate to the need to adopt strategies, programmes and structures that enable governments to achieve the needed savings and a more effective resources' management on the one hand, while delivering high quality and integrated services on the other hand,

i.e. reorganising the back-office to get as many services on line as possible in a full transactional based model.

This report is therefore structured in a way that allows the reader to learn about the richness of initiatives and actions adopted by the Danish government in relation to each of the areas and to read about possible ways to tackle the issues faced at the present time by Denmark. In consideration of the fact that these issues are commonly shared by a number of OECD member countries, the intention is to provide a useful tool to support e-government policy making in Denmark as well as in other OECD countries. The section below highlights the main issues addressed by each of the chapters.

The chapters of the report

The first chapter – "The Impact of E-Government on the Public Sector Modernisation and Efficiency Efforts" – aims to understand to what extent the Danish government has succeeded in ensuring that the general agenda of public sector modernisation and efficiency takes advantage of the potentials of e-government and if there are areas in which the e-government agenda and other public agendas can be better integrated across governmental levels.

The second chapter – "The Governance Framework for E-Government Implementation" – looks into the governance structure adopted in order to co-ordinate e-government projects developed and implemented at the central, regional, and municipal level to ensure their coherent integration and efficient implementation. The different roles and responsibilities of various ministries (Ministry of Finance, Ministry of Science, Technology and Innovation, Ministry of Taxation, Ministry of Economic and Business Affairs) and the system in place (*e.g.* arrangements, approaches) to foster collaboration and co-ordination of their actions to ensure a whole-of-government approach to e-government development and implementation and service integration within the Danish multi-level governance structure are considered in the chapter. Chapter two also looks at the impact of the tendency to expand and increase a centralised co-ordination of e-government projects', as well as the development of shared solutions and infrastructures.

E-Government is based on the principle of enabling users to access government information and services through various online or offline delivery channels. Nevertheless, governments are aware that the full realisation of e-government benefits depends not only on the availability of electronic services, but also on their accessibility, quality and provision to the users. Experience shows in fact that users do not automatically use available e-government services. Denmark, like many OECD countries, has increasingly adopted a user-focused approach to develop service delivery strategies driven by the needs of users, rather than those of the providers.

The idea is that by transforming the nature and means of service delivery, citizen and business-focused e-government has the potential not only to increase user satisfaction, but also to deliver additional gains in terms of improved government efficiency.

The third chapter – "Towards a More User-Centric Approach to Public Service Delivery" – looks into the Danish e-government approach to the development of citizen- and business-centred services. The Danish government's awareness and knowledge of the distinctive needs, priorities and behaviours of the various groups of users, as well as the government's view on the need to deliver user-focused e-government and to include users' identified needs into the strategic planning, development and delivery of e-government services as a way to increase user take-up and realise the full potential of e-government service delivery are assessed.

The fourth chapter – "Realising the Benefits of E-Government" – focuses on the main challenges encountered by Denmark, and its main achievements, in realising the benefits of e-government projects. It aims at understanding the benefits as they are perceived and expected by the government and the business models and methodologies currently used by the various levels of government to measure and evaluate the achievement of specific benefits as well as the overall e-government impact. Primary challenges addressed by this chapter are related to the need to understand how can Denmark improve its capacity to realise the benefits of e-government (*e.g.* to what extent the existing joint public sector business case model is used as an effective tool for measuring costs and benefits and controlling the implementation and achievements of e-government projects).

Notes

1. In this regard, the Danish government has declared in its Convergence Programme intention to consolidate its public finances towards 2015: *http://uk.fm.dk/Publications/2009/1723-Denmarks%20Convergence%20Programme%202008.aspx*
2. OECD (2009), The Financial and Economic Impact on E-Government in OECD Countries.
3. Cordella, A. (2007). E-Government: towards the e-bureaucratic form? Journal of Information Technology, 22(3), 265-274. Cordella, A. & Willcocks, L. (2010). Outsourcing, Bureaucracy and Public Value: Reappraising the notion of the "contract state". Government Information Quarterly, 27(1), 82-88.
4. OECD (2006), *e-Government Studies: Denmark*, OECD, Paris.
5. The latest projection of Statistics Denmark is that the population will reach 5 945 million in 2050 (*www.dst.dk*).
6. Source: Ministry of Finance, State employers Authority, The Negotiation Database, 2Q 2005. OECD (2007), Ageing and the Public Service: Human Resource Challenges.

7. "Towards Better Digital Service, Increased Efficiency and Stronger Collaboration", The Danish Government Strategy 2007-2010.
8. "Towards Better Digital Service, Increased Efficiency and Stronger Collaboration", The Danish Government Strategy 2007-2010.
9. Ministry of Finance (2009), Factsheet on the Development of the Danish E-government.
10. *http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/* and the OECD broadband portal *www.oecd.org/sti/ict/broadband*
11. *http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/* and the OECD broadband portal *www.oecd.org/sti/ict/broadband*
12. Compared with the 44% of 2004 when the OECD E-government Study of Denmark was completed.
13. *http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/* and the OECD broadband portal *www.oecd.org/sti/ict/broadband*
14. *http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/* and the OECD broadband portal *www.oecd.org/sti/ict/broadband*
15. *http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/* and the OECD broadband portal *www.oecd.org/sti/ict/broadband*.

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Chapter 2

The Impact of E-Government on the Public Sector Modernisation and Efficiency Efforts

The Danish government understands the key instrumental value of e-government to push reforms forward at all levels of government. The government has made efforts to ensure the integration and alignment of the e-government programmes with targeted public sector reform initiatives (e.g. the Quality Reform and De-bureaucratisation Programme) and to secure the co-ordination of the various governance bodies in charge of their implementation. The aim of the government is now to further exploit e-government and innovation to drive change in the public sector by boosting a coherent vision of how they can be used by the country to sustain a more efficient and effective public sector while attaining its opportunities as a digital economy and harvesting broader societal benefits.

The impact of e-government on public sector modernisation and efficiency	
Key assessment	Proposals for action
The Danish government has realised that e-government has a key instrumental value to push reforms forward at all levels of government and that where it is used, it should be clearly integrated. The government has made considerable efforts to ensure the alignment of the e-government programme with targeted public sector reform initiatives (*e.g.* the Quality Reform and De-bureaucratisation Programme) and the co-ordination of the various governance bodies in charge of their implementation. Even though the overall perception on the alignment is generally positive, the integration is not yet fully achieved. The exploitation of e-government and innovation as a means to drive change at times still appears to be siloed. Strengthening the link between the e-government agenda and the various programmes can increase the impact of its strategic potential. A global and coherent vision of how e-government and innovation can be used by the country to attain its opportunities as a digital economy as well as a comprehensive picture of all the initiatives, that would enable them to fully exploit their potential across the whole public sector, could be strengthened.	• **The government of Denmark could consider developing an e-government vision for the future and a roadmap identifying top priority initiatives:** A clear vision for the future could set the national goals and indicate how the e-government and innovation agendas can help achieve results in specific sectors or across areas, at the central or at the sub-national levels. A roadmap could foster the reconciliation of innovation-led and efficiency-led approaches through specific initiatives and projects. • **Focus on government processes rather than on e-government as an individual policy area to provide a stronger line of sight.** The government could consider re-examining the various streams of work within the central government and linkages to the activities undertaken at the regional and municipal levels, which relate to e-government. This approach could reinforce the ties between e-government and other public sector goals (*e.g.* de-bureaucratisation strategy) and could also facilitate the interaction and joint efforts of different ministries to support the implementation of new projects. • **Develop, adopt and implement a common approach embracing a broader vision of e-government.** This could imply focusing on the use of e-government not narrowly to increase the efficiency of administrative services but to support improved service delivery in the primary service areas (*e.g.* health, social care and education) where better does not necessarily – or not only – mean more efficient processes. **Strengthening the link between e-government and service delivery could forge a vision and an understanding of how e-government can contribute to a wide range of policy areas and societal gains**. This could also lead within specific areas (*e.g.* in education) to a further improvement of the e-government solutions through a more demand-driven development.

Overview

The Danish government's public sector modernisation agenda has built on the public sector structural reform from 2007, although not all initiatives have been related to the reform as such, with a primary aim to make the public administration more efficient, effective and self-sustained. Part of the debate supporting the public sector structural reform has focused on the use of ICT to achieve results. Denmark, which has for many years been one of the international front-runners in e-government development and implementation, recognises in fact the critical instrumental value of e-government as a tool to support public sector reform efforts. Denmark's e-government strategy has developed over the past decade and has focused on using the Information and Communication Technology (ICT) to enable the effective and flexible delivery of modern public services which falls almost in its entirety under the responsibility of the Danish public sector.

Interviews have shown that efficiency, effectiveness and the possible economic gains (*i.e.* cost savings and budget cuts) have been the major driving force for e-government development in Denmark since the beginning of the 2000s. In this context, the Ministry of Finance has been playing a key strategic role in coupling the work of managing the budget process with that of developing and implementing modernisation initiatives across ministries and institutions. It often acts as the impetus behind the conceptualisation and co-ordination of the various initiatives, including those across different ministries and in e-government related areas such as the decisions to establish shared service centres.[1]

The continuous development of e-government is demanding and resource intensive even for a mature e-government country like Denmark. Further developing e-government requires stronger co-ordination and collaboration, as initiatives are increasingly complex and involve different branches of the government. The high level of ambition and the many cross governmental initiatives demand a high degree of co-ordination to ensure cost efficient deployment, coherence, data re-use and interoperability. Linked to this, there is a widespread awareness of potentials still waiting to be exploited.

The time seems to be right in Denmark for a new e-government vision and for setting a new agenda with a stronger and clearer focus for the next three to five years. A renewed vision will enable the provision of new responses to new demands with new services, and should indicate the path ahead: identifying the goals Denmark is aiming for and highlighting the main processes and initiatives in the pipeline. A stronger political vision and a clearer focus outlining the way ahead are needed to optimise the use of the Information Society to improve citizens' lives by providing new kinds of services and ensuring an adequate user take-up.

Defining the new vision and pushing forward its realisation will require strong leadership. The Danish government has, for a number of years, prioritised the development of e-government via the Steering Committee for Cross-Government Co-operation ("Styregruppen for Tværoffentlige Samarbejder") with the aim to ensure close collaboration and co-ordination across levels of government and a whole-of-public sector approach. However, the absence of one leading agency in charge of advancing the e-government agenda was highlighted as a point of concern by many interviewees as the exploitation of e-government and advancing innovation in the public sector still appears to be stove-piped and low on the political agenda. Adopting a new e-government agenda encompassing a strong and clear vision, setting political objectives and not simply emphasising efficiency (*e.g.* providing better welfare, improving the interaction between the public sector and the citizens, how to best serve citizens) would probably enable stronger links between the public sector modernisation and e-government agendas. Its implementation would, however, require stronger co-ordination and co-operation among the different stakeholders.

E-Government permeates virtually all public policy areas from consultation and communication with the stakeholders, to the effective development of strategies addressing specific matters such as reducing administrative burdens, and not least as a means of disseminating better policies, best practices and guidance across all levels of government. This is why it is conceived by the Danish government as an important support tool for the public sector reform efforts (modernisation, better regulation, etc.). It is the aim of this chapter to understand how and if the Danish government has used e-government as a key tool to support its efforts aimed at modernising and increasing efficiency in the public sector.

The 2005 "OECD Country Study of E-Government in Denmark"

The country study of e-government in Denmark completed by the OECD in 2005[2] proposed that the Danish government considered adopting a new e-government strategy and increasing the relation between e-government and the public sector modernisation programme in order to maximize the benefits of the various initiatives and ensure coherence of actions. In line with the proposal for action the Digital Taskforce[3] has since the end of 2005 been part of the modernisation efforts of the Ministry of Finance. Furthermore, the government adopted a new E-Government Strategy 2007-2010[4] which prolonged the e-government programme until 2010 and contributed strongly to the Danish government's Quality Reform[5] that is considered to be the new modernisation programme.

The OECD also highlighted the need for the government to continue improving the work on legislative and regulatory simplification.[6] A major action taken to achieve this objective was the de-bureaucratisation programme[7] which is part of the Quality Reform, while specific areas of the central public services are currently being investigated to identify possibilities for reducing administrative burdens and regulations.

In order to increase the efficiency and effectiveness of the public sector, the OECD country study also proposed that the Danish government considered monitoring the costs and benefits of the ICT changes in relation to the Structural Reform. This would have meant: greater focus on how e-government could support the Structural Reform by creating more user-focused services and greater cost-effectiveness, monitoring the effects of increasing the centralisation and enhancing the use of mandatory aspects of e-government in relation to public management in general, and continuing the work on enterprise architecture and focusing on incentives for implementation.

Rather than structuring a way of getting a comprehensive overview, a pragmatic approach was chosen to create insight on *ad hoc* and based on specific needs. Therefore, no central initiative was launched to achieve an overview of the costs and benefits of ICT changes in relation to the Structural Reform. A number of analyses were run with the support of the STS to identify ways to achieve economies of scale within the new larger municipalities and in the regions focusing on e-government as a pivotal enabler for achieving greater efficiency, effectiveness and for supporting the structural reform implementation. For instance, an analysis of the administration of ICT and the ICT-infrastructure of the regions was launched,[8] as well as an analysis of the costs of health ICT spending[9] as a consequence of the Structural Reform. At the state level, the establishment of a shared ICT service centre required an overview of all expenditures for administrative tasks. Several initiatives have been launched to expand centralisation of e-government solutions as part of the e-government strategy, and an initiative regarding mandatory accessibility standards has been carried out and standards have been developed for accessibility. The issue of mandatory standards regarding architecture and investments in e-government projects is still under consideration. Other examples of cross-government initiatives aimed at increasing centralisation include objective case handling,[10] the use of procurement frameworks at the state level and common procurement agreements (and standards) by the larger municipalities and the use of the business case model.[11]

As part of the e-government strategy, a central initiative on enterprise architecture FORM[12] (the Danish acronym for Joint Cross Governmental Business Reference Model) has been launched which led to outlining all the services the public sector delivers to respectively citizens and business. The second important Enterprise Architecture (EA) effort is the adoption of the US

Service Reference Model and Technology Reference Model (*www.egov.gov*) in the Danish Service – and Technology Reference Model (also called STORM) published in January 2009. Together with FORM, this model provides a common technical vocabulary for agencies involved in the delivery of cross-agency services. The Shared Service Centre for IT (*Statens IT* – or SIT) relies heavily on the model and a range of municipalities are now adopting it. The model is worth mentioning parallel to FORM as part of the overall EA-programme. FORM was the first reference model developed in 2007 and is the most widely used today. However, STORM is just as important for the identification of duplicate, re-usable and sharable IT-services, the objective review of IT investments – and the general alignment between business and IT.

Table 2.1. **Actions adopted by the Danish government in response to the OECD proposal for action**

2005 OECD E-Government Study: Proposals for action	Actions taken by the Danish government
1. Monitor the costs and benefits of the ICT changes in relation to the Structural Reform	No central initiatives have been launched to achieve this overview, even though individual respective public agencies do have such an overview. Furthermore, an analysis of the administration of IT and IT-infrastructure of the regions has been launched, as well as an analysis of the costs of health IT spending as a consequence of the structural reform. At state level, as part of the re-organisation of the administrative Service Centres and the establishment of the Agency for governmental IT services, previously known as State IT",[13] an overview of all expenditures for administrative IT has been created.
3. Increase the relation between e-government and the public sector modernisation programme	The Digital Taskforce has since the end of 2005 been part of the modernisation efforts of the Ministry of Finance. Furthermore, the present e-government strategy contributes heavily to the Danish government Quality Reform programme considered to be the new modernisation programme.
4. Continue to improve the work on legislative and regulatory simplification and the communication on this	Many actions have been taken to achieve this, especially the de-bureaucratisation work as part of the Quality Reform. Specific areas of central public services are currently being investigated to identify possibilities for reducing administrative burdens and regulations.
9. Consider the further iteration of a new e-government strategy	The national e-government strategy covers the period 2007-10. The new strategy was launched at the end of 2007 and the e-government programme was prolonged until 2010.
13. Consider the need to put more focus on how e-government can support the Structural Reform by creating more user focused services and greater cost effectiveness.	Several analyses have been launched, at the central level, in order to achieve economies of scale within the new larger municipalities and regions. E-Government plays an important role in achieving this kind of effectiveness. Furthermore, initiatives at the regional and the municipal levels are expected to put focus on e-government in regards to the implementation of the structural reform.

The Danish "E-Government Strategy 2007-2010": A national strategy for the public sector digitisation

E-Government has been on the agenda of the Danish government for over two decades. In 2007, the Danish government launched jointly with the Local Government Denmark (LGDK) and the Danish Regions its strategic programme to develop e-government covering the timeframe 2007-10. The document entitled "Towards Better Digital Service, Increased Efficiency and Stronger Collaboration" sets in fact the policy programme for the period 2007-10, and aims at enabling the Danish public sector to maintain its capacity to exploit the technology to improve efficiency in its task handling and to satisfy the growing and changing citizens' needs.

The strategy mainly builds on the experience from two most recent e-government strategies.[14] The e-government strategy for 2001-03 primarily marked the start-up of joint digitisation co-operation between the municipal, regional and state levels of the administration – which is still the basic concept behind the Danish approach to e-government. The e-government strategy for 2004-06 added impetus to the development of the internal public-sector digitisation. In turn, the new e-government strategy for 2007-10 aims at raising the level of ambition and setting new standards for the development of citizen services and cohesion across the public sector.

The new strategy entails better and more binding co-operation and emphasises the implementation of specific digitisation measures to enable efficiency gains within the public administration. In detail, the current strategy supports the long-term development towards cohesive, increased and more efficient digitisation of the public sector, whereby the digitisation is conceived as a natural part of the provision of government services throughout the public sector. The idea embedded in the strategy is therefore that the public sector should deliver better, more cohesive and efficient digital services to citizens and businesses. The strategy aims therefore at providing the individual authorities with a new framework for their digitalisation efforts up to 2010.

The strategy is built on three overarching priority areas:

- Making public services more readily accessible to citizens and businesses (*i.e.* better e-government services): the first strategic priority area for better online provision of services includes the vast majority of the strategy's initiatives.
- Facilitating increased efficiency of the administration: the second priority area is that digitisation will enable a higher degree of efficiency and focuses on a strategic approach to digitisation as a tool to free up resources for the citizen-based services.
- Enhancing collaboration within the administration.

Major actions foreseen by the strategy to make public services more readily accessible include: improving communication channels (it foresees that the public sector must co-operate in enabling all relevant communication between citizens and the administration to take place digitally by 2012 at the latest, and communications with businesses to be effected digitally from 2012), maintaining the digitisation efforts to improve the functioning of the administration and allow integrated public service delivery, involving citizens and businesses in the development of e-government services, and further strengthening security and safety in data handling. Furthermore, the strategy envisages that more targeted work needs to be done to make digital communications and digital solutions compulsory in specific areas.

The e-government strategy recognises that basic social conditions call for the public sector to adapt and evolve, and that current demographic trends mean that the proportion of Danes of working age will decline during the implementation timeframe of the strategy itself and the upcoming decades.[15] In such a perspective, not only does the strategy conceive digitisation as a critical tool to rationalise the public services provision as well as to simplify and rationalise the working routines in order to free up resources, but also as instrument to enhance the efficiency of the public sector, facilitating the concentration of the public resources to a greater extent on personnel-intensive, citizen-focused care and services. Automation and simplification are in fact seen as an effort to increase the efficiency in handling and processing citizens' and businesses' enquiries as soon as the public sector receives the necessary information and data. As the strategy sees in parallel that the digitisation and streamlining of internal work processes in the public sector is an ongoing process, it emphasises the relevance of constantly investigating whether any areas would gain from a higher degree of shared digital solutions to the administrative processes.

A core objective of the strategy is to further develop the public portal for citizens (*www.borger.dk*) and the one for businesses (*www.virk.dk*) to improve accessibility to public services. According to the strategy, these portals are to become central contact points between citizens, businesses and the public sector. The Citizens Portal is the common public digital service channel for citizens which makes digital self-service more attractive and more widespread. The objective is to integrate all self-service digital services in the portal by 2012. Likewise, the objective of the business portal is to make it possible for businesses to perform their reporting to the public sector more quickly and easily (the objective being that by 2010, 75% of business reporting is to be done digitally). A related objective to the development of the portals is to make it possible for businesses and citizens, as much as possible, to have to provide information to the public sector only once.[17] The first essential architectural tool is the Public Sector Portal Integration Framework (OIM)[17].

This framework defines technical and organisational requirements for agencies when they want to display their services on the citizen portal, the business portal or any other portal, *e.g.* in a municipality's portal. The framework was developed together with *www.borger.dk* and *www.virk.dk*, and the Danish municipalities. It has been a driving force in pushing the large portals as the central point of contact between citizens, businesses and the public sector.

An aim of the strategy for *www.borger.dk* and *www.virk.dk* is to give citizens and businesses a general overview of all public services available to them. The overview is provided both through the portals and through the individual authority's website by integrating content from *www.borger.dk* and *www.virk.dk*. This is intended to create cohesion in the public sector service delivery, requirements and options available to the individual citizen and business. During 2008-12, both *www.borger.dk* and *www.virk.dk*, involving a large number of authorities and institutions are expected to form the framework for a modified, personalised approach to the public sector for citizens and businesses. Thus, the portals should also serve as leverage for a service-oriented architecture, enabling services developed for the portals to be displayed and integrated on other relevant public websites. Even if the strategy calls for stronger collaboration and co-ordination across levels of government, it recognises that the most essential action in relation to the digitisation of the public sector lies in the concrete initiatives of each individual municipal, regional and central government organisation. Thus the division of tasks: the joint collaboration focuses on joint components and infrastructure, and the authorities focus on maximising policy impact.

The strategy supports the modernisation efforts in the public sector by fostering the adoption of ICT and other methods and means for creating the basis for the change – *e.g.* development of new skills, work process restructuring, efficient communication strategies towards citizens, businesses and public-sector employees – needed to enable an efficient digitisation. This search for efficiency, which creates a basis for greater value for money, requires constant managerial alertness. Targeted change management is an altogether crucial provision for realising the full potential of digitisation. The positive impact of e-government on public sector reform initiatives is confirmed by 51% of the respondents to the OECD online survey of e-government in Denmark.[18] Interviewees, however, indicated that the use of ICT to modernise the public sector still seems to be discussed in isolation from other policy areas. For a large number of the interviewees it is not explicitly clear how the digitisation agenda and the modernisation programme are aligned. What most of them would like to see is the adoption of a holistic approach.

Acting from a whole-of-government perspective is a precondition to achieve the full potential of e-government. Yet, public administrations in many

OECD countries have deep traditions of agency independence, and as a result public reforms have often led to increased decentralisation of the public sector. The advent of e-government has led many countries towards re-integration of some government processes and re-engineering of others to increase back office co-ordination to support collaboration across levels of government and assure seamless and responsive service delivery based on a whole-of-government perspective at the front end. However there is no "one size fits all" solution to the question of how best to co-ordinate e-government.[19] While governments share common challenges, they are starting from very different places in terms of e-government and administrative development, and they need to find solutions that work in very different circumstances.

A whole-of-government perspective does not necessarily mean a single perspective as ICTs offer a range of possibilities for aligning government procedures to ensure a coherent approach of the various programmes and initiatives, without structural change. Structure alone does not tell the entire story and co-ordination should not be viewed as a goal pursued for its own sake as it is rather a means to achieve government objectives. In order to ensure a coherent approach and co-ordination structure supporting a whole-of-government perspective for the implementation of the various public sector programmes, governments should start by identifying the areas in which they feel additional effort is needed. Engaging in the identification of goals before specifying the means is in fact a valuable exercise. In any event, for any government interested in revisiting its approach, one practical suggestion is to search for a fellow OECD member country with which it shares a number of characteristics, and to compare what they are both doing in this area.

Thirty-five initiatives are being implemented to ensure advancements in the three priority areas of the strategy, and thus support the modernisation and efficiency of public sector operations. It is, however, important to underline that it is crucial to consider the strategy's implementation in relation to all other joint digitisation and efficiency initiatives (*e.g.* projects financed under the PWT Foundation, previously known as ABT fund[20]) which support the strategy's tools and objectives in addition to its specific 35 initiatives. Furthermore, to ensure an efficient and effective use of the resources available, on the basis of a review of the progress of the e-government strategy's initiatives conducted in early 2009, the Danish government decided to consider a possible adjustment and reorientation of the resources and a reprioritisation of the initiatives.

Making public service more readily accessible to citizens and businesses

Of the 35 initiatives contained in the strategy, a number focus on the establishment of a framework for the construction of digital solutions

across the public sector to create a uniform language and enable better integration and interoperability of systems. Identifying and developing new common e-government components can create added value to the public agencies. The deployment and use of joint components will in fact contribute to achieving higher integration of operations and processes and to giving a more coherent and uniform image of the public sector. The initiatives are promoted jointly and are set in a strategic framework for a comprehensive digitisation of the communication between citizens, businesses and government through the new initiatives built around eDay3 and e2012,[21] which set ambitious targets for the digitisation of the public sector to support in particular a strategic channel prioritisation of the public services offered to citizens and businesses and the development of a robust digital infrastructure in the government.

The first strategic priority area for better digital service includes the vast majority of the strategy's initiatives which target the deployment of common e-government components that are developed and reused across the public sector, *e.g.* EasySMS, Digital Mailbox, digital signature, user management, "show a geographical site". The components cover various objectives of better service (*e.g.* EasySMS – a common public SMS service providing citizens and businesses with the opportunity to sign up through *www.borger.dk* and *www.virk.dk* to receive text messages from the public sector as reminders of medical appointments, upcoming deadlines for the submission of documents to the municipality) and the establishment of the necessary infrastructure to ensure the development and use of public digital services (*e.g.* digital signature and user management).

The development of joint e-government components can have positive business cases, as it is estimated to be the case in Denmark for the EasySMS (with a positive business case in year three of DKK 12.3 million[22]) and the Digital Mailbox (with an accumulated savings potential of DKK 475 million towards 2016[23]). In fact all the components have some common features, a good number of them have interdependencies (*e.g.* user management and digital signature) and there are a number of dependencies between components and the portals *www.borger.dk* and *www.virk.dk*. The use of common e-government components across the public sector or within selected domains is of great utility, not only to ensure increased efficiency (in some cases also large savings potentials) but also to establish a more integrated and coherent public sector, perceived by the citizens and businesses as operating as a whole-of-public sector.

The experience gained so far by the Danish government provides a framework for identifying and developing new joint digital components that have the added value of increasing the efficiency of the public sector operations, and contribute to an integrated functioning and perception of the

public agencies' work. However, with the development of additional components, the need for greater co-ordination in their development and deployment increases, just as there is a need for better communication to, and between the public agencies to ensure compliance with a comprehensive plan for the coherent deployment of the newly added components. Such a plan would enable the Danish government to maintain the focus on clearly defined objectives for the development of new joint digital components, and to address major future challenges related to the need to find qualified project managers knowledgeable about the functionalities and characteristics of these components – relevant in relation to any procurement process – and to ensure co-ordination across the whole public sector.

In addition to topics such as digital communications, accessible and coherent e-government services, the priority area for better e-government service sets an agenda for a number of other key themes such as mandatory digitisation, reuse of information and data via system-to-system solutions, immediate decisions and business processes.

The initiatives that fall under the second priority area of the strategy focus on increasing the public sector digitisation to enable a higher degree of efficiency and to free up resources for the delivery of services which are closer to users' needs. The analysis on how to optimise the operations of a number of key public sector records, the analysis on how to exploit economies of scale by merging the operations of a number of public tasks or on how to further optimise operations by automating and implementing uniform digitisation are examples of initiatives undertaken under the second priority area. Moreover, the implementation of the analysis in the health ICT domain is an example of the establishment of a framework for a business-driven prioritisation of the overall effort on the basis of a general picture of this domain. E-Health is also the first example of the Danish attempt to move from the focus on the efficiency of the administrative processes to the efficiency of the core public service area.

As part of the strategy's third priority area to enhance digital coherence in the public sector, the Danish government has focused on the development of a single public sector approach to the digitisation and to support the development of a better public digital context. The development of a comprehensive enterprise architecture for the public sector (*i.e.* FORM[24] – the Danish acronym for Joint Cross Governmental Business Reference Model) to create a uniform language and ensure better integration between systems, mandatory open standards and development of common public ICT architecture requirements are some of the initiatives in the third strand of the strategy. Experience also shows that, in relation to the successful implementation of enterprise architecture, ensuring the use and dissemination of the developed methods, concepts and standards are the greatest challenges. Therefore it is

crucial for the Danish government to keep up with its great effort in this area, if this objective is to be realised. It will also be important to maintain the current approach of the Digital Taskforce which has so far focused on developing enterprise architecture in relation to specific projects and actual implementations, rather than on developing general guidelines on enterprise architecture, which seems to have led to good results. Finally, the strategy sets up the clear objective that there must be business cases for the development of enterprise architecture. It therefore becomes essential to ensure that the initiatives developed in the strategy period are developed within this framework.

Another key initiative in the third priority area of stronger co-operation is to develop a single user right solution. *www.virk.dk* already has a single sign-on and user right solution that is cross public sector and used by 100 solutions from 11 different authorities. On the citizen side, there is a cross public sector sign-on solution in place, but no actual user rights management solution. There is a tender under way that will create one single sign-on and user right solution for citizens, businesses and the public sector. Once this solution is built, the public sector will move to this solution. The solution will be included in eDay3 with more ambitious objectives for the coupling of the relevant authorities.

Two years after the Danish E-Government Strategy 2007-2010 was launched, 23 of the strategy's 35 initiatives are being implemented. Seven initiatives have been completed and gone into operation, and five have not yet begun.[25] The responsibility for the implementation of the strategy's 35 initiatives is spread across a range of public authorities. Although progress in their implementation has been good, experience shows that there are a number of challenges in implementing many initiatives simultaneously. First, the required project management skills in the responsible authorities. Second, the great proliferation of initiatives in a multi-agency set-up requires a major co-ordination effort from the central government that has to ensure that the initiatives follow the common national e-government agenda, rather than the separate authority's interests and priorities. It is quite crucial that these challenges be properly addressed in order to minimise the risks associated with having a high number of initiatives.

Moreover, the continuous mapping on the status of existing initiatives, in connection with the development of new ones, is a very important exercise. It is possible, using mapping, to rationalise and prioritise efforts, to ensure the consistency of systems and the exploitation of synergies, economies of scale and of the joint development of the operations, and to reallocate funds as needed. The results of the mapping can be used to develop an overall plan or roadmap to further improve the digitisation of the public sector both in the citizens-oriented as well as in the business-oriented areas. In line with this

reasoning, the Danish government recognises that the need for horizontal and vertical integration in government to secure a shared understanding of strategies, business capabilities, IT services, and technology is becoming a crucial foundation for the delivery of effective e-government services. Different approaches in the e-government domain are emerging, and the Danish standardised reference models and taxonomies could be leveraged to better deal with organisational and semantic interoperability issues.

The Danish government seems to be aware that there is a general need to monitor and eventually adjust the actions in relation to the management and to the total financial resources set aside for these initiatives. Two review processes of the 35 initiatives were undertaken in 2008 and in 2009. The aim of this exercise was to obtain an overview on the progress made in their implementation to identify the interdependencies between key projects. The reviews were intended as a starting point for a general discussion on the progress of the implementation of the e-government strategy within the Steering Committee and to enable the Digital Task Force to take steps to ensure greater co-ordination of the initiatives within larger selected areas of the strategy in order to support a consistent deployment and continuous assessment on the same. A review of the progress of the e-government strategy's initiatives held in early 2009 led, for instance, to the decision to consider an adjustment and a reorientation of the resources in light of the reduced use of the pool of DKK 43 million available under the strategy because the amount had not yet been used in the concrete projects.

The specific initiatives incorporated in the e-government strategy that focus on increasing the digitisation in the public sector are associated with a certain degree of priority both economically and strategically. However, as they are just one of the tools adopted by the Danish government to foster the public sector modernisation and increase its efficiency, it is important to see the strategy in the wider context of all programmes, initiatives and reforms.

The Structural Reform: A framework for the local e-government agenda

The sections below highlight the main characteristics of the e-government strategies adopted by the subnational levels of governments.

The role of the municipalities

A major institutional initiative has been the reform of the municipal and regional structure (the Structural Reform) which came into force in January 2007, leading to significantly fewer municipalities and to a redistribution of the responsibilities across levels of government which has had a significant impact on e-government implementation.

Box 2.1. **Responsibilities of levels of government in Denmark**

The Structural Reform in Denmark that took effect in 2007 reduced 271 municipalities to 98 larger municipalities, abolished 14 counties and instead created 5 regions. In certain areas, the reform significantly adjusted the responsibilities between levels of government – giving in general larger responsibilities to the local (municipal) level and focusing the new regions' responsibilities on mainly hospitals and certain specialised social care tasks.

Municipalities were already, before the Structural Reform, responsible for a large part of the citizen-oriented services such as elderly care, child care, primary and lower-secondary education and a large number of services in the social security area. In addition to those tasks, the municipalities got broader responsibilities within health care, the labour market area, the social area, special education and training, business services, public transportation and roads, nature, environment and planning, culture, and coherent citizens services.

Regions are responsible for the health sector, regional development and a number of social institutions. In addition, the regions are responsible for the establishment of transportation companies and for some regional tasks regarding nature, the environment and physical planning. They are also responsible for national and regional offers of special education and training, and educational institutions for people with speech, hearing or vision impaired difficulties (so-called "communications centres"), although health is the primary service area.

The State has, in connection with the reform, taken over a number of tasks within a broad range of areas that has been deemed more appropriate and effective to manage centrally by the state.

Source: Ministry of the Interior and Social Affairs, 2010. See: *http://www.ism.dk/data/Dokumentertilpublikationer/IM%20engelsk/http://www.ism.dk/data/Dokumentertilpublikationer/IM%20engelsk/Agreement%20on%20a%20Structural%20Reform/Agreement%20on%20a%20Structural%20Reform.htm* (accessed 15 February 2010)

As a result of the Structural Reform, the municipalities are seen as one of the citizens' main points of contact with public authorities and are expected to provide coherent off- and online services to citizens.[26] The e-government strategy for the municipalities establishes a path for the implementation of several initiatives launched through joint municipal efforts and in close co-operation with the regions and with the central government.[27] The strategy sees the role of the municipalities as key to ensure that the political and administrative management teams maintain a strong focus on ICT as a tool to achieve improved efficiency of municipal administrations and better provision

of municipal public services. By being closer to the citizens, municipalities have the responsibility and the possibility of better understanding the needs of the users, as citizens seem to be more inclined to locally access the services (*e.g.* municipal websites). Therefore, municipalities can significantly contribute to defining the specifications of the system to be developed in order to ensure that the citizens' perspective is fully captured as opposed to having too much emphasis on the internal needs of the public administration.

The e-government strategy for municipalities determines the framework for prioritising the e-government efforts in the municipalities so that e-government initiatives create solutions where the impact on citizens, businesses and the municipal use of resources is optimised. The possibilities of prioritising and planning the municipal services at a local level are not in conflict with the need to establish common solutions across the public sector. The strategy sets the framework to enable the provision of more services for fewer resources. It fosters in fact the increased development of digital solutions covering an increasingly higher number of municipal services, thus facilitating the access of the users anytime and from anywhere. ICT is therefore seen as a key enabler to modernise, rationalise and strengthen the operations of the municipalities and enable more users to access to digital "self-service". The strategy recognises the need to strengthen and widen the points of contacts between the citizens and the municipalities, providing the option to select the channel of their preference.

The strategy builds on the necessity of collaboration and co-ordination across levels of government which is a precondition to enable the municipalities to complete the extensive ICT restructuring required to provide improved and coherent public service delivery. This is seen as a collective challenge. Therefore, the Danish government recognises the significance of adopting a multi-level collaborative approach in which the municipalities play an active role in setting the agenda of e-government services developments that better respond to the users' demands. This implies that municipalities are expected to assume an active co-responsibility for formulating and achieving new common objectives for the public sector modernisation which requires, however, the strengthening of the municipalities' capacity to assess and monitor the users' needs, thus taking full advantage of their closer positioning to the citizens.

The e-government strategy for the municipalities emphasises the importance of strengthening the capacity of the Local Government Denmark (LGDK) and of the municipalities to exercise their influence within an ICT market in which there are several suppliers of ICT solutions (as opposed to the past when KMD[28] had a clear market dominance – *de facto* a monopoly – as the main IT solutions provider supporting several core service provision domains at the local level). The changed context requires LGDK to combine municipal purchasing power by ensuring municipal support for tenders for special projects supporting the delivery of municipal services. This is seen as a way to

ensure the procurement of the necessary and most adequate solutions for the municipalities.

Moreover, in line with the overall strategy, the LGDK is expected to play a more active role in setting common standards for ICT solutions within the municipal sector. Setting the standards jointly is seen as a main driver to push changes in a co-ordinated manner and to develop a common ICT architecture. ICT suppliers are invited to develop applications that comply with the agreed standards and this compliance ensures that the applications developed and deployed are in line with ICT requirements. When the municipalities jointly take the lead to define the framework for public-sector ICT investments, the municipal ICT market becomes more attractive to competing ICT suppliers. Setting common standards enables the possibility of creating open access for new ICT suppliers and a more dynamic ICT market. The standards are supposed to enable an increased number of ICT suppliers to develop and maintain ICT solutions for the municipalities.

In order to facilitate the setting standards for task management and ICT, and to concentrate the purchasing power to present to the market a collective municipal demand, the municipalities are required to ensure stronger project management and ICT skills (*e.g.* strengthening competences within ICT procurement). Joint municipal and joint public sector projects supported by common ICT solutions which have been developed and based on jointly defined standards would enable the achievement of common objectives for municipalities and the public sector, prioritising specific areas. Even though the municipal strategy recognises the importance to tackle ICT needs jointly, it also acknowledges the need to create local dynamics that respond to specific needs. "The government acknowledges the fact that there will be a few areas in which the municipalities or the public sector jointly need to establish and own certain ICT solutions, as there are some ICT solutions where it only makes sense to develop and operate one version".[29]

The underlying idea is that legislations and ICT solutions shall leave space for local adaptation. ICT solutions, regardless whether they are standardised or not, should enable the interoperability required by various public agencies to interact and handle services on each other's behalf, *e.g.* maintain information on the citizen, calculate payments. In this way, major ICT solutions will consist of large e-government "building blocks" where each building block represents a delimited part of the digital procedure. ICT solutions are therefore being built using a Service-Oriented Architecture (SOA) approach.[30] The ICT building blocks offer the municipalities huge advantages. It becomes easier and cheaper to change the municipal services and switch suppliers. In addition, it is planned so that the open, standardised interfaces of the building blocks enable the citizen to digitally monitor the administration of their files – *e.g.* via "Min Side" (My Page) on the citizens'

portal.[31] The vision of all municipal and public-sector ICT systems being constructed of building blocks cannot be realised within a few years' time. The strategy therefore is that the joint municipal and common public sector standardisation of procedures, information, data and systems shall be implemented gradually – in areas where a need has been demonstrated for improving public services.

Notwithstanding the framework set by the e-government strategy for municipalities, some of the interviewees indicated that they feel there is space for improving the co-ordination of how the operational decisions are taken by the municipalities on the development of ICT systems. The idea of establishing a central co-ordination mechanism to set a common catalogue – central system – from which the applications could be chosen, was for instance proposed as a desirable option by the interviewees. Even if this area has been traditionally based on consensus, having a common reporting system to gather information on systems used by the municipalities would help to take more informed decisions.

The municipalities are currently working on a new e-government strategy that will be ready in the summer of 2010. The new digital strategy will be proposing actions to tackle, at the municipal level, the challenges highlighted in the forthcoming national e-government agenda (the new digital agenda) covering the period 2010-15.[32]

The Regions' Common Strategy for Connected Health[33]

As a result of the structural reforms, the regions are responsible for the digitisation of the health sector. The national strategy does not aim to develop a single e-health system but focuses rather on consolidating the existing systems and ensuring coherence and connectedness by enabling an easy exchange of information. Currently, information is shared within and across the regions on several areas, such as medication, text-notes, laboratory test, and interoperability is supported in some areas at different levels of sophistication, *e.g.* communication between the hospital and the medical doctors. It is a political priority to establish interoperability and the regions remain aware of the challenges of consolidating the existing EHR's and share relevant information between the systems. One of the challenges faced by the regions is the complex historical legacies inherited by their predecessors before the Structural Reform, *i.e.* the counties. The approach to digitalising and improving the coherence and connectedness is carried out in a step by step process, thus recognising the current progress, the previous investments and experience in the sector. For instance, the recently published possibility for citizens to consult their own personal health records on line via the health portal, *Sundhed.dk*, is built upon older

components that are connected, thus creating a major step towards bringing the health system closer to citizens.

Enhancing the user friendliness of the applications, strengthening the capacities to support development and management of the ICT system, streamlining the co-ordination and collaboration across levels of government is seen as a priority as there is a common feeling that there is no structure to provide common solutions. Also, adjusting the financing mechanism[34] of the projects to ensure IT systems' interoperability, develop joint solutions, and eventually establish a shared-service centre also emerged as an area in which interviewees would like to see stronger actions being undertaken in order to integrate systems, achieve economies of scale, and positively impact the uptake of services. Enhanced co-ordination would also enable to clarify the goals and the direction to guide the standardisation and the selection of a common solution. In February 2010, the regions established a joint regional eHealth organisation (RSI) in order to improve the co-ordination and cross-regional collaboration on EHR and digitisation. Current joint public analyses are further looking into the overall organisation of the eHealth domain.

E-Government and the public sector modernisation and efficiency programmes

The attempt by the Danish Government to modernise the public sector includes a variety of programmes and initiatives (*e.g.* the de-bureaucratisation programme, the initiative for the simplification of regulations and reduction of administrative burdens for businesses).[35] Initially seen as a driver for public sector reform and modernisation and to sustain improved service delivery, the focus for e-government has shifted progressively towards the idea of e-government as a driver for increased efficiency in the public sector. The agenda for better regulation and modernisation on one side and the e-government agenda on the other were initially placed under the same umbrella and then separated into two different areas of responsibility in the Joint Cross Governmental Steering Committee. The leadership for the better regulation and modernisation agenda falls under the Centre for Quality De-bureaucratisation and Leadership, whereas responsibility for co-ordinating the implementation of the e-government and efficiency agenda falls under the Centre for Administrative Efficiency and E-Government. The division of e-government and better regulation, and the modernisation agenda in two different organisational units requires stronger co-ordination efforts in order to ensure the alignment of their work and of the initiatives they are responsible for, and coherence with the Danish government's view of e-government as a key enabler of public sector modernisation. The Quality Reform and the De-bureaucratisation Programme

represent concrete examples of the government's attempts to bring together the two agendas through specific programmes.

The Quality Reform: A cornerstone in the public modernisation programme

The current government's modernisation programme aims to address upcoming social and economic challenges, and to improve public service delivery. The programme was developed based on the assumption that the main responsibilities of public organisations are to utilise the resources available to provide the best possible services to citizens and businesses. In a context where the public sector faces a number of challenges, including expected shortage of labour and growing demands of good services in the near future due to the ageing challenges in Denmark as well in most other OECD countries, the Danish government sees efficiency improvements and quality development achieved through innovation as being critical in order to secure and improve the level of welfare provided to its citizens (*i.e.* deliver service of main value to the society – and deliver it in an efficient way). This is why, in broad co-operation with the municipalities, regions, ministries and public managers and employees, the Ministry of Finance took the leadership in the development and implementation of initiatives to enhance the efficiency of the public administration and to improve public leadership in order to ensure sufficient recruitment in the public sector.

The modernisation programme lays down a broad view on administrative development, which includes three core areas: digitisation, administration policy and de-bureaucratisation. The ongoing initiatives include:

- organisation and management, de-bureaucratisation;
- labour-saving technologies;
- establishment of shared service centres;
- budget and accounting development;
- public digitisation strategy; and
- management development.

The majority of these initiatives are included in the Quality Reform, which is a central part of the public sector modernisation programme.

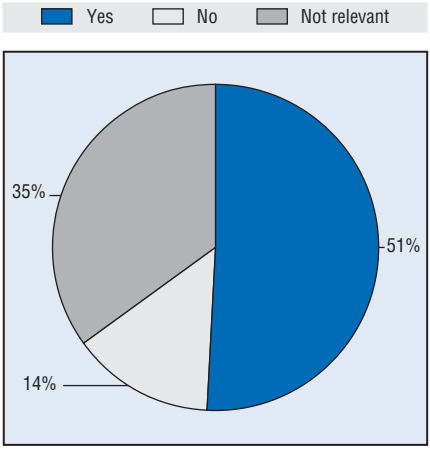
The aim of the Quality Reform launched in 2008 is to create a more efficient administration and to unlock resources that can be used to improve welfare services. In August 2007, the government presented its strategy including 180 specific initiatives. The presentation was the culmination of a one year long process, where citizens, interest organisations, public employees and executives, and other managers from the public and private sector were invited to discuss how to further improve the quality of the public sector services. In March 2008, as

part of the negotiations of the budget, a political agreement on the Quality Reform was found. The Quality Reform was launched on 10 November 2008 in connection with the approved budget bill for 2008.[36] The reform is made in order to secure the ongoing development and improvement in all parts of the public welfare service delivery. The focus is now on the implementation of the 180 initiatives that constitute the reform. The implementation process is planned in close co-operation with the Danish regions and municipalities.

The importance played by e-government as a tool to sustain the achievement of the goals set in the Quality Reform Programme is evident. The Danish government sees e-government as a means for contributing to a faster and more solid implementation of the initiatives included in the Quality Reform Programme and therefore as a means for enabling the government to foster the competitiveness of the economy and meet social and quality life goals.

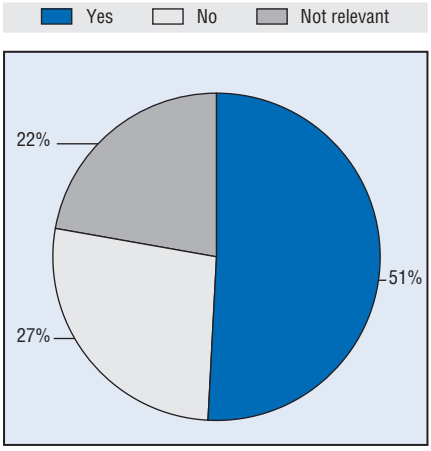
Interestingly, the results of the OECD web-survey conducted within the framework of this review show that the impact of e-government on public sector reform initiatives has been recognised by 51% of the respondents (see Figures 2.1a and 2.1b) with 74% of the positive responses given to the question on the Public Sector Structural Reform come from the municipal level.

Figure 2.1a. **Has e-government helped your organisation in achieving the aims of the 2007 Public Sector Structural Reform?**



Source: OECD survey of e-government in Denmark 2009. *Question 1.2: The 2007 public sector structural reform ("Kommunalreformen") aimed, amongst other goals, at providing better service delivery to citizens and businesses through professional sustainability, economies of scale and synergetic effects Has e-government helped your organisation to reach these aims?*

Figure 2.1b. **Has e-government helped your organisation in achieving the aims of the 2007 Quality Reform?**

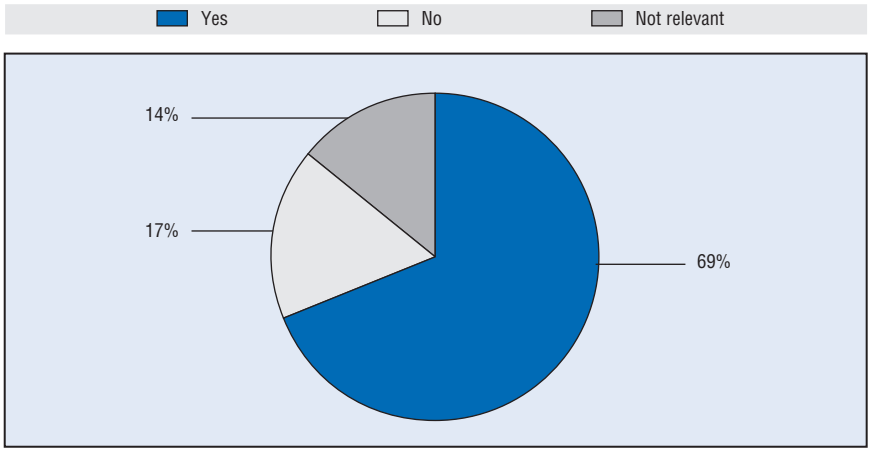


Source: OECD survey of e-government in Denmark 2009. *Question 1.3: The quality reform in 2007 aimed at creating higher levels of quality in government services and more satisfied frontline workers in the public sector. Has e-government helped your organisation reach these aims?*

However, 49% of the respondents do not see e-government as a significant lever or do not know whether it has supported the achievement of the reforms' objectives. It is interesting to note that 27% of the respondents answered "no" to the question on whether e-government has been a help in achieving the aims of the Quality Reform compared to 14% when asked the same question on the Public Sector Structural Reform. The result seems to show a significant alignment between the perspectives of the central government which envisaged in the programme the use e-government as a main driver for the achievement of the targeted results and the one of the respondents from the various levels of government.

The focus of e-government implementation as a tool for cost-savings with the increase of efficiency and effectiveness through the 2008 De-bureaucratisation Programme is, instead, strongly confirmed by 69% of the respondents to the survey (see Figure 2.2).

Figure 2.2. **Has e-government helped your organisation in achieving the aims of the 2008 de-bureaucratisation action plan?**



Source: OECD survey of e-government in Denmark 2009. *Question 1.4: The action plan for de-bureaucratization from 2008 aimed at increasing the efficiency in the public sector to save money on administration and reallocate them to increase public services quality. Has e-government helped your organisation to reach these aims?*

The De-bureaucratisation Programme: cutting the bureaucracy

Following an agreement with the local governments and the trade unions, the central government launched in 2007 the De-Bureaucratisation Programme,[37] which is part of the broader Quality Reform, under the responsibility of the Centre for Quality De-bureaucratisation and Leadership. The De-bureaucratisation Programme aims to reduce burdens on frontline public sector workers by simplifying rules, requirements and procedures that place unnecessary burdens on local and central authorities, and public sector

employees and to reduce and improve central government's regulation of local and regional government.

The programme, which covers subnational as well as central governments, and focuses not only on laws but also on secondary regulations such as executive orders, also tackles the need to improve communication and working procedures in the municipalities and regions, through an increased use of ICT. The programme supports employees' initiatives to cut red tape by promoting innovation and service development, in order to free up time for service provision.

The De-bureaucratisation Programme includes a quantitative target. Contrary to the programme for businesses, however, the De-bureaucratisation Programme does not have an overall reduction target.[38] The government published a single comprehensive reform proposal with 105 concrete proposals for simplification. The reform proposal was named "More time for welfare". An overall target has been established with the "mutuality agreement" between central and local government on freeing up resources. It is agreed that the central government should enact initiatives that can free up resources equivalent to DKK 2.5 billion in 2010-13. De-Bureaucratisation and e-government initiatives are expected to be the main factors in achieving this target. "More time for welfare" with its target of freeing resources equivalent to DKK 900 million is part of achieving the target. The government has announced that a new plan, "More time for welfare II" will be presented in 2011 as the next step on the part of de-bureaucratisation in delivering on the agreement. The reduction target is thus an absolute target rather than a relative one as seen in the programme for businesses, and the reduction target and plans to achieve it, are common to the government as a whole.

The government developed a methodology to map and measure administrative burdens inside the government and estimate the potential of the simplification proposals in "More time for welfare". The methodology was used to map tasks undertaken on a daily basis (service delivery tasks and support to service delivery such as back office or paper work, for example a teacher giving written assessments on students). Specific services had to be singled out, such as public primary and lower secondary schools, elderly care and employment agencies. For each service, ministries mapped the tasks of typical employees. Mapping consisted not only of measuring the time spent on the tasks but also, how the tasks were perceived by employees. This helped in identifying where the burden was felt by the workers. Ministries used the information to prepare "Personas",[39] which enabled the measurement of how much time civil servants spent on administration and how much time they spent providing services to the citizens. This information is used to set up quantitative targets on the reduction of administrative burdens, to monitor progress, and to communicate to the public.

The De-bureaucratisation Programme is structured around complimentary methods and the mapping and measuring provides facts on time spent on administrative tasks and helps focus the effort and set targets. Institutions were given the right to challenge and "scan" to identify concrete suggestions for simplification, *e.g.* which rules they wanted to be waived. Scans identify specific problems and possible solutions by engaging local managers and employees through interviews and focus groups. A business case was developed integrating IT and modernisation projects in a broader sense, and identified savings made by the municipalities which remain within the municipalities themselves and can be use at their discretion. This programme was also designed to help the municipality be freer: their business case is to free funds that are already there but blocked because of the tight regulations. A particularly positive feature of this programme is that it links central and local governments in a shared effort, in a way that is uncommon in many other OECD countries.

The programme is also important for showing the public sector civil servants that their voices are being heard and their needs taken into account. The government has given frontline public sector workers in central and local governments an opportunity to make simplification proposals. In fact, as part of the De-bureaucratisation Programme, 4 000 employees participated in the mapping, measuring and scanning including teachers, employees of elderly care institutions and hospitals in order to identify and understand their administrative tasks. The exercise resulted in the launch of a comprehensive government programme "More time to welfare" which presented a number of specific proposals for improvements. Consequently, it was concluded that more than 3 million working hours a year could be saved, corresponding to approximately DKK 900 million.

Another important aspect of the methodology followed for the preparation of the programme was that the consultation also included external stakeholders (in particular from trade unions, local government associations and other interests groups). The government decided to combine this bottom-up approach with a top-down approach, as ministries are supposed to define the overall strategy. As for external communication, the government published the action plans on the Internet.[40]

The focus of the work that led to the development of this programme was mainly on processes but no specific attention was placed on the use of ICT as a tool to improve efficiency in public tasks. It was specifically chosen to focus on rules first, before looking into using e-government to increase de-bureaucratisation. The next phases of the programme are currently being planned. Better integration between the work on de-bureaucratisation and the work on e-government can be achieved through improved internal co-ordination amongst the teams working on the respective programmes.

The Better Regulation Agenda

Since the end of the 1990s, better regulation policy in Denmark has integrated efforts to improve the law-making process and the simplification of existing regulations, in particular through the reduction of administrative burdens. The work of the Danish government in this area has been driven by the objective to ease the administrative burdens on businesses by 25% in 2010 which is the goal set by the European Union in the EU i2010.[41] Better regulation towards citizens is formally part of the better regulation agenda. Although there is no specific better regulation policy for citizens, the Quality Reform Programme, the De-bureaucratisation Programme and the Structural Reform are all examples of policy initiatives aimed at fostering better regulation in Denmark.[42] "The Government, February 2010" released in February 2010 entails an initiative specifically aimed at reducing administrative burdens for citizens.

There have been significant developments in the area of better regulation in Denmark[43] and they have been closely associated with the e-government programme as the Danish government sees e-government as a key supporting tool for better regulation. E-Government is for instance instrumental in facilitating transparency through public consultation and communication on regulations.[44]

With regard to public consultation, in recent years, the Danish ministries have opened up consultation with the development of new procedures to stimulate public debate and engage the stakeholders. E-Government has been used as a tool to support these efforts, and public consultation of stakeholders has been carried out as part of the project for the development of common citizens' and business portals. For instance, greater transparency in the consultation process when preparing new regulations has been supported by the establishment in 2005 of the Consultation Portal[45] (*Høringsportalen*) which is hosted on *www.borger.dk* and which has a specific page on law making.[46] The Consultation Portal provides a large amount of information on consultation processes. It collects consultation documents, relating to the preparation of regulations by all ministries and agencies as the publication is mandatory for all draft bills and executive orders. Other documents are also published for consultation. They include policy or strategy papers, European Commission's draft regulations, draft technical standards, and guidelines. The available documentation includes the draft, the call for consultation (which specifies the deadline) and the list of institutions and people that have been called for hearing. Once the consultation period is over, the government also publishes the written comments which have been received. Comments to a draft law must be published no later than when the bill is forwarded to the parliament. Draft regulations can be searched by category of document, date, authority, as well as

key words. The portal also includes the possibility to receive regular updates through electronic notices and a newsletter on consultation.

Communication on regulations is a particularly strong element of the Danish regulatory system, and the better regulation agenda stresses the key value of e-government in this perspective. The communication of new regulations is well managed, making it possible to easily find out what regulations apply to specific activities. This is partly due to the simple underlying regulatory structure, but also to the fact that transparency of the regulatory system is supported by the strong use of ICT tools. The Danish government and the Danish parliament have been active in making regulations easily accessible to the public, making considerable use of the Internet to do so. New legislations – both primary and secondary – are published in *lovtidende.dk*, the official gazette, which has been available electronically since 1 January 2008.

The Danish government has established a comprehensive system for accessing laws and regulations on the Internet and has developed a joint government/parliament database with a shared search facility which is quite advanced in comparison to what is offered in most other OECD countries. The Danish Legal Information Database is a register of all regulations and is accessible on the Internet free of charge. The site *retsinformation.dk* allows searches of all primary and secondary regulations issued by ministries and central government agencies, as well as parliamentary documents and the reports of the Parliament's Ombudsman. *Borger.dk* offers easy access to all information about regulations published on the Internet (Official Gazette, Consultation Portal, the Parliament's website, Danish registry of regulations, and EU registry of regulations). Interaction between information published by the government and the parliament is facilitated by the use of a common database on legislation.

In addition to the publication of the information, it is recommended that ministries provide relevant information to the public after having adopted a law (as stated in the Guidelines on Quality of Regulations[47]). A specific website has been made available to help officials with the preparation of communication plans,[48] and the communication plans are an example of "broader" definition of communication. The website contains a number of online tools that guide officials through the main stages of a communication process and includes a section on communicating about new regulations. There is also an extensive system for regulatory impact assessments and new legislative proposals are co-ordinated through the annual law programme presented by government to parliament and the public.[49]

Broader access to information on regulations and administrative procedures is provided by *www.borger.dk* and *www.virk.dk*, set up as part of the

Box 2.2. ***Retsinformation.dk***

Retsinformation.dk is a website that from 1 January 2008 provides access to the state legal system. It was established with the overall objective to ensure that citizens, businesses and public authorities can access all laws and regulations in a single place.

Retsinformation.dk enables to search all laws and secondary regulations (such as executive orders and circulars) issued by the ministries and central government agencies), and parliamentary documents. The legal information databases contain all documents except for parliamentary documents that relate to parliamentary debates. The site provides links to parliamentary debates on the Folketing's website. Search in parliamentary debates, provision of comments and "questions and answers" with public authorities can be done through the Folketing's website.

Retsinformation.dk is updated at least once a day with the new or updated documents released by the Danish parliament and the ministries. *Retsinformation.dk* gives access to the websites *lovtidende.dk* (official gazette) and *ministerialtidende.dk* (ministerial gazette, which publishes circulars, guidelines and other documents which are meant for the public administration).

Civilstyrelsen, which is an agency under the Ministry of Justice, is responsible for operating *retsinformation.dk*.

However, the Danish parliament and the ministries, produce, own and are responsible for updating the information and texts on their own regulations.

Source: www.retsinformation.dk.

national e-government programme. Government bodies are required, for instance, to make all their forms for businesses available electronically on *www.virk.dk*. Through the portal, businesses can do all their reporting to public authorities and search for relevant information. *www.virk.dk* currently contains some 1 300 administrative forms, and enables approximately 90% of reporting requirements to be fully completed digitally with a single sign-on using digital signatures. The last 10% are available on the portal and can be downloaded as pdf documents. *Borger.dk* is considered as the other digital one-stop-shop. It enables easy access for citizens to public sector information on regulations and administrative processes and to the increasing number of citizen-centric digital self-service solutions irrespective of the underlying administrative organisation.

Interviewees stated that e-government is considered to be a critical element for better regulation. The interviews highlighted the progress made

and also provided some indications on the fact that the use of e-government policies and frameworks in support of better regulation may be strengthened further – and beyond its instrumental value for improved communication and consultation – to achieve better policy coherency.

Administrative burden reduction and simplification for the businesses

The Danish government has pursued action plans for the reduction of administrative burdens since 2002 focusing on businesses. A methodology was also developed by the Danish Commerce and Companies Agency for measuring administrative burdens on the basis of the Dutch Standard Cost Model (SCM), thus focusing on information obligations which businesses are required to report by law, and on the related administrative costs.

The development of the programme to reduce administrative burdens has been supported by very open arrangements to gather views and information. This has included public hearings and notice for comments on dedicated websites in preparation for larger reforms.[50] The programme has also used methods that engage businesses in a more direct fashion, *e.g.* the burden hunter project.[51] Furthermore, the government provides detailed information on the administrative environment, in particular through *www.virk.dk*, and general information on the programme is published on its website, *www.regelforenkling.dk*.[52]

The Danish government has also set up a dedicated website on burden measurement,[53] which displays a barometer of burdens, showing progresses both at an aggregate level and ministry by ministry. It appears, however, that many businesses, especially small and medium-sized enterprises are often not aware of possibilities offered by simplification initiatives, such as new digital solutions, *e.g.Indkomst* (eIncome register), *ferieadministration* (holiday administration), *virksomheds- og momsregistrering* (business and VAT registration), *regnskabsindberetning* (business account reporting), *affaldsregistrering* (garbage management), *byggesagsbehandling* (processing of building cases).

Communication on new initiatives has relied on the individual initiatives of ministries which tend to provide a piecemeal view of the programme and its results. In March 2009, the Danish government released the "De-Bureaucratisation Plan for Business Regulation". The plan presents 33 selected initiatives grouped into four areas (better conditions for start-up and running businesses, easy access to regulatory authorities, less and simplified reporting and efficient and focused inspections). This plan is part of the government's new communication strategy – *i.e.* the "LET Administration" ("Easy Administration") – unveiled in the summer 2008, which includes initiatives aimed at informing companies of specific regulatory, ICT and other changes that are intended to make their life easier.

E-Government and the public sector IT projects

The following sections describe a number of IT projects implemented by the Danish government to improve the internal efficiency of the public sector and enable an improved delivery of e-government services.

Standardisation of the general Danish registers

Denmark has a long tradition of general registration in the public sector. Since the early 1960's most registers have gone through a process of digitisation, which has contributed much to efficiency gains within the public sector. The operations aimed at developing the Danish registers spread out over the entire public sector.

Preliminary analysis had shown that rationalising by consolidating registers, or achieving their interoperability was critical to support the digitisation and modernisation of the public sector. The idea of gathering the operations related to the registers into one "register unit" representing potential for efficiency gains in the public sector is therefore being analysed. The assumptions are in fact that the establishment of such a unit could lead to economies of scale in the development, maintenance and administration of the registers; to better prices on outsourcing; and to the integration of redundant (parallel) registers into general ones. In the longer perspective it could also lay the foundation for standardisation and reuse of data, data-models and applications, thus sustaining the efforts to professionalise and rationalise the public sector. According to the plan, the register unit could focus on person-related and business-related registers to ensure their co-ordination.

So far the analyses have shown that the gains achievable through the reorganisation of the General Danish Registers were not up to the level of the organisations' risks: the business case for doing it was not good enough and the potential in terms of efficiency gains, assessed on the basis of the business case model used by the Danish government, was not as high as expected. Other less comprehensive models for the consolidation of Danish registers are therefore being considered. Currently, a model is considered where the promotion of data-reuse is based on the existing organisational structure and consolidation of operation is based on the Shared Service Centre for IT (*Statens IT* – or SIT). There was already a process of consolidation among the various registers and key stakeholders were eager to build on this experience rather than restarting a new organisational model.

Interviewees noted a high-level of awareness of the Danish government of the need for better co-ordination among public registers and on the need for improved government processes. In fact, even though they realised that the

benefits from merging all registers into one were not so obvious they clearly saw the gains that would come in terms of improved co-ordination in specific processes, *e.g.* for public procurements. Current discussions are focusing for instance on the possibility of taking advantage of the Shared Service Centre for IT (*Statens IT* – or SIT) – currently providing IT services to eight ministries.[54] Even though there is a common agreement on the need to adopt common standards, developments in this direction require a lot of inter-organisational co-ordination which is quite challenging to achieve. This can represent an obstacle and slow down the process. Leadership is needed to push forward standardisation, harmonisation of legislations imposing the adoption of certain standards in a certain area, and to ensure the proper co-ordination.

A change in the driving goal could be included in the new e-government strategy. Standardisation, information exchange and data management could be seen as a high priority in the strategy for the digitisation of the public sector to support the integration of the three areas of all the registers, which still remains a challenge. There is no vested agency overseeing information exchange and data management strategy in the whole public sector; there is co-ordination within the single fields but not across the public sector.

The Shared Service Centres in the Danish central government

Shared service centres can be defined as government units providing support services to more than a single ministry, agency or sub-sector of the government, the most important kind of shared services units being those that serve two or more ministries, and/or agencies of two or more ministries. Analyses indicated that most Danish ministries were too small to conduct their administrative tasks in a sufficiently efficient way and given the government's aim to create a streamlined, effective and efficient government administration it decided to establish shared service centres to reach higher integration in the back-office and thus improve the quality of frontline delivery of services.

In developing the shared service centres, Denmark relied on a top-down approach according to which support service personnel are transferred to the established shared services centres and ministerial budgets are simultaneously decreased for the corresponding amount of resources. For efficiency and savings, the attribution of responsibilities for organisational policy and standard setting with respect to support services is an important factor. In Denmark, these responsibilities[55] are mostly concentrated in the Ministry of Finance. This makes it possible to follow a top-down approach in which support service personnel and budgets are transferred from line ministries to shared services centres.

Box 2.3. **The E-Income Project**

In Denmark taxes and many public benefits are calculated by using the current income level of each individual citizen. Municipalities and citizens spend a lot of time determining the right level of income, for instance when filling out applications for public benefits.

The aim of the e-Income project was to use the already collected information on citizens' income in the administration of public benefits. The project was grounded on the idea to create a national database of citizens' income information updated on a monthly basis by any paying organisation or company obliged to report income paid to the tax authorities. Until 2008, the assessment of the current level of income relied on many sources, including citizens themselves. As of 2008, employers are obliged to report monthly to the Danish Tax Authority any wage or similar paid to citizens, which is entered in the central national database established in 2007. As a result, public authorities now have the possibility to use the e-Income database as a guideline in determining the income of any citizen. This has resulted in the removal of time delays as authorities are quickly informed of changes in citizens' income. One effect has been an increase of withholding of income from citizens indebted to public authorities.

The e-Income database provides better and more cost efficient ways of administrating public benefits. To achieve these benefits, the new phase of e-Income was launched in late 2008. This includes the investigation of 11 public benefits. The aim is a fully automatic income determination process in the municipalities, meaning that neither recipients nor the public authorities need to spend resources determining the individual income level. Expectations are in fact to extend the automation of manual processes to other benefits in the municipalities and to other organisations administering public and quasi-public benefits.

The project does not have the sole purpose of cost savings. By relying on more precise, automatic generated data the quality of the calculation of benefits is also expected to improve. This will result in better experienced quality for the recipients. Eventually, as second order result, this will result in less cases of benefits' recovery from recipients. Today, many resources are spent on recovery of benefits and large amounts are never recovered.

The current phase of the project is expected to be completed by 2011 and the new legal and technical framework of the benefits is to be used from 2012.

Source: The Danish Ministry of Finance, "The Shared Service Centres", 2009.

In addition to creating a firm foundation for improving existing and for developing new administrative services, the service centres are expected to potentially produce a considerable decrease in the resources, which the central government today uses on administrative functions. The possible reductions were originally expected to come from three main sources: centralisation of routine activities which contributes with DKK 368 million, more efficient administrative functions within ministries with DKK 204 million; and consolidation of ICT-infrastructure and applications which contributes with DKK 230 million.

The two shared service centres established in Denmark are supposed to perform a number of administrative tasks for more than one ministry. The Financial Shared Service Centre is part of the existing Agency for Governmental Management (under the Ministry of Finance) and it is responsible for finance, salary and transport. In detail, it delivers services related to the payment of approximately 57 000 full-time employees and for delivering services related to finance and travels of approximately 48 000 full-time employees. In terms of rationalisation from the financial point of view, 45% of all activities are consolidated, but the strategic resources remain local.[56]

Key drivers for the establishment of the second shared service centre, the "Agency for Governmental IT-services" – *Statens IT* or SIT (under the Ministry of Finance), which is responsible for the provision of all ICT services to ministries and agencies, have been centralising the IT operations and maintenance, expected to increasing efficiency, fostering economies of scale, achieving savings, increasing the number of satisfied customers and improving the quality of services.

In the first phase (2010-12), seven ministries will join SIT. The ministries are: the Ministry of Labour; the Ministry of Finance; the Ministry of the Environment; the Ministry of Science, Technology, and Innovation; the Ministry of Culture; the Ministry of Economics and Business Affairs; and the Ministry of Immigration. They constitute a proportion of the ICT consumption which is equal to 10 000 people (about 30% of central administration users). It is planned that the remaining ministries may join later. The centre will initially have approximately 220 employees increasing to 500-600 employees. The operation budget for SIT in 2010 is approximately of DKK 350 million and investments of approximately DKK 50 million. On 1 January 2010, the ICT service departments of the eight ministries were merged, while in the period 2010-12 the aim will be to merge the servers of the ministries, streamline the processes, and build common platforms.

Initial gains and operating costs for Phase 2 are not yet estimated, since the implementation of this phase relies on the lessons learned from Phase 1 and the government decided to take a decision of initiating Phase 2 when

these lessons are known. Gains are expected to increase significantly when more ICT service units merge into SIT, thus increasing the total volume. Also, the idea is that the number of shared ICT systems will increase. A common invoicing solution has already been implemented and an e-learning solution is being developed, both in the Agency for Governmental Management and in the State Employees Authority within the Ministry of Finance. It is currently up to the single ministry to decide if they want to join the centre and the government may wish to consider the possibility of making it mandatory for all in Phase 2.

The establishment of shared service centres is supporting the efforts to standardise the work processes and sustain ICT development in the public sector. Investments in the area should be increased as the establishment of the centre represents a unique opportunity to get an overview of the ICT services provided across the public sector.

Besides achieving the expected efficiency gains, there are a number of challenges to be tackled in order to ensure that the benefits are maximised. A first assessment apparently revealed space for improvement as economies of scale have not been realised, standardisation of processes were not boosted as hoped, ICT systems were still developed within ministries or agencies, and professionalism in managing customers' relations with the agencies still seems to remain an issue. The funding of the first phase of the ICT shared service centre from the ministries is, for instance, based on their budget. However, the interview mentioned the difficulties in tying to the cost model for the shared service centre and to the fact that it is not clear how is it going to be used especially for the late comers, as it is not evident how the costs per user and per year will be defined. It was decided that the service centres will implement activity-based cost models from 2011, even though the precise models have not yet been identified.

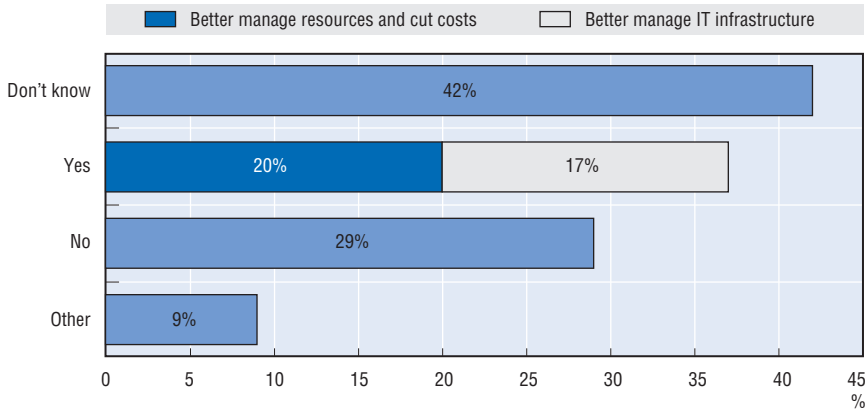
Additionally, the posts of 220 employees are expected to be cut and the reduction in workforce when the age of retirement is increasing is a challenge. The implementation timeframe will also remain an issue as the merging of systems always takes longer than planned. The decision concerning the mandating part in Phase 2 of SIT will also be interesting.

Developing and implementing guidelines for the entire government and having clear goals indicating where Denmark wants to move with the establishment of shared service centres is also critical. A survey is currently being run by the responsible service centre to assess the level of customers' satisfaction with the existing service centres and results are supposed to inform the future directions as well. The government is considering enhancing the use of cloud computing to achieve this goal[57] even though interviewees have observed that it is facing some resistance on this matter from the private sector. Figure 1.3 confirms that a large part of the Danish public sector that responded

to the OECD survey is aware of the new conceptual thinking around cloud computing (66% of the respondents have answered either "Yes" or "No" to the question on whether they are currently using or planning to use concepts such as cloud computing) and despite the fact that 29% of the respondents are not using or have no plans to use cloud computing, it is significant that 37% of the respondents are either currently using or are planning to use cloud computing. The main reasons for either using or considering using cloud computing are the possibility to better manage resources and cut costs (20%) or better manage the IT infrastructure (17%).

An aspect worth considering is the fact that outsourcing contracts would mean at this point breaking some of the existing ones which will cause additional costs for the government. Finally, continuous communication and involvement are needed particularly to ensure Phase 2 of SIT, as the success of these initiatives is crucially dependent on the willingness of the co-operating ministries that are supposed to transfer their tasks to the centres.

Figure 2.3. **The use of cloud computing and the purpose**



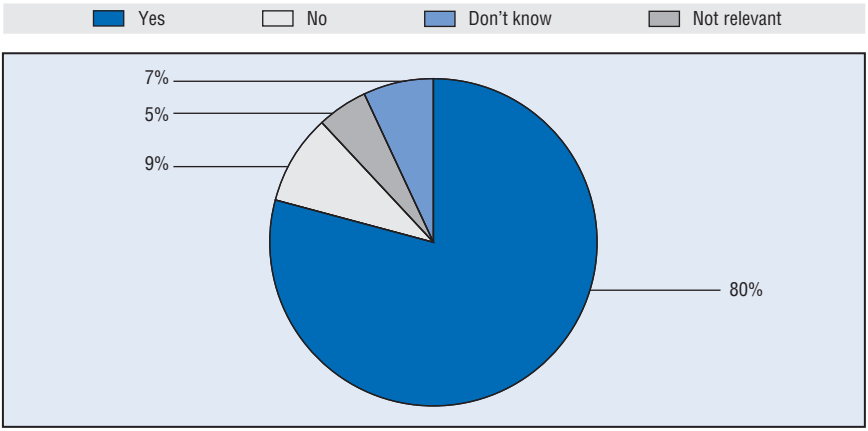
Source: OECD survey of e-government in Denmark 2009. *Question 1.10 Does your organisation currently use, or is planning to use, concepts such as cloud computing (a notion that refers to a context where services, infrastructure, applications are delivered through the Internet) to sustain the achievement of one of the following public sector efficiency goals?*

The way forward: Reaping the benefits of the national e-government agenda

As the focus on using ICT is high in the Danish public sector,[58] the most significant e-government challenge it will face in the coming years will be to accelerate the digitisation of the citizen-oriented core areas, which represent a considerable number of tasks of the public sector given the number of public services it delivers. Even though the perception on the overall picture

concerning the development of common e-government building blocks and infrastructure on improved service delivery, efficiency gains and public sector modernisation is positive (see Figure 2.4), interviewees and survey respondents emphasise that there is widespread concern regarding the fact that the central efforts do not always support local needs in terms of digitisation to support improved service delivery. Some authorities, particularly those that already have advanced online solutions, are of the opinion that not all initiatives have been supportive across all levels of government (*e.g.* for these the adoption of newly developed solutions such as the Document Vault – *Dokument Boks* – has represented a burden). The potential is significant, but there is a need to continue developing the overall framework for initiatives such as the ICT architecture and management structures.

Figure 2.4. **Has the development of common ICT building blocks and infrastructure for the improvement of service delivery in general been a support for the service delivery of your organisation?**



Source: OECD survey of e-government in Denmark 2009. *Question 1.8 Has the development of common ICT building blocks and infrastructures for the improvement of service delivery in general been a support for the service delivery of your organisation?*

Most interviewees seem to prioritise an increased level of citizen-centred government, a larger extent of digital communication, and a more secure data-handling regardless of the profit generated by the increased digitisation of their own organisation. This is particularly important as it confirms the idea that the demand for a continuous increase in efficiency in tasks and operations management, which has been the most critical driver for the digitisation of the Danish public sector for several years, is becoming an important but insufficient condition to improve its performance. Recognition is gradually spreading that efficiency, although crucial, without consistent impact evaluations and focus on societal gains, is a narrow perspective.

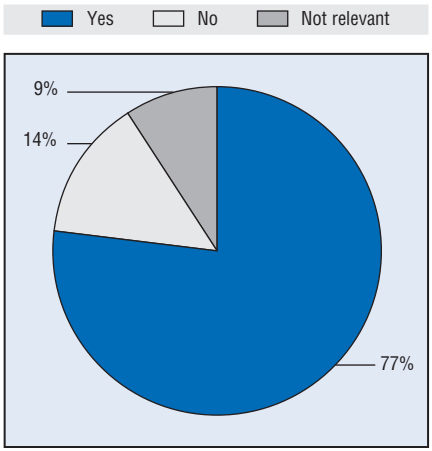
Authorities seem to be increasingly aware of the fact that successful digitisation needs to be developed in unison with citizens and businesses, and the attention is therefore increasingly shifting towards user-focused innovation.

OECD country experiences show that e-government is one of the main drivers for innovation and transformation within the public sector, while shrinking public budgets push demands for increased efficiency. Through the implementation of e-government, public institutions have become more efficient and effective over the years as a result of institutions rethinking business processes and procedures internally and across organisational boundaries.[59] It is therefore interesting to remark that interviewees and survey respondents noted that there are good examples of innovative practices both at the central, regional and local levels. Figure 1.5a confirms that Danish public sector organisations are encouraging innovation in service delivery (75% of the respondents answer "yes"). Combined with the result shown in Figure 1.5b where 92% of the respondents answered "yes" to the question on whether e-government and the potentials of new digital technologies are integrated in local innovation and service development, the survey results show that innovation in service delivery is also an integrated part of local service development. The overall perception on the alignment of the regional and local use of innovation and ICT and of the development of specific digital solutions[60] within the framework of the national e-government strategies (*e.g.* medi-card, *Dokument Boks*, digital signature) is generally positive (see Figure 1.7). This is perceived to be the result of the common challenges set by the e-days initiatives and of the participation of some ministries in national strategic technology forums and workgroups, and in the development of the joint public architecture.

However, more detailed answers indicate that such alignment is only partial, and not yet fully exploited. It seems to be randomly present in some of the agencies, but not throughout the public sector, and it is not perceived as part of an overall approach. What seems to be missing is an overall and coherent vision of all the initiatives that would enable the full exploitation of the potential of innovation across the whole public sector, although it might be inferred that such a concrete cross government view was intentionally to be secured through the domain boards. As indicated previously in this chapter a holistic approach to e-government projects and initiatives development is a precondition to achieve their full benefits. The clear identification and setting of the main goals to be achieved through the use of ICT in the whole public sector can help strengthening alignment of initiatives across levels of government.

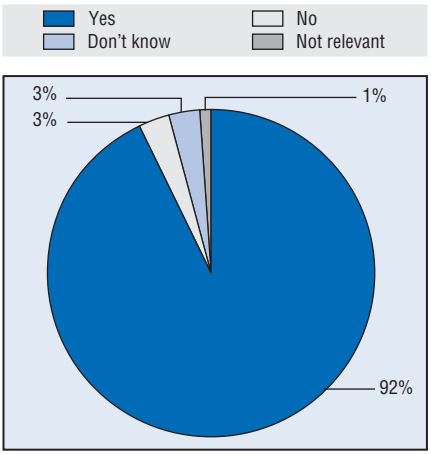
The management of the Danish public sector interviewed sees using Web 2.0 to modernise the functioning of the public sector operations as an important tool to create an innovative culture and to signal what is valued inside

Figure 2.5a. **Does your organisation encourage innovation in the delivery of services?**



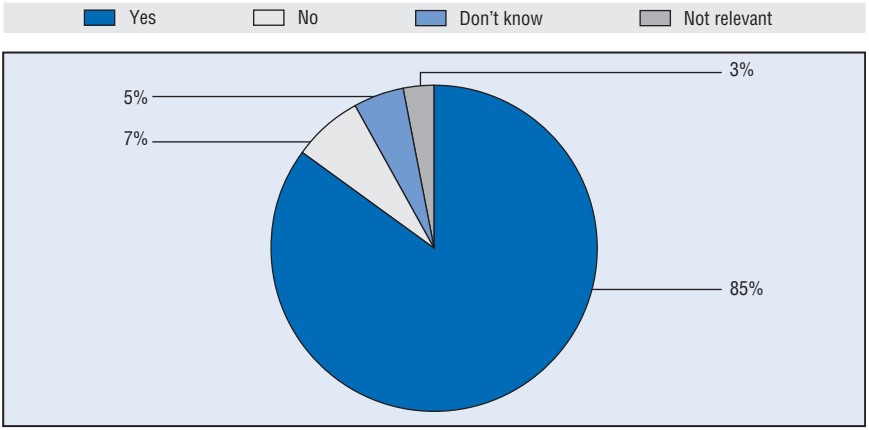
Source: OECD survey of e-government in Denmark 2009. *Question 1.5 Does your organisation encourage innovation in the delivery of services?*

Figure 2.5b. **Is e-government and the potentials of new digital technologies integrated in your local innovation and service development?**



Source: OECD survey of e-government in Denmark 2009. *Question 1.6 Is e-government and the potentials of new digital technologies integrated in your local innovation and service development?*

Figure 2.6. **Are local innovation and use of new digital technologies aligned with national and joint government strategies?**



Source: OECD survey of e-government in Denmark 2009. Question 1.7 Are local innovation and use of new digital technologies aligned with national and joint government strategies?

the organisation. The use of Web 2.0 is part of the current reflection on the future e-government agenda of the Danish government,[61] which so far does not seem to have explicitly included the use of the new social medias (*e.g.* wikis, blogs,

electronic social networks) to support its public sector modernisation efforts. Nevertheless, many interviewees and survey respondents, representing authorities from different levels of government, reported having already tested some of the Web 2.0 possibilities. They mentioned their intentions on expanding the use of Web 2.0 to enhance co-operation across levels of government and increase efficiency. Both the interviewees and the survey respondents have indicated their expectations for a prioritisation of the government's efforts to expand the use of Web 2.0 to be closer to the public services' users, enhance cross-governmental co-operation and improve the quality of the interoperability of existing solutions with Web 2.0 technologies. Blogging is already in use, for instance, by the regions (*e.g.* Nordjylland) and by some of the municipalities (*e.g.* Nyborg municipality) that are also active users of Facebook, Youtube and wikis.[62]

Planning and having a clear strategy are crucial, as changing current work practices and moving over to government version 2.0 is not an overnight phenomenon. Besides, getting mass adoption would remain an important challenge for a lot of organisations. Executives leading by example would definitely encourage the use. Additionally, successful organisations tackling the internal use of these tools have been doing a little bit of forward thinking about the problems they were trying to address or the opportunities they were trying to seize, and have then moved to deploying an appropriate technology in response to that. These are all questions that could be considered and answered before becoming operational as this would avoid imbalances in expectations, priorities and speed.

Chapter Key Points

- E-Government can be a key enabler for public sector modernisation and efficiency. A coherent approach to e-government development, which places it in the wider context of other programmes and public reform, can foster the effective alignment and coherence of the various policy areas. This, in turn, can facilitate and promote the systematic monitoring and assessment of the progress of cross-cutting reforms.
- The continuous mapping and monitoring of the status of existing e-government initiatives, in connection with the development of new ones, is an important exercise. It allows the exploitation of synergies and creation of economies of scale, the rationalisation and prioritisation of efforts, the adoption of corrective actions and reallocation of funds as needed and ensures the integration and consistency of initiatives.

Chapter Key Points *(cont.)*

- The proliferation of initiatives in a multi-agency set-up requires multi-level collaboration and co-ordination across levels of government to ensure that the operational decisions and initiatives follow the common national e-government agenda, rather than a single authority's interests and priorities.
- An e-government strategy driven by a vision that balances increased public sector efficiency goals with effectiveness and societal impact may help to optimise the use of e-government, not only to foster cohesion across the public sector and enhance its efficiency, but also to achieve better service delivery in the various areas and thus target societal gains.

Notes

1. Ministry of Finance. (2009). Factsheet on the Development of the Danish E-government; Ministry of Finance (2008) Factsheet Denmark.
2. OECD (2006), *e-Government Studies: Denmark*, OECD, Paris.
3. A description of the Digital Task Force is provided in Chapter 2 of this report (section 2.3.2).
4. "Towards Better Digital Service, Increased Efficiency and Stronger Collaboration", The Danish Government Strategy 2007-2010.
5. In 2006, the Danish government initiated the preparation of a new reform of the public sector known as the Quality Reform. In August 2007, the government presented its strategy including 180 specific initiatives. The presentation was the culmination of a one year long process, where citizens, interest organisations, public employees, executives and other managers from the public and private sector were invited to discuss how further to improve the quality of the public sector services. The parliamentary election in the autumn of 2007 postponed the final political negotiations of the reform, but in March 2008, as part of the negotiations of the budget, a political agreement on the Quality Reform was found. More information on these initiatives is provided later in this chapter. Ministry of Finance (2009), Factsheet on the Development of the Danish E-government.
6. OECD (2009), "Better Regulation in Denmark".
7. The government launched the De-bureaucratisation Programme in 2007 within the broader Quality Reform programme. A description of the De-bureaucratisation Programme is provided later in this chapter.
8. An analysis of the administration in the regions was launched in the second quarter of 2008. A corresponding analysis of the municipalities was launched in the second quarter of 2009 (still ongoing).
9. The analysis of health ICT covers the governmental level as well as the inter-organisational level, *i.e.* MedCom, the health portal *sundhed.dk* and the domain board and its organisation Digital Health.

10. The objective case handling project is about cases with a very limited subjective judgement in the actual case handling which is primarily based on objective criteria. Here the Danish government has found large economies of scale centralising the handling of cases, thus taking a part of the currently municipal task and solving it at a national level. The tasks initially covered are for example pensions, maternity pay, and housing support.

11. For more information on this see also Chapter 4 of this report (Section 4.4).

12. The FORM initiative's objective is to develop an enterprise architecture. The initiative on enterprise architecture FORM has been launched in November 2007 as part of the e-government strategy. As part of the initiative a picture of all the services the public sector delivers to respectively citizens and business have been outlined. FORM has its own virtual editorial office that maintains the overview of the services of the public sector – the project and the virtual office are the result of joint cross government collaboration. The overview is continuously used by, among others, the citizens' and the businesses' portal. Furthermore, this overview has been the point of departure for establishing the digital domain boards and identifying their respective domain areas. Generally the Digital Taskforce has great focus on developing enterprise architecture in relation to specific projects and actual implementations, rather than developing general guidelines on enterprise architecture.

13. For more information see: *http://uk.fm.dk/About%20Us/Agencies.aspx*.

14. The first e-government strategy was embedded in the national Information Society strategy dating back to 1994.

15. While the overall ageing situation is less dramatic in Denmark than it is in other countries, with a relatively slower increase in life expectancy than in many OECD member countries – *i.e.* up to 2010, the population in Denmark is projected to remain close to its present size of 5.38 million and thereafter contract slowly to 5.15 million by 2050 – the situation is much more critical in the public sector. (2007) OECD. Ageing and the Public Service: Human Resource Challenges.

16. "Towards Better Digital Service, Increased Efficiency and Stronger Collaboration", The Danish Government Strategy 2007-2010. Den offentlige integrations model or OIM.

17. "Den offentlige integrations model" or OIM.

18. Within the framework of this review the OECD conducted an on line survey of e-government in Denmark. For a thorough analysis of the results please see Annex B to this publication.

19. OECD (2005), *OECD e-Government studies: e-Government for Better Government*, OECD, Paris.

20. The ABT-fund contains DKK 3 billion (approximately EUR 400 million) aimed at co-financing investments in projects that seek to employ new technology and new ways of working and structuring organisations in the period 2009-15. Public institutions can, alone and in partnership with private firms, seek co-financing for projects that aim at providing less labour intensive service for the public sector. The aim of the fund is to be able to realise a profit through assistive technology The Danish government expects a positive business case for the projects generally considered, since the primary purpose is to develop welfare technology that frees labour resources.

21. More information on the eDays and on the e2012 initiative is provided in Chapter Three of this report (Section 3.4).

22. According to the business case analysis presented to the Joint Public Sector Steering Committee's meeting 19 December 2007.

23. According to the revised business case analysis presented to the Joint Public Sector Steering Committee's meeting 7 December 2009.

24. FORM has its own virtual editorial office that maintains the overview of the services of the public sector. The project and the virtual office are the result of joint cross government collaboration and the overview is continuously used by, among others, the citizen and the business portals. It was used as the point of departure for establishing the digital domain boards and identifying their respective domain areas).

25. See Table 1.1.

26. With regard to public services, the taxation agency also has a very high degree of interaction with the citizens. Furthermore, in the health sector, the health portal *sundhed.dk* (primarily financed by the regions) has been organized independently from the citizens' one *borger.dk*, thus increasing the volume of interaction with the citizens directly managed by the health portal. Recently (in 2009) an agreement on integration of the health themes of the two portals has been reached.

27. "More Together: More Digital", the Digital Strategy of the Municipalities, Management Committee Meeting, 17 November 2006.

28. After the sale of KMD, KOMBIT was established with the mission to facilitate that the solutions the market develops are suited to the needs of the municipalities. The role of KOMBIT is to strengthen the "buying power" of the municipalities in the ICT-market still dominated by KMD.

29. "More Together: More Digital", the Digital Strategy of the Municipalities, Management Committee Meeting, 17 November 2006.

30. Service-oriented architecture (SOA) is an approach for managing computing environments that uses loosely coupled reusable and standards-based services to address changing business needs. It is a business-centric ICT architectural approach to describing, understanding and modelling business processes and their interactions, which describes an entity (*e.g.* application or enterprise) as a set of interdependent services. Hence, it supports seeing business processes as linked and repeatable business tasks, or services. The approach facilitates both understanding what services need to be integrated to provide one-stop services and identifying common elements in business process that might be reused or shared. See *www.finextra.com/fullpr.asp?id=8880*

31. To read about similar initiatives see the OECD (2005) e-Government Studies: Norway, Chapter 7 and the OECD (2007) e-Government Studies: Netherlands, Chapter 6.

32. For more information visit *http://www.kl.dk/Fagomrader/Administration-og-digitalisering2/Digital-forvaltning/Digital-strategi/* and *http://www.kl.dk/Administration-og-digitalisering2/Artikler/66768/2010/01/Ny-falleskommunal-Digitaliseringsstrategi/*

33. The Regions do not have an e-government strategy as such. There is a common strategy for connected health (as health is the primary regional mission) and each region further has – varying a lot in form and content – an individual strategy for e-government and digitisation of the health domain.

34. The financing mechanisms differ in the different IT components/projects (*e.g.* common medicine-component, national patient index, health data network), and state contribution through the ABT fund have differed. However, the National eHealth organisation, SDSD, is financed 45% by the state, 45% by the regions and 10% by the municipalities. The regions are financed by state and municipal contributions to the regions (allocated by different algorithms) and negotiated with the government politically one time per year. The contributions are both fixed basis funds and also depending on interconnected activities. (However, 75% is a fixed state contribution).

35. Ministry of Finance (2009), Factsheet on the Development of the Danish E-government; Ministry of Finance (2008), Factsheet Denmark; Ministry of Finance (2009), The Danish Sector Modernisation Strategy.

36. For more information see: *http://fm.dk/Arbejdsomraader/Offentlig%20modernisering/Om%20kvalitetsreformen/Hvad%20sker%20hvornaar.aspx*.

37. For a detailed description see: *www.fm.dk/betterregulation*.

38. OECD (2010), *Better Regulation in Europe: Denmark 2010*, OECD, Paris.

39. Descriptions of the standard workday of different types of public servants.

40. The De-bureaucratisation Programme and related initiatives are presented at *www.fm.dk/afbureaukratisering*.

41. The i2010 "A European Information Society for growth and employment" was the EU policy framework for the information society and media that promoted the positive contribution that information and communication technologies (ICT) can make to the economy, society and personal quality of life. The strategy has come to an end and has been followed by a new initiative: The Europe 2020 Strategy, the new economic strategy launched on March 3, 2010 by the European Commission to go out of the crisis and prepare EU economy for the next decade. *http://ec.europa.eu/information_society/eeurope/i2010/index_en.htm*.

42. OECD (2010), *Better Regulation in Europe: Denmark 2010*, OECD, Paris.

43. OECD (2010), *Better Regulation in Europe: Denmark 2010*, OECD, Paris.

44. For a detailed description see: *www.fm.dk/betterregulation*.

45. The Consultation Portal's *main purpose* is to facilitate the mandatory (law regulated) public hearings on legislation and other topics, but public authorities can also use it voluntarily for other kinds of public hearings where they may want public input/opinions on suggestions or plans etc.

46. *www.borger.dk/forside/lovgivning/hoeringsportalen*

47. *Source*: Ministry of Justice, Denmark (*http://jm.schultzboghandel.dk/publikationer/publikationsdetaljer.aspx?PId=a9e0219b-967e-467b-ac3c-c4a685a6106c*).

48. See: *www.kommunikationsguide.dk*

49. See: *http://uk.fm.dk/Initiatives/Denmarks%20Better%20Regulation%20Programme/Quality%20of%20new%20regulation.aspx*

50. Ref to the OECD Report Better Regulation in Denmark, p 40.

51. See: *www.mind-lab.dk/en/cases/byrdejagt-i-danske-virksomheder*

52. See: *www.eogs.dk*

53. See: *www.amvab.dk*

54. These are the Ministries of Finance, Business, Climate, Science, Culture, Integration, Environment and Employment.

55. The tasks that have to be fulfilled in relation to support services are generally: (1) organisational policy, which concerns the way support services are organised, including the establishment of shared services units and of the sharing arrangements.; (2) standard setting (Standard setting concerns the setting of general rules for support services); one can think of general rules for human resources management (recruitment, performance assessment, job and rank classifications, salary scales, career planning, etc.), office accommodation (square meters per employee, etc.), procurement procedures, rules for financial control, internal audit, etc.; (3) support services delivery that concerns the actual provision of the support services to the client ministerial divisions and agencies.

56. "More Together: More Digital", the Digital Strategy of the Municipalities, Management Committee Meeting, 17 November 2006.

57. Ministry of Science Technology and Innovation (2010), Report from *Højhastighedskomitéen* (High-speed network committee). As part of the government response to the recommendation of the high-speed network committee, Minister Nelge Sander underlined that it is necessary to start looking at experiences in order to abolish insecurities and barriers that may hinder Denmark starting to implement the strategy laid out in the recommendations. He also underlined the awareness of the government on the economic and climate related advantages of cloud computing. Press release of the Ministry for Science technology and Innovation "The weeks figures: New methods to run IT can produce big electricity savings" (*Ugens tal: Ny it-driftsmetode kan give stor el-besparelse*), 14/01/2010.

58. (2009) IT ipractice. Rambøll Management Consulting.

59. OECD (2009), The Financial and Economic Impact on E-Government in OECD Countries, *http://www.oecd.org/data/57/57/44089570.pdf*, accessed 30 April 2010.

60. For example single authorities such as the Danish Maritime Authorities, Ministry of Employment, etc build on the cross-government e-government strategy and digitisation initiatives when formulating their own strategies set policy objectives, develop new IT solutions, adopt standards.

61. National IT and Telecom Agency (2009), Status on Implementing Web 2.0 Technologies in Government.

62. For examples on the strategies adopted by various OECD member states' governments to enhance the use of Web 2.0 technologies (*e.g.* New Zealand, Germany, Australia) see OECD (2009), Rethinking e-Government Services: User-centred Approaches, OECD, Paris.

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Chapter 3

The Governance Framework for E-Government Implementation

The Danish government has focused on the establishment of frameworks and structures to engender collaboration and co-operation across levels of government to foster co-ordination across functional areas and support an efficient and effective development of e-government. Although the current governance frameworks have led to the achievement of considerable e-government progress, it could benefit from further strengthening. Likewise, the continuous involvement and support at the political level would provide visible sponsorship and more direct connection to national priorities to make cross governmental collaboration and co-operation work better. The fragmentation of responsibilities and the absence of a visible champion charged with driving the implementation forward has also resulted in the value and role of e-government and of its strategic and economic advantages for Denmark not being clear to the political leadership. The Structural Reform of the Danish public sector has also contributed to what, at times, seems to be an imbalanced and a limited alignment between the priorities as seen by the central government and those perceived at sub-national levels.

The governance framework for e-government development and implementation	
Key assessment	Proposals for action
● The Danish government has focused on the establishment of frameworks and structures to engender multi-level collaboration and co-operation across levels of government to foster co-ordination across functional areas and support an efficient and effective development of e-government. Although the current governance frameworks have led to the achievement of considerable e-government progress, it could benefit from further strengthening. Likewise, the continuous involvement and support at the political level would provide visible sponsorship and more direct connection to national priorities to make cross governmental co-operation work better. ● The Steering Committee for Cross Governmental Co-operation (STS)'s mandate is neither sufficiently clear nor authoritative. Additionally, the established Domain Boards could be more effective in bringing forward e-government development in the single areas, as originally envisaged, and in informing the discussions made within the STS. ● The fragmentation of responsibilities and the absence of a visible champion charged with driving the implementation forward, has also resulted in the value and role of e-government and of its strategic and economic advantages for Denmark not being clear to the political leadership. The Structural Reform of the Danish public sector has also contributed to what, at times, seems to be an imbalance and a limited alignment between the priorities as seen by the central government and those perceived at sub-national levels.	● **Denmark could consider revisiting and strengthening the organisational structure and co-ordination mechanisms to enhance the effective co-ordination between the ministries sitting in the STS.** This implies several actions: ❖ **To strengthen the role and responsibilities of a co-ordinating body such as the STS** as a political driver for e-government development to enable it to support visionary cross-governmental projects such as those pushing for integration (*e.g.* ensuring the adoption of standards and establishment of a common ICT architecture) and taking responsibility particularly for big ICT projects as drivers for innovation. A sharper link between the political and strategic discussions in high-level co-ordinating meetings supported by more technically-oriented ones with representation of various ministries could provide more efficient and effective discussions and decision-making. ❖ **To strengthen the role and competencies of the Domain Boards to increase their effectiveness.** Subject to any change to the STS, the organisation, competencies and mandate of the domain boards would require revisiting. ❖ **To improve the cross-governmental collaboration through concrete activities and projects (*e.g.* the law on geospatial data).** The speed of development of joint solutions in all areas could be increased. The adoption of a new vision sufficiently robust for the next five years to enable the sharing of data and integration of services could be promoted and the collaboration idea/partnership approach could be more strongly sustained across levels of government. ❖ **To strengthen the subnational level:** Since the Structural Reform, the municipalities appear to have strengthened their desire towards collaboration, for instance by engaging in creating joint-solutions. This should be encouraged and extended in order to achieve a greater use of digital services supported by a joint-collaboration across all levels of government.

The context (overview)

The governance arrangements, which determine how the roles and responsibilities related to public service delivery are assigned across the public sector, and the financing mechanisms, which support the tasks of the various levels of government, have an impact on how e-government is implemented. They may in fact have a significant effect on the type of co-ordination in place to sustain e-government service delivery and the implementation of e-government programmes in the broader sense. The sections below highlight the key aspects of the financing mechanism and governance arrangements in place within the Danish system.

Financing the Danish Public Sector's Activities

The Danish public sector is characterised by a high level of decentralisation. The public administration is divided into three levels, with two subnational levels – the regions and the municipalities – which are highly autonomous. However, state, regions and municipalities collaborate closely. The subnational governments are closely connected to the central one through legislation, as the tasks and obligations of the regions and municipalities are laid down in the legislation adopted by the Danish parliament.

The public sector in Denmark is primarily financed by tax revenues. The tasks of the national level are financed through a number of different taxes, primarily personal taxes and a value added tax. The municipalities have the right to levy taxes and they primarily finance their activities through the imposition of income and property taxes. In addition, the municipal tasks are also financed through transfers from the state in the form of matching grants and general grants. Due to the political agreement between the central government and Local Government Denmark (LGDK), the taxes levied by the municipalities have to stay at the current level, *i.e.* measured on the overall average. If not, the state will reduce its grants subsequently. This is a core macroeconomic condition in the management of the municipalities. Existing legislation aims to ensure consistency between the completion and financing of a specific task by requiring that the governmental level responsible for that task also finances it. However, as a consequence of the Structural Reform[1], the regions cannot impose taxes directly, therefore their tasks are financed through contributions from the state and the municipalities.

The funding mechanism or "principle" that is used to decide adjustments to the amount transferred by the state to the municipal level as general grants is called the Extended Total Balance Principle *(Det Udvidede Totalbalanceprincip* – or *DUT*): if a new legislation leads to a change in municipal expenses, the general grants will be increased or reduced accordingly[2]. A special funding

principle – the digital version of the Extended Total Balance Principle (also called *digi-DUT*) was introduced as an incentive for the municipalities and the regions in the economic agreements with the local government for the fiscal year 2006. It was initially agreed, as a general principle, that the municipal level at large could keep the efficiency and effectiveness gains it obtained from the locally initiated implementation of e-government. However, this funding principle has been abandoned through the mutuality agreement. The political agreements between the state and the municipalities which allow them to keep a significant part of the cost-savings from implementation of joint public sector e-government solutions, could be seen as an important economic incentive for local governments.

Public Service Delivery: The division of tasks between state, regions and municipalities

Even though a number of public tasks have been outsourced to private firms by public authorities, public services are generally delivered by the public sector. Compared to other countries, the expenditure for public services accounted for a large share of the GDP – approximately 25.9% in 2007. Indeed, of the total public expenditure, 50.8% were spent in 2007 on the production of public services, *i.e.* about DKK 445 billion were spent on public services, mostly on education, health and the social sector[3].

In relation to public service delivery, the tasks of the public sector are distributed between the state, the regions and the municipalities; although the supply of most of the public services is delegated to the regions and the municipalities, which are primarily responsible for the public welfare services, and about two-thirds of the public expenditure is spent at the local levels. In particular, Denmark is characterised by a large municipal sector which delivers almost all daily services to the citizens, *e.g.* primary and lower-secondary schools, day care institutions, elderly care. The municipalities are also responsible for social issues such as the payment of social pensions and social benefits, the handling of garbage, special education, etc. With regard to public service delivery, the primary responsibility of the regions is health care and regional development.

The ministries support the work of the municipalities which are politically independent and make their own decisions on what kind of services they want to deliver, what priority to give to the various activities, etc. The state takes care of tasks that cannot be delegated to the subnational levels of government, *e.g.* defence, national police, the judicial system, assessment and collection of taxes, business regulation, upper-secondary and tertiary education, more advanced education, public research. To this regard, the overall impression is that the interviewees from the Danish public sector

seem to believe that e-government projects could help ensure better co-operation across levels of government, and thus improve service delivery.

The Structural Reform

Municipalities

The Structural Reform of the Danish public sector was implemented on the 1st of January 2007. The main feature of the reform was the reduction of the number of municipalities from 271 to 98 and the reduction of the number of counties from 14 counties to 5 regions. The main goal of the reform was to create economies of scale and local organisations big enough to allow a more professional and specialised service provision. Decided on the basis of a top-down approach, the implementation of the reform was mainly locally managed. It was initiated in 2004 and completed in 2007, and led to many significant changes which took place at a very high speed. It has had an important impact on the governance arrangements and on the duties of the various levels of government – increasing in particular the role, scope, and subsequent challenges, of the municipalities.

The Structural Reform affected the various municipalities differently. Aarhus Municipality, for instance, was unaffected geographically, whereas in the case of the Egedal Municipality three small municipalities were merged into one. The merge was definitely associated with some costs but also with new opportunities. The widespread opinion is that the municipalities generally did a good job of creating new organisations to better serve their constituents, although they did not always focus enough on communication with the citizens to ensure an adequate information flow.

Even though the Structural Reform has re-enhanced the need for pervasive digitisation, some of the interviewees felt that the local government did not have enough resources (time, money and staff) to make the most of this historical opportunity. Additionally, to be able to use the new systems in the best way they believe they should have been provided with a more effective platform to voice the local perspective with the central level when the digitisation agenda was being set. Allegedly, the decision grounding the Structural Reform, as the one for the national digitisation, was initiated by the central government – *i.e.* mainly by the Ministry of Finance – which acted as the front runner. Even though the Structural Reform was to a very large extent implemented by the municipalities themselves with only limited central involvement, the impression acquired during the interviews was that some of the municipalities perceived that they could have been granted a larger role. In particular, the approach chosen to implement the reform diverted most of the resources inwards into consolidating and implementing the reform and some of the municipalities were left with the

impression that little attention was given by the central government to the realisation of the local political agenda.

Another key issue raised during the interviews concerns the fact that the municipalities do not seem to be adequately prepared to tackle market-related issues and negotiate with the private sector providers. In this perspective, the establishment of *Kombit*[4] seems to strengthen the capacities of the municipalities to address this gap, and therefore represents a good approach to tackle this relevant challenge. In consideration of the fact that achieving strong co-operation between the various levels of government and the private sector is key for the implementation of e-government programmes, this area seems to require some attention. Nevertheless, joint public efforts have recently been made to address this matter, *e.g.* the business portal *www.virk.dk* is the result of a private public partnership as well as the next generation of the digital signature that is a joint collaboration with the banks.

Regions

The Structural Reform has resulted in a significant reorganisation of the tasks and responsibilities of the regions and in the consolidation of the health sector. One of the major tasks for the new regions are thus consolidating the 14 different portfolios of health IT platforms and systems towards a more manageable number. The new regions have not yet been able to consolidate regionally, but the plan is to merge the major clinical systems so that hospitals in each region can access central clinical data through a central index that integrates the different regional portfolios of clinical applications as foreseen in the national strategy for the digitisation of the Danish healthcare[5]. The major challenges of harmonisation and consolidation have until now been the different IT sophistication levels and heritage of the counties.

The strategy for the digitisation of the Danish healthcare is based on the idea, among others, to produce utility value and gains through joint digitisation projects, as well as projects implemented by individual healthcare players (*e.g.* government agencies, regions, municipalities, providers/suppliers, general practitioners). In the view of the strategy, digitisation should support the staff in their tasks and functions and thereby create the basis for improving quality and efficiency in the Danish healthcare system, and subsequently enhance the quality of public services. Moreover, the strategy emphasises the importance of increasing co-ordination and prioritising digitisation efforts through more binding cross-sector co-operation at all levels. There is clearly an advantage in achieving higher levels of integration. Various stakeholders from the regional level think, however, that due to an overload of work the regions have not had the time and energy to lead and drive the setting of a common, strong and clear vision. Enhanced efforts are

expected in the health area to define a clearer common vision for the future and to strike a balance between expectations in terms of speed and success in the achievement of the targeted goals. Benchmarking the performance of the regions could, for instance, be a way to monitor the achievement of these goals. In any case, interviewees representing the regional level claim that there is a need for better understanding the real costs of operating in the health area and for providing services in the healthcare sector [6] as a specific and unique business.

The reorganisation which followed the Structural Reform also implied the establishment of a new governance structure. In 2006, Connected Digital Health IT[7] was created to drive a common strategy, co-ordinate efforts and facilitate the development of digital communications and interoperability in EHR-area, and was supposed to be the general umbrella organisation. Medcom[8], which is the result of the collaboration between different public authorities, was assigned an operational responsibility with regard to standardisation[9] and to ensure communication from point to point. For instance, a key element of MedCom's work has been to establish the Danish Health Data Network (*Sundhedsdatanettet*) for exchange of data between healthcare players. Communication is predominantly message-based and comprises prescriptions, referrals, laboratory results, etc. In June 2007, 4 million messages were exchanged via the network. MedCom also focuses on the presentation of the health-related information and services on the health portal *www.sundhed.dk*[10]. The portal is a single point of entry for healthcare information and communication – between the healthcare service and citizens, and within the healthcare service. All the organisations responsible for e-health are part of the same strategy and they seem to be quite effectively co-ordinated. Some interviewees, however, expressed concerns regarding the effectiveness of the governance structure. They feel, for instance, that the work of the various players could be better co-ordinated in relation to the overall e-health goals to be achieved in Denmark as indicated in the strategy. However this is not always the case, *e.g.* the interviewees consider that as MedCom has been there the longest, it has a stronger governance structure.

The 2005 "OECD Country Study of E-Government in Denmark"

Among the proposals for action put forward by the 2005 OECD e-government study, some were related to the organisational settings supporting the implementation of the e-government programme in Denmark. In particular, the OECD suggested Denmark reconsider the kind of central leadership needed to support e-government development beyond 2006.

In addition, the study indicated that the Danish government could consider strengthening the use of ICT as a tool to improve knowledge diffusion and increase vertical and horizontal collaboration across levels of government.

Table 3.1. **Actions adopted by the Danish government in response to the OECD proposals for action**

OECD Proposal for action	Actions taken by the Danish government
10. Consider what kind of central leadership, if any, is needed to support e-government beyond 2006	The Digital Taskforce has been prolonged until the end of 2010 and the joint board of e-government has been transformed in to the Steering Committee for Cross Government Co-operation.
14. Consider steps to strengthen the use of ICT as a tool to improve knowledge diffusion and increase collaboration across government.	The domain boards ensure co-ordination within their specific domain areas. At the same time, *modernisering.dk* functions as a site for relevant information on e-government projects for agencies across levels of government. Furthermore, the Ministry of Science, Technology and Innovation has launched a site called *digitaliser.dk*, where information on standards, architecture etc. is available to all levels of government.

Revised organisational settings for the Danish e-government programme

The common public digital strategy 2007-10 states that the lack of co-ordination and overview of the existing digitisation initiatives is a key barrier to a comprehensive development and deployment of e-government in the public sector. Furthermore, it sees improved co-operation and co-ordination among existing and new digitisation initiatives as the starting point for increased effectiveness of the national digitisation efforts. In line with the intentions stated in the strategy, the government took the appropriate actions to adapt the organisational settings and modify the scope of the e-government projects appropriately. However, Denmark's approach to the implementation of e-government is still very much characterised by decentralisation.

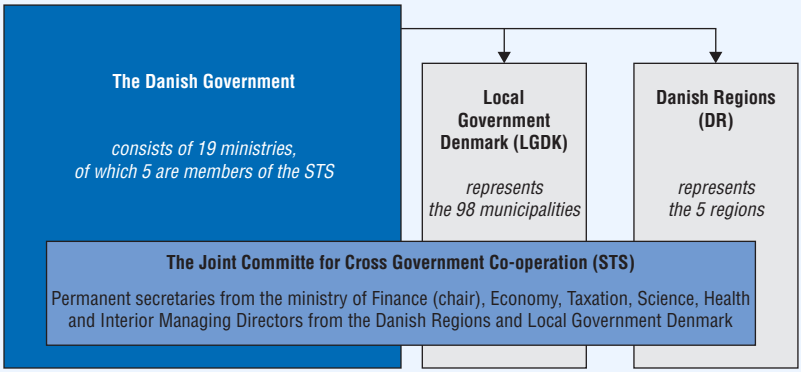
The changes that took place since the 2005 OECD country study and which are in line with the public digital strategy 2007-10, are primarily related to the re-organisation of the joint board of e-government, now called Joint Committee for Cross Government Co-operation (STS)[11], and to the re-organisation of the Digital Taskforce within the Ministry of Finance.

Steering Committee for Cross-Government Co-operation.

As part of the structural re-organisation within the Ministry of Finance, the joint board of e-government changed its focus from being exclusively on e-government to the more general perspective of the public sector modernisation. The name changed to Steering Committee for Cross-Government Co-operation (STS) to highlight the intention of using it as an enabler for increased collaboration and co-ordination across levels of government. In practical terms, the change meant splitting the policy agenda

Box 3.1. **The joint e-government co-ordination structure**

Responsibilities for public service delivery within the Danish public sector are divided between the central government, municipalities and regions – each with its own elected political leadership and administrations. The Structural Reform that took effect on 1 January 2007, strengthened significantly the role of municipalities that took over a major parts of the former counties' responsibilities leaving the regions with the responsibility of mainly hospitals and certain social institutions within the health care sector (see also Box 2.1).



Since the 2005 OECD E-Government Country Study of Denmark, the former Joint Board of E-Government[12] has been abolished and substituted with the Steering Committee for Cross Government Co-operation – STS (*Styregruppen for Tværoffentlige Samarbejder*) as a result of an agreement between the government, Danish Regions and Local Government Denmark in 2005. The original organisational setup was maintained in connection with the prolongation of the E-Government Project for the strategy period 2007-10 with a Digital Taskforce consisting of, in principle, seconded staff from all levels of government but physically placed within the Ministry of Finance servicing the STS.

The STS is a cross government co-ordination body aiming at creating a common ground in the work on e-government. The overall framework for the co-ordination is confirmed in the annual negotiations on the next year's budgets between the government and the representatives for the regions as well as for the municipalities.

The STS consists of high-level representatives (on the level of permanent secretaries/managing directors) from the five most important ministries for e-government implementation from the central government and the

Box 3.1. **The joint e-government co-ordination structure** *(cont.)*

associations representing the municipalities and the regions. STS has the following mandate:

- to put in place the overarching principles and coherent framework conditions that ensure that e-government solutions are developed across organisational boundaries taking its starting point in citizens' and businesses' needs.
- to ensure progress and co-ordinate initiatives across the public sector in order to achieve a better use of resources through e-government with citizens and businesses at the centre.
- to commence initiatives that broaden e-government implementation in the public sector.
- to decide on joint public sector initiatives in order to overcome barriers (legislative and regulative, technical, organisational, etc.) for e-government implementation.
- to contribute to resolving specific conflicts of interest that have not been possible to resolve within e-government projects.
- to clarify model(s) for future operation and maintenance of e-government projects.
- to clarify solutions for coherency between efficiency and e-government solutions in order to ensure the right incentive structure.

Source: Description of visions and strategies on the Danish government public sector modernisation website: http://modernisering.dk/da/vision_strategi/ (accessed 17 February 2010).

into two: the e-government agenda, which is primarily concerned with the implementation of the e-government strategy, and the broader administration agenda, which is concerned with de-bureaucratisation and efficiency projects. Often the projects on the latter agenda entail an e-government perspective and the Centre for Administrative Efficiency and E-Government are responsible for projects on both agendas.

The Steering Committee for Cross Government Co-operation consists of the following parties that are represented by their permanent secretaries:

- Ministry of Finance (chair);
- Ministry of Economic and Business affairs;
- Ministry of Interior and Health;
- Ministry of Taxation (normally participates on both agendas although it is primarily invited to discuss items in the e-government agenda);

- Ministry of Science, Technology and Innovation (normally participates on both agendas although it is primarily invited to discuss items in the e-government agenda).

The two organisations below are also parties of the STS where they are represented by their managing directors:

- Danish Regions
- Local Government Denmark

The responsibilities and the tasks of the STS in the area of e-government have not changed considerably since the 2005 OECD review. However, the scope of the projects that are being carried out within the Danish e-government programme have changed. The projects often have a more political and a more comprehensive organisational scope and financial appropriations are larger than before. In fact, the two parallel developments that took place are the greater responsibility assigned to the STS through more projects compared to earlier strategies and a larger involvement from the STS on decisions to be taken with regard to the strategy. They are also often more prone to maximising the instrumental use of e-government to support the development of less labour intensive service provision, and to contributing to the broad political agendas of efficiency, modernisation and quality development in the public sector. These political agendas have been formulated in the Danish Government's Quality Reform[13] and in "The action plan for transferring resources from administration to citizen-centred services"[14]. The latter has been a crucial element in a political agreement between the state and the municipalities, freeing up resources in the municipalities of approximately DKK 5 billion (corresponding to EUR 666 million) by the year 2013.

Results of the survey show that the respondents from the various levels of government see the STS as a key forum for discussion, where issues concerning digitisation, infrastructure development and standards adoption can be addressed and assessed equally for the various levels of government. They seem to appreciate the fact that it can help to ensure a greater dialogue on the joint development of systems, and on how decisions are taken. In line with the results of the survey, the interviewees seem to be appreciative of the STS and of the Digital Task Force as co-ordination structures. They would, however, welcome an improved governance structure to support a stronger and more powerful STS and a more effective decision-making mechanism. Primarily, the stakeholders from the regional level feel that the specific e-health and regional needs were not fully captured by the STS in the national vision. In their view, it is not only a matter of increasing the financial resources available at the local level but also, of reinforcing the common vision; and the five regions feel that a way to boost this process could be to participate directly in the STS.

The Digital Taskforce

In the third quarter of 2005, the Ministry of Finance carried out a re-organisation of the structure supporting the ministerial modernisation efforts which led to the establishment of a new Centre for Administrative Politics. The purpose was to bring together the different modernisation efforts, *i.e.* de-bureaucratisation, reduction of administrative burdens, public management and e-government. This implied a greater integration of the Digital Taskforce in the general administrative structures of the Ministry of Finance with the intention of developing e-government within the general context of public sector modernisation. With the adoption of these organisational settings, the Danish government intended to ensure the co-ordination of the various initiatives and the use of e-government programmes to support public sector modernisation efforts. Due to the continuing growth of the Centre of Administrative Politics, in August 2008 the centre was divided into two separate centres: the Centre for Quality, De-bureaucratisation and Leadership, and the Centre for Administrative Efficiency and E-Government with the Digital Taskforce being a central part of the latter. In consideration of the fact that the agendas of the two centres remain closely related, the main challenge is to ensure that in the practice they co-ordinate their initiatives and actions, and collaborate whenever possible, in order to avoid the risk that they work in a siloed manner.

Another key change with respect to the Digital Taskforce is that while until the end of 2007 it drew the majority of its staff from the central and local government institutions using secondments of approximately one or two-year duration, today it is primarily staffed with employees from the Ministry of Finance. Secondments, however, are still used on specific projects, where particular competencies from the regional or municipal levels are required. An example is the enterprise architectural programme, FORM, where a virtual editorial office was created consisting of representatives from different state organisations, the Danish Regions and the Local Government Denmark. Employees – whether from the Ministry of Finance or other public organisations – are financed by the budget of the digitisation strategy. The Digital Taskforce has a close collaboration with two divisions of the Agency for Governmental Management (a part of the Ministry of Finance) which sustain the implementation of the different e-government projects with the roles varying based on the magnitude and complexity of the projects at stake.

Domain Management Boards

With the launch of the national e-government strategy[15], the Steering Committee for Joint Government Co-operation (STS) wanted to support co-operation across organisational boundaries in order to develop and

implement e-government solutions in different areas. In order to ensure more policy oriented and whole-of-government perspectives, four Domain Management Boards were designated in selected domains (*i.e.* well-defined public businesses/areas). The Domain Management Board concept was conceived as a co-ordination forum for mandatory co-operation across authorities within the specific sector.

The FORM diagram[16] has been the structural basis adopted by the government for the identification of the domains in the public sector. Based upon this model, the domains were identified using the following criteria:

- A large, well-defined mission area targeting citizens and businesses.
- A need for co-ordination across existing public authorities and levels of government. Good opportunities for increasing digitisation in the public sector.

Three of the Domain Management Boards were set up in March 2008 and the fourth one was added in autumn of 2008. As the tradition for e-government and cross governmental co-operation differs in the four different areas, the Domain Management Boards differ in organisation and maturity. So far, the boards have been appointed until 2011. It will then be decided whether they should continue to function or not. The Domain Management Board's mandate is established within the political framework set by the ministry, or ministries, relevant to the specific area and by the board of the Local Government Denmark (LGDK). Ultimately, the board's mandate is on economic issues and is anchored at the level of annual negotiations on the municipal and regional economies. Within the framework of the mandate, the Domain Management Board and the participating parties are supposed to ensure the creation – and the enhancement – of a culture of co-operation in the domain, as well as the adoption of the decisions needed for a rapid implementation of the digitisation projects and for the improvement of the service delivery to businesses and citizens in the specific field. Hence, the strength of the domain boards lies in the possibility to ensure horizontal co-ordination within the specific domain.

Each Domain Management Board is expected to establish and execute the overall digitisation strategy within the domain, to monitor the domain's priority portfolio of digitisation projects and to set out general recommendations to the authorities so that the digitisation efforts across the domain are uniform. The Domain Management Board should ensure the political anchor of the digital work within the domain, and in consideration of the fact that the Domain Management Boards' task is to increase digitisation, the board should be made up of heads of division and should be supported by a secretariat responsible for the preparation of action plans and portfolio management within the domain.

The Domain Management Board is supposed to define and implement a solution-oriented action plan with common objectives, priorities and projects which it should regularly review when it develops new projects in relation to the various policy priorities. Within the framework of the action plan agreements, the parties represented in the board are supposed to decide which of the participating authorities shall develop and implement the various initiatives, so that selected authorities or business partnerships are responsible for the development and operation of single projects. The launching of new projects is expected to be based on business cases that illustrate the economic and strategic benefits of projects and how these benefits can be accrued. Business cases are used as the instrument to clarify

Box 3.2. **The Domain Management Boards**

	Members of the board	Mandate	Strategy	Status
The domain board for Health	Representatives from the ministries of health and finance, the Danish Regions and the Local government Denmark.	• Digital Health was established through an agreement between the government and the regions in the summer of 2006. • Individual institution with its own budget and competence, but functions like a domain board. • Managing director from the management of Danish National Board of Health. • Strategy published in December 2007.	Facilitates the development of tools to: • Enhance quality and productivity • Better service and involvement of citizens • Create digital coherence through co-operation	Five programmes on: • National infrastructure • National IT health standards • The common medicine card • The national patient index • Telemedicine
The domain board for Buildings, Housing and Utilities	Representatives from a broad number of relevant agencies across six ministries as well as from the municipalities, the Danish Regions. LGDK has chosen to have direct municipal representation in the domain boards.	Established in March 2008 by decision of the joint public steering committee. • The action plan is annually approved by the committee, The first time was in December 2008 • The board co-ordinates projects, but the individual authorities are accountable for them • Projects are financed by the parties' existing budgets.	Strives to create a holistic and user-oriented approach to facilitate and support the continuous development of an efficient and service oriented digitalised handling of building, housing, construction and utilities areas.	Co-ordination of existing projects is improved, 9 of which are prioritised. For example: • Digital access to real estate • Laboursaving in public construction cases.

Box 3.2. **The Domain Management Boards** *(cont.)*

	Members of the board	Mandate	Strategy	Status
The domain board for Social Affairs	Have representatives from the ministries of employment, health, finance and interior and social affairs as well as the Danish Regions and the Local Government Denmark. The board also includes direct representatives from the municipalities and the regions.	• Established in March 2008 by decision of the joint public steering committee. • The action plan is annually approved by the committee (the latest in January 2010) • Co-ordinates projects, but the individual authorities are accountable for them • Projects are financed by the parties' existing budgets	• Common terminology and IT architecture • Basic IT support in the domain • Development and deployment of existing IT solutions • Co-ordination between the social and the health area • Development of new technologies to support citizens service delivery.	Focus on two ongoing projects: • Digitisation of proceedings of exposed children and juveniles • Digitisation of the proceedings for disabled adults
The domain board for Business	Have representatives from the ministries of economic and business affairs, employment, taxation, environment, Food and Science as well as the Local Government Denmark.	• Established in November 2008 by decision of the joint public steering committee. • The action plan is annually approved by the committee (the latest in January 2010) • Co-ordinates projects, but the individual authorities are accountable • Projects are financed by the parties' existing budgets	• Realisation of e2012 goals • Reuse of data • Common components • Common standardisation • The national business portal *www.virk.dk.*	The domain board is particularly supporting the existing work around the national business portal *www.virk.dk.* Five of 16 projects in the action plan are so called "core projects".

the cost-benefit issues between the parties. This is key since the boards are currently only "joint co-ordination forums" and do not have extra funds to be used to prioritise strategic projects. They need to find some common agreement or understanding on common goals and ways of funding projects. In connection with the drafting of the domain action plan, agreements are also reached on the funding of the projects, which means that funding for individual projects is resolved politically within the existing framework. Financing agreements are expected to be achieved in accordance with existing agreements on the management of digitisation and efficiency projects within the municipalities and the regions. Overall, it is the Domain Management Board's responsibility to ensure the momentum of the implementation of the action plan. Nevertheless, the Domain Management Board does not seem to have the proper level of authority with corresponding decisional powers.

The primary task areas are those where the board has responsibility for the overall digitisation effort. The related problem areas are those which have a close relation to the board's primary mission areas and where the board should follow digital development and identify possible areas for collaboration. Preparation of the domain's action will determine the final delimitation of the board's primary and related tasks. The overview of a board's functions is expected to be seen in conjunction with the FORM overview of other domain councils to provide a comprehensive analysis of where, in the public sector, co-ordinated action in relation to digitisation is needed.

The Domain Management Board is also expected to ensure co-ordination with the following:

- Steering Committee for Inter-Government Co-operation (STS): the board shall proceed actively to the initiatives undertaken under the auspices of this and may also encourage the STS to launch initiatives that are considered to have special common public interest.
- Related Domains: the board shall regularly assess whether other parties should be involved in the work of the board, or if there is a need to launch special digitisation efforts across domains for the reuse of solutions.
- Transverse frames for digitisation initiatives: the board shall actively comply with transverse frames and conditions for digitisation for instance through standardisation, common geographical basis administration, etc.

The governing board is serviced by a secretariat that defines the domain action plan and manages the ongoing portfolio of the plan's priorities and digitisation projects. Moreover, the Digital Task Force should co-ordinate as appropriate with the Board Secretariat in relation to action plans and projects implemented under the STS and other relevant domains.

The Domain Management Boards are supported by the OIO Committee[17], formerly sector standards committees composed of members from the management level – *e.g.* typically the heads of the participating authorities and the professional level of domain experts, project managers, enterprise architects, and technical key persons. The Domain Management Boards are expected to play an important role in relation to standardisation within the public sector.

The municipal level

When asked if the national e-government strategy helped to improve the functioning of the municipal government, the answer was that it is very much focused on citizens and businesses and not so much on how public sector work can be improved. Authorities at the subnational levels of government have tried to compensate for the perceived lack focus on what needs to be done to improve processes and have tried to ensure that the public sector is capable of using e-government as a key lever for better service delivery (*e.g.* the

citizen's portal, the business portal, EasySMS, Digital Document Box, the digital signature, the health portal[18]). However, they have realised that to move to the next step, a revisited – and more effective – governance structure as well as additional tools are needed. The current strategy has been strongly focused on efficiency, cost-cutting, investments' harvesting and on the use of the business case model. This vision needs to be broadened. It is in line with the primary challenge of the government which is currently to reduce the structural deficit on the public budgets by saving up to DKK 30 billion. By strengthening the digitisation of the service delivery processes in some areas (*e.g.* education), the aim could be to achieve cost cuts and save resources which could be used to find new ways to provide services that better respond to citizens' changing needs.

Local authorities and regions also indicated that ICT and innovation projects have to go in parallel with law-making to bring the e-government agenda forward. For instance the e2012 initiative[19] has the objective that all communications with business should be on line, which requires appropriate law making.

The way forward: Strengthening the governance framework for improved e-government implementation

To achieve the full potential of e-government, governments must be able to act from a whole-of-government perspective to ensure co-ordination across levels of government and accordingly, increase back-office integration and co-ordination to assure seamless and responsive service delivery[20]. Over the past few years, the Danish government has undertaken important steps to ensure the development of an e-governance structure conducive to effective co-ordination across levels of government and to further develop an integrated back-office. As steps continue in the same direction, a number of issues should be taken into consideration, as highlighted in the sections below.

Improving co-ordination across levels of government

Even if Denmark is traditionally characterised by a "silo thinking" approach and its structure remains very decentralised, in the last years the tendency has been to focus horizontally across ministries and levels of government in order to apply a whole of government perspective and thus establish a more horizontally operating public sector sustained by a stronger e-governance and driven by the aim to deliver public services coherently and jointly. In fact, given that a "silo approach" cannot support the joint provision of services, a more horizontally oriented governance set-up, supported by e-government, was established. Such a shift has produced positive results in terms of increased

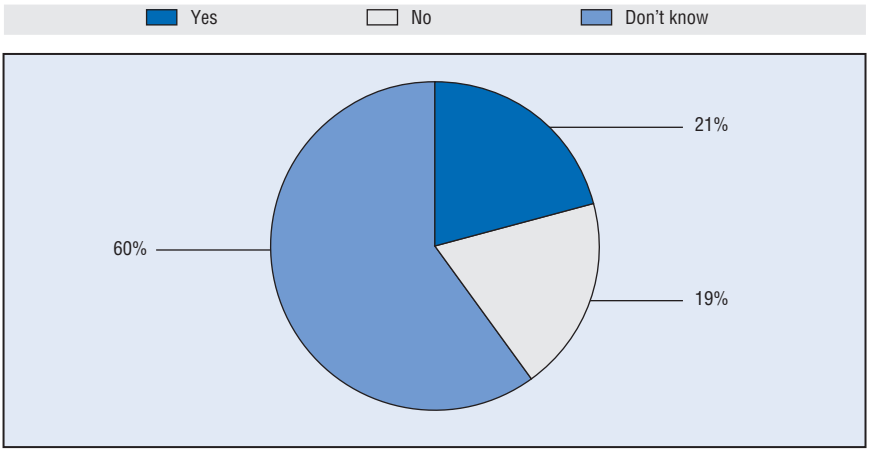
scope and importance of co-ordination and co-operation across levels of government and functional areas. In the area of e-government, for instance, decisions were usually taken within individual organisations rather than among organisations, whereas the changes that occurred in the recent years have strengthened a more whole-of-government approach.

The general change that affected the organisational structure of the Danish public sector has also affected the e-governance structure for e-government development as described in the previous sections of this chapter. The revised e-government governance structure – which emerged from the E-Government Strategy 2007-2010 and from the Structural Reform – is rooted in the recognition that strengthening the approach which focuses on dealing with cross functional matters to push co-operation and co-ordination forward is critical. In this regard, there is a common agreement in Denmark on the positive value of such an approach and on the key role played so far by the STS. With its cross-functional responsibilities, the STS was conceived as a forum where agreements could be reached at the state level on a number of cross-cutting issues and then conveyed to the municipal level. The STS, the Digital Task Force and the high profile and committed people in charge of the development and implementation of e-government who supported the adoption of the E-Government Strategy 2007-2010 have played a significant role in the advances made, and in encouraging the interest of the various players to participate in the collective effort that enabled Denmark's commendable achievements in the e-government area.

Information and data collection shows that the stakeholders are generally pleased with the existing governance structure although they would welcome a more effective functioning. However, the responses collected through the 2009 OECD online e-government survey indicate that the Steering Committee's goals and the impact of its work are unknown to 60% of the public sector actors. These results, as some of the opinions expressed during the interviews, seem to suggest that actions could be taken to revisit the supporting mechanism of the STS in order to increase its effectiveness, strength and power, and thus bring the implementation forward. A renewed leadership seems to be needed, with new champions among key stakeholders capable of pushing the vision forward, to sustain the shift from the offline to the online service delivery channel, and to support the "think globally but act locally" approach. In the view of the stakeholders, the Digital Task Force is carrying out important work but the fact that it is not sufficiently supported at the political level, results in the lack of a real vision on the future steps. As a result, the process seems to be mainly driven, and the agenda set, by the specific interests of the stronger parties behind the STS (*i.e.* cost saving and efficiency aspect), instead of being determined based on a commonly defined vision regarding the future direction of the Danish public sector. The time

seems to have come to refresh and reinforce the engagement of the political leadership, both at the state, the regional and the municipal level. It also seems to be time to rethink the way in which the local perspective is heard at the state level. This implies looking again at the governance structure, *i.e.* the STS, the Digital Task Force and the Domain Management Boards, in order to assess whether the current organisational model is the right one for the way ahead, or if and how it needs to be changed.

Figure 3.1. **Has the new structure for cross government co-operation helped establishing a framework for a more efficient work on e-government?**



Source: OECD survey of e-government in Denmark 2009. *Question 4.12 Has the new structure for cross government co-operation helped establishing a framework for a more efficient work on e-government?*

Stakeholders from the various levels of government regard the four Domain Management Boards as key organisations. However, interviews supported by survey results show that even though most of the stakeholders think the Domain Management Boards are thought of as cross-sector co-ordinating bodies, they believe their organisational structure, which does not fit in the normal structure of the ministries and the departments, is causing some challenges. The fact that the governance structure is not grounded in any of the ministries and that they do not seem to have adequate power or appropriate funding, makes it more difficult for the Domain Management Board to find and play their role effectively. This may explain the perceived lack of clarity and dissatisfaction with their role and their functioning. Most of the interviewees indicated in fact that the boards have had limited or no interaction with them, limited or no impact on their daily life, and they are not enabling a use of the opportunities offered by the digitisation to achieve more efficient service delivery. Additionally, due to the absence of funding, unless the responsible agency has the required financial

resources, initiatives cannot be implemented regardless of what the Domain Management Boards may suggest in the business plans that they are asked to submit to the STS. Many interviewees raised the question of better effectiveness and impact while a few questioned their relevance.

Those proposing to preserve the Domain Management Boards believe that in order to enable them to carry out their tasks and deliver as expected, it would be necessary to modify their organisational structure; increase their decisional and executive power; clarify their scope, responsibilities, focus; strengthen their mandate; provide them with adequate funding; and support their functioning with the appropriate legislation. According to the interviewees, this would enable a better balance between the STS and the Domain Management Boards, a more effective and efficient co-ordination, and a stronger decision-making mechanism. The idea is that the STS could keep providing guidance but also recognise an increased responsibility of the Domain Management Boards to co-ordinate activities in their specific domain. Instead those supporting the elimination of the Domain Management Boards think that, given the multi-dimensional nature of the issues relevant to e-government, it would in any case be impossible to have an appropriate number of Domain Management Boards. It would be therefore more functional to remove them and compensate their elimination with a stronger and empowered STS, which would function as the sole co-ordination framework.

From back-office integration to cross-governmental co-operation for service delivery

Many municipalities felt that the reform resulted mainly in the merging of their back-office activities. Municipalities are used for collaborating and using common platforms, and they fully appreciate that this has led to many important developments. The municipalities appreciate the potential benefits (*e.g.* sharing processes and systems which allow the provision of back-office functions more cheaply) and understand the risks (*e.g.* what they perceive as a loss of authority to the benefit of the centre if they let the centre decide which new solutions and systems to develop) associated with higher back-office integration. They recognise that ICT can play an important role in sustaining increased sharing and collaboration through the use of the common solutions, and in enabling the provision of integrated services to businesses and citizens, and for these reasons are willing to increase the number of common solutions and upgrade the existing ones. The interviewees underlined, however, that while at the central level there has been a shift towards increased centralisation (*e.g.* the establishment of the shared service centres) at the subnational levels there has been a tendency to decentralise in relation to ICT management: the central and the subnational levels are going in different directions and this is perceived by many

subnational representatives as a challenge. However, they also recognise the that the shift towards centralisation has produced a positive impact in terms of increased co-ordination and collaboration and they feel the challenge to move a step forward in this direction over the next few years, in terms of increased collaboration and information sharing, and to improve the dialogue with the citizens thus, moving closer to the model adopted by the central government.

Many stakeholders at the local level also feel a disconnection between the central and the subnational levels of government at the political level and see the need for an improved and increased co-operation across levels of government to be supported by the right ICT system and applications, *e.g.* establishing a shared Intranet for the public sector. In the view of the interviewees, the governance structure that emerged as a result of the Structural Reform, which led to a revision of the roles and responsibilities of the regional level, does not seem to fully support the strategic and political co-ordination across levels of government. Interviewees feel there is a missing element in the organisational structure, and that even if the local institutions see the centre and the municipalities as one, they actually are not and the communication and co-ordination is not functioning as effectively as they think. The dialogue between the central and the local political level appears to be an area requiring attention, and the municipalities seem willing to support a mature debate with the central government on specific issues (*e.g.* type of services to provide, kind of citizens needing special assistance, citizens with whom to develop a special relation). Some actions are needed in order to bridge the current distance and possibly achieve stronger co-operation between the central and local level of government. Moreover, the need to strengthen the dialogue between the political and the administrative levels within the municipalities also emerged as an area for improvement.

Finally, the political demand at the municipal level is still weak and this matter needs to be taken into account in order to ensure a proper representation of the local needs in the definition of the future e-government strategy and vision. The Structural Reform has changed the responsibilities of the municipalities which do not seem to have always fully grasped the new opportunities that emerged. If the governance structure does not evolve in a way to ensure the establishment of an adequate platform for effective collaboration across and within levels of government as requested by the implementation of the various e-government initiatives and to facilitate the representation and voicing out of the local perspective, the municipalities will risk to remain the recipient of an outcome mainly determined by the needs of the central government. Thus the key question which seems to remain is how to implement the required changes.

Chapter Key Points

- A system of governance supportive of enhanced integration and/or sharing of information, data and systems, and of increased co-ordination across levels of government can better sustain the adoption of a whole-of-government approach for a coherent e-government development and implementation.
- A technically skilled labour force within the public sector and a supportive political leadership are both important to enable more effective and efficient e-government implementation. A political leadership taking full ownership of and responsibility for the e-government agenda is vital to ensure that the implementation of the e-government programme is continuous and coherent throughout the public sector and does not depend on the willingness of individual players.
- An e-government vision which sets political objectives other than increased efficiency and costs cutting benefits - such as better welfare, improved interaction between the public sector and citizens, improved service delivery – can support enhanced collaboration and co-ordination across levels of government and help to optimise the use of e-government as a means to foster a coherent functioning of the public sector.

Notes

1. The Structural Reform is a major institutional initiative that had an impact on the municipal and regional structure, which came into force in January 2007. More information on this initiative is provided in Chapter 1 of this report (Section 1.4).
2. The Extended Total Balance Principle – "DUT" – ensures that the municipalities are compensated fully for additional costs due to the effect of new legislation. This Principle covers both cost increases and savings. See:www.fm.dk/Arbejdsomraader/Kommuner%20og%20regioner/Aftalesystemet/Det%20Udvidede%20Totalbalanceprincip.aspx (accessed 15 February 2010).
3. Ref. www.dst.dk/and http://uk.fm.dk/Publications/2009/Economic%20Survey%20Dec%202009.aspx
4. See Chapter 4 of this report for more information on Kombit (endnote 14).
5. The National Strategy for the Digitisation of the Danish Healthcare Service 2008-12 – to promote public health as well as prevention and treatment", Connected Digital Health in Denmark indicates that the common infrastructure should comprise a national IT architecture, an upgraded Health Data Network, standards for communication within the healthcare service, a national security solution, an electronic portal for the healthcare service, etc.
6. The National Strategy for the Digitisation of the Danish Healthcare Service 2008-12 – to promote public health as well as prevention and treatment", Connected Digital Health in Denmark

7. The cross-governmental organisation Connected Digital Health in Denmark (SDSD) is overall responsible for lying down and ensuring implementation of the national strategy and the resultant action plans. SDSD must thus ensure that the necessary decisions are made and are binding on all players and that regular management, co-ordination and follow-up take place. The role and responsibilities of SDSD do not have any impact on the existing regulatory structure. The Ministry of Interior and Health has the authority to issue standards.
8. MedCom is a co-operative venture between authorities, organisations and private firms linked to the Danish healthcare sector. In the 1999, based on a financial agreement between the counties and central government, it was decided that MedCom would be made permanent, with the following objective: creating a market and developing and disseminating electronic communication in the healthcare sector with a view to supporting coherent treatment, nursing and care. MedCom is financed by: Ministry of Health and Prevention, the Ministry of Social Welfare, the Danish National Board of Health, the Danish Regions, the Local Government Denmark, the Danish Pharmaceutical Association.
9. According to the strategy standards are needed in many different areas, including: clinical messaging formats, technical IT standards, clinical terminology and other professional terminology, healthcare content. Responsibility of setting standards is shared between Connected Digital Health and MedCom. The Ministry of Health also has the competency to set standards, if necessary.
10. The health portal sundhed.dk is not managed by a political board but is led by the political chairman of the Danish Regions who is the main sponsor of the portal.
11. *Styregruppen for Tværoffentlige Samarbejder* (STS).
12. OECD (2006), *OECD e-Government Studies – Denmark*, OECD, Paris, Figure 1.2, page 47.
13. *Bedre velfærd og større arbejdsglæde – Regeringens strategi for høj kvalitet i den offentlige service* (2007), see www.kvalitetsreform.dk/page.dsp?page=428
14. *Borgernær service – Handlingsplan for at frigøre resourcer til borgernær service* (2008), see www.fm.dk/Publikationer/2008/Borgernaer%20service%20-%20Handlingsplan%20for%20at%20frigoere%20ressourcer%20til%20borgernaer%20service.aspx
15. "Towards Better Digital Service, Increased Efficiency and Stronger Collaboration", The Danish Government Strategy 2007-2010.
16. For more information on FORM, see Chapter 1 of this report (Section 4.4).
17. The OIO Committee focuses on standardisation of common and transverse processes based on the common public business reference model and common concepts, and on common architecture and infrastructure in relation to the domains.
18. More information on these projects is provided in Chapter 3 of this report (encadré 3.1).
19. More information on this initiative is provided in Chapter 3 of this report (Section 4).
20. OECD (2005), *OECD e-Government Studies: e-Government for Better Government*, OECD, Paris.

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Chapter 4

Towards a more User-centric Approach to Public Service Delivery

Denmark is a frontrunner in the development of the Information Society and reports among the best performances worldwide both in terms of broadband penetration and frequent Internet users. However, it faces the challenge of consolidating and preserving these achievements, and of increasing the number of citizens taking up the opportunities digitally provided while taking care of population segments which cannot access and/or use the digital channels. This requires, among other things, adopting an adequate multi-channel service delivery strategy – as already envisaged by the Danish E-Government Strategy 2007-2010 – to enable efficiency and effectiveness and provide the right incentives to stimulate the up-take of e-government services without penalising the principle of equity. The development of an e-government marketing strategy aimed at raising the awareness of the services and information digitally provided is equally pivotal. These could help to improve awareness, both internally and externally, to fully exploit existing opportunities. The government may also consider boosting a stronger dialogue and co-operation with citizens and businesses, which may include more direct involvement of representatives of the various segments of the population in the designing of services to better understand how e-government can respond to special needs.

Towards a more citizen and business-centric approach	
Key assessment	Proposals for action
• An optimal use of available ICT platforms for service delivery to citizens could be better ensured. In most cases the platforms are in place but the existing channel management strategy does not match the platform development level. The need to have a channel management strategy did not receive the attention originally indicated in the national e-government strategy covering 2007-10, and a new channel management strategy is needed, supported by a refreshed communication strategy. These could help to improve awareness, both internally and externally, and to fully exploit existing opportunities. The roles of the citizen portal and business portal in the service delivery to citizens and businesses should also be clarified. • A stronger dialogue and co-operation with citizens and businesses is necessary. This could include more direct involvement of representatives of the various segments of the population in the designing of services to better understand how e-government can respond to special needs. • The Structural Reform has resulted in local government in Denmark becoming the first point of contact in many instances between the citizens and the public authorities. While not all elements of the reform have fully settled in practice, there are areas where further efficiency can be leveraged including by creating centralised shared services for processes that can be managed electronically.	• **Consider developing a cross governmental channel management strategy.** The choice of fostering the use of online channels, or adopting mandatory solutions, to enable the delivery of services to the more e-ready groups (*e.g.* students) could be pursued and sustained by the use of incentives as appropriate (*e.g.* monetary incentives, as well as in-kind incentives). • **Develop a new marketing and communication strategy** to ensure that users are aware of the services available on line. • **Adopt an approach that prioritises end-users' needs and aims at realising the potentials of digitisation to improve citizens' life** would require the government to consider a number of actions: ❖ Strengthen the capacity to assess users needs (both citizens and businesses) and involve user groups through the use of Web 2.0 technologies to listen to the citizens, engage them in the design of services and in the co-production of policies and to forge collective initiatives and interaction. ❖ Strengthen the application of public consultations in order to make them an integral and systematic part of the process of public services design and delivery – including at the political level. ❖ Strengthen the dialogue with citizens and businesses would raise the level of public awareness and recognition of the initiatives aimed at improving service delivery by adding value through e-government. This would reinforce the focus on the development of more demand-driven services achieved through the greater involvement of users. • **Benchmark and monitor the efforts and improvements made by the various agencies and ministries** to digitise processes and operations. The identification of champions at all levels of government could demonstrate the various ministries' involvement and performance with regard to digitisation. The transparency and public visibility of the recognition could be powerful incentives for continuous improvement.

Introduction: The Danish context

A good electronic infrastructure encourages and facilitates a widespread and structured use of the Internet, whilst an intense use of the Internet translates into the need to further develop the existing infrastructure. Developing a supportive ICT infrastructure and enhancing the citizens' ability to access and use the services and information digitally provided are necessary conditions to ensure that the society is enabled to take full advantage of the opportunities offered by the government. Fully aware of this, the Danish government has focused on the establishment of the right environment and on the development of the adequate set of skills within the society. Denmark is among the top nations for most *i2010*[1] indicators and is a frontrunner in the strengthening of its Information Society. Reporting among the best performances in Europe, both in terms of broadband penetration and frequent Internet users, Denmark now faces the challenge of consolidating and preserving these achievements, by increasing the number of citizens taking up the opportunities digitally provided but at the same time, taking care of those groups which cannot access and/or use the digital channels. This requires, among other things, to adopt an adequate multichannel strategy enabling efficiency and effectiveness and to provide the right incentives to stimulate the up-take of online services without penalising the principle of equity. Focusing on the development of an e-government marketing strategy aimed at raising the awareness of the services and information digitally provided is also key. The following sections highlight a number of relevant issues for the Danish government with regard to this matter.

A supportive ICT Infrastructure

Broadband allows individuals and organisations to communicate and access services regardless of their geographical location, this is why avoiding the creation of a new digital divide between "broadband have and have-nots" is a key objective of the *i2010*. Thanks to the government's strategy in this area[2] and to its dimensions and geography, Denmark's performance in relation to this matter has been among the best since the 2005 OECD e-government study.[3]

Denmark ranks first among the European Union Member States[4] in terms of broadband penetration rate (it has a fixed broadband penetration of 37.3% over a EU27 average of 23.9%) and features complete coverage of fixed broadband networks. Ninety two percent of Internet connected households subscribe to broadband. Opportunities provided through mobile phones are used twice more in Denmark than the European Union average. All this makes Denmark one of the top countries regarding broadband connectivity for citizens. On the other hand, even though the overall performance in the business domain is also good, businesses are not capitalising on broadband

connectivity at similar rates: broadband take-up has been stabilising over the last few years at around 80%, in line with the EU27 average.

At the administrative level, solutions have been built and continuously enhanced in the whole Danish public sector. The government is trying to move towards the integration of systems and databases – *i.e.* a more integrated back-office – to be able to improve the delivery of e-government services. However, many interviewees highlighted the fact that the ICT environment of some areas (*e.g.* the formal education sector) could be further developed. Moreover, the State Communication Platform (SKP) is being developed. SKP is a common communications platform that covers most of the state level. SKP will, among other things, include large flexibility through VoIP[5] and unified communication services.

Internet usage and uptake of online public services

With 80% of the population accessing the Internet at least once a week and 71% almost every day,[6] Denmark is one of the lead countries in terms of frequent and regular access to the Internet. This is well above the European Union averages for these indicators, and the low growth in regular Internet use in Denmark since the 2005 OECD e-government study can be attributed to its already very high rate. In addition, the proportion of individuals never having used the Internet, at 12%, is amongst the lowest in the EU.

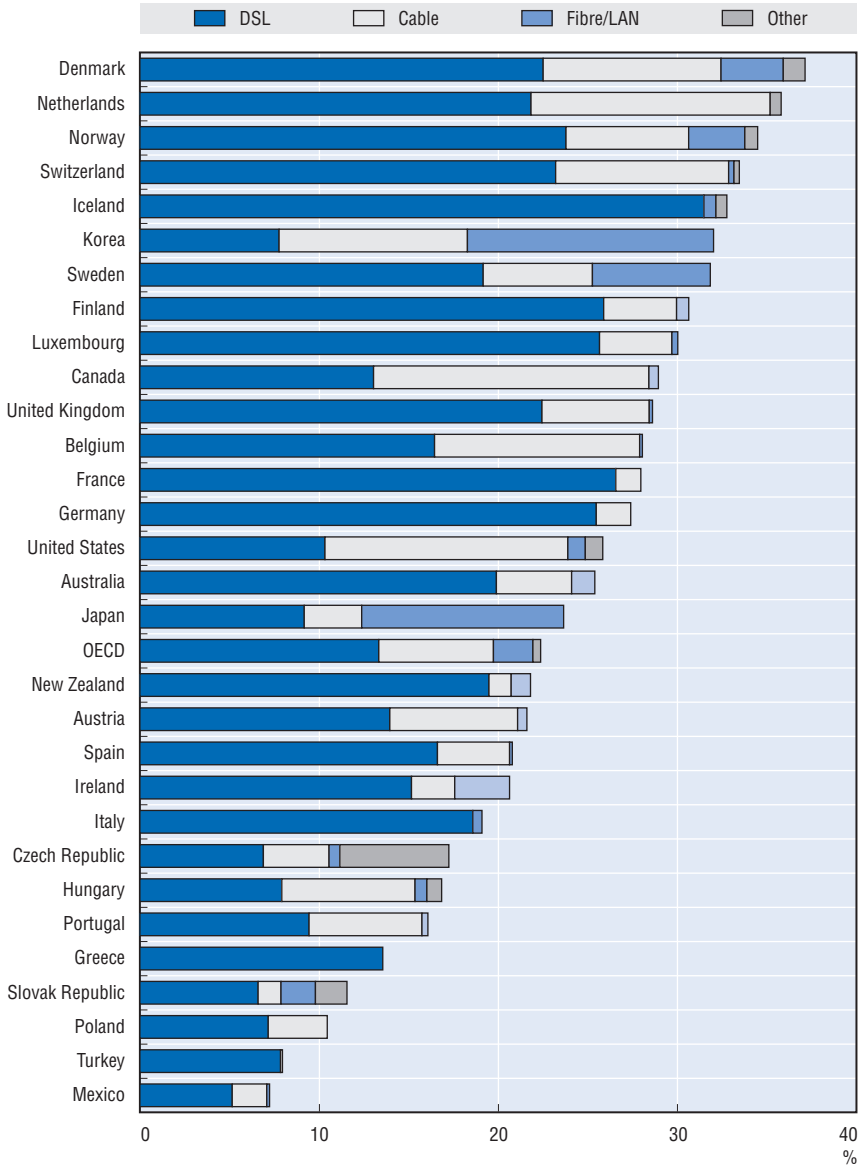
Furthermore, all Internet services are used by a larger percentage of the Danish population than it is average for the European Union, whether it be the most common ones, such as sending e-mails, looking for information about goods and services, or the less commonly ones, such as paying for online content, downloading computer or video games or their updates, or selling goods and services and uploading self-created content. It is relevant to observe that Denmark exhibits a strong degree of equality in regular Internet use between groups living in different socio-economic conditions. Besides, Denmark shows the same positive pattern in the growth of the digital literacy of its population.

As described in Chapter 2 of this report, the public sector is characterised by a large production of services; and although a number of public tasks have been outsourced to private firms, public services are generally delivered by the public sector, particularly the regions and the municipalities.

Around 50% of the Danish public services for citizens are available on line and the percentage goes up to 86% in the case of business services.[7] The take-up of online public services in Denmark has one of the highest rates, and as for the majority of the European Union Member States, Denmark has a larger uptake of online public services by businesses than by citizens. However, the Danish government considers that, given the rather advanced online services

Figure 4.1. **Broadband penetration**

Broadband subscribers, per 100 inhabitants, by technology



Source: OECD (2009), Science, Technology and Industry Scoreboard 2009

being provided to its population, they could aim for a higher uptake. Moreover, the government wishes to extend the use of the services addressing the needs of the disadvantaged segments of the population (*e.g.* disabled, elderly) which

represent approximately 20% of its citizens. This means shifting to a more user-focused approach when developing online public services which should address basic needs of a wider part of the population and thus expand the percentage of those digitally included.

Enhancing e-inclusion

Given its inherent holistic nature, electronic inclusion – or *e-inclusion*[8] – calls for public initiatives in a number of sectors, *e.g.* education, employment, health.[9] In Denmark, the various subthemes – digital literacy, assistive technology, e-accessibility[10] – are addressed by the departments traditionally concerned with the overall subject areas such as disabilities, ICT standards, and ageing. This approach seems to be based on the rationale that the various ministries should develop their own e-inclusion policies as they see fit to address the issues pertaining to their respective remit. Hence, ICT is no longer treated as a particular policy area, but rather as something to be integrated in all policy areas.

All initiatives undertaken by the different ministries and/or agencies acknowledge the importance of ensuring connectivity to ubiquitous and affordable broadband, as well as providing training for citizens to increase their digital literacy, and further developing e-accessibility. They also address the needs of older workers and elderly people, promoting cultural diversity in relation to inclusion, and promote inclusive e-government. These areas of focus, which are known as the "Riga areas" – *i.e.* the six identified possible causes for e-exclusion – as they were identified in June of 2006,[11] are considered by the Danish government as prerequisites to any comprehensive e-inclusion policy strategy. Without ubiquitous and affordable broadband, the required ICT competencies and skills, and accessible and usable electronic devices and applications, the segments of the population which are already marginalised or disadvantaged (*e.g.* those living in rural, mountainous or remote areas, the socially marginalised and/or economically vulnerable) are less likely to find the motivation to learn and understand why ICT is an indispensable tool for personal empowerment and to use the services provided electronically. This can explain the adoption of the equivalent of a "Comply or Explain" procedure by Denmark.[12]

E-Inclusion is about people at all stages, in all situations and circumstances of life. In many cases, increasing e-inclusion is also a matter of going after the reluctant segments of the population, *i.e.* for some, the decision not to use the Internet is based more on unawareness of concrete benefits than on other reasons. "Getting people on board" is complicated, given the variety of reasons for someone's "e-exclusion". In this regard, the question of "motivation" and of the need for public authorities to constantly analyse and assess the reasons why a significant proportion of the population stays away or gets excluded from the Knowledge Society[13] is pivotal.[14] The Danish government considers the provision

of information to allow users to make educated decisions and to raise awareness of its main responsibilities (*e.g.* through its public libraries, using mass media to present daily life situations which "average" citizens can relate to), thus ensuring the diffusion of ICT and the provision of online services which correspond to the desired rate of access and up-take.

The 2005 "OECD Country Study of E-Government in Denmark"

The 2005 OECD E-Government Study[15] proposed that the Danish government take a more pro-active approach in addressing the digital divide, examining whether there was a need to improve demand and supply of ICT skills, and assess the instrumental value of e-government to influence people's participation in government. Acknowledging the high relevance of the Danish government's early deployment of digital signatures as a contribution to the further development of e-government and the Information Society, the OECD proposed that the government continued the work to speed up the adoption of a more sophisticated digital signature solution (*i.e.* ensuring enhanced security and usability). With regard to the latter, specific suggestions concerned the possibility of taking actions in particular, to provide government organisations with further information on the use and value of digital signatures; continue marketing digital signatures to businesses; and make Public Key Infrastructure (or *PKI*)[16] enabled applications available on mobile platforms.

The e-government study also called for some actions aimed at creating more user-focused services through the development of a programme of user needs, supporting organisations in providing user-focused services by developing common frameworks or tools to assist them, and requiring that all government organisations make basic information concerning them available on line.

Finally, the OECD also proposed an increased focus on the relation between on- and offline channels, for instance through the preparation of common guidelines for designing websites, the development of a single portal for citizens, and the adoption of a multichannel strategy.

Since the last review, the Danish government has adopted a number of initiatives responding to the points raised by the OECD study and its suggestions. This has happened within the framework of, or in connection with, the national E-Government Strategy 2007-2010.[17]

Improving online public service delivery

The strategy's first priority area, which focuses on better digital services, includes the vast majority and the most central, of the strategy's initiatives. The initiatives are promoted jointly by the various ministries and in a strategic framework for a comprehensive digitisation of communication between citizens, businesses and the government structured around the eDay3 and e2012

Table 4.1. **Actions adopted by the Danish government in response to the OECD proposals for action**

OECD Proposal for action	Actions taken by the Danish government
8. A more active approach to the digital divide	Since the last review, the Ministry of Science, Technology and Innovation has worked actively to improve the Danes' IT skills and to narrow the digital divide. In 2007, the ministry published the strategy "The Danes IT skills – a focused initiative". This has been followed up by annual IT barometer measurements. In 2008, the ministry launched the "Learn More" partnership which provides public and private authorities, organisations and associations with an IT teaching concept intended to help everyone in the network to teach IT at a qualified level. The network is backed by a website which acts as a virtual meeting point, discussion forum, archive, and workshop for network participants. In addition, in 2008, the ministry embarked on a strategic partnership with key ministries and industry associations with the aim to launch new initiatives and create awareness of the necessity to promote IT skills development. Finally the Ministry of Science, Technology and Innovation embarked upon a number of initiatives aimed at improving the accessibility of public websites (*e.g.* one of these initiatives involved the charting of accessibility levels of 234 websites were tested in accordance with the Web Content Accessibility Guidelines standard, which is one of the open standards for public authorities that became mandatory from 1 January 2008).
17. Continue the work on digital signatures: ● consider providing government organisations with further information on digital signature ● continue to market digital signature to business ● Focus on making PKI enabled applications available on mobile platforms.	More than one million digital signatures have been issued to the Danish citizens, and just over 240 000 for businesses. Furthermore, during the last couple of years several initiatives regarding the spreading information on the digital signature have been developed, *e.g.* the national campaign on e-government solutions in 2006. Several mobile solutions have been developed and finally, an agreement with the banking sector has been made on establishing a new digital infrastructure for digital signature for government services and net banking. Several initiatives regarding spreading information hereof will be made. Furthermore, the new digital signature is part of the new central initiative on eDay3. See fact sheet for more information.
19. Increase the delivery of user focused services ● develop a programme of user needs. ● support organisations by developing common frameworks or tools to assist them ● require that all government organisations make basic information about themselves available on line.	With the establishment of the citizen's portal several initiatives were launched regarding the focus on user needs. A central part of this was the development of 10-12 role models (personas) for the portal. Information on working with personas and the personas themselves are accessible to public agencies across levels of government. The approach was used in the development of the 30 top priority citizens services to become portal services.
21. Examine the possibilities for how e-government can influence people's participation in government.	The Ministry of Science, Technology and Innovation has backed developments within eDemocracy by enabling citizens to participate in digital ballots and discussions via the citizen portal *(www.borger.dk)*, and its voting and discussion module. Denmark's first real binding and secure e-election was successfully held in connection with the parochial church council elections in the autumn of 2008. The solution was an add-on to *www.borger.dk*'s voting and discussion module and was developed in collaboration between the Ministry of Ecclesiastical Affairs and the Ministry of Science, Technology and Innovation. The experience gained will be used in future considerations over digital elections and referendums in Denmark. E-elections are also widely used within the university sector, as a large number of Danish universities successfully use a common electronic voting system developed with the backing of the Ministry of Science, Technology and Innovation.

initiatives.[18] The sections below aim at providing an overview of the various initiatives and on how they fit within the national e-government strategy.

More user-focused services and increased interaction

A key objective in the national e-government strategy is an improved provision of online services to citizens and businesses through *www.borger.dk* and *www.virk.dk*. The personalised access to information on citizens and businesses was enabled in 2008 and 2009, whereas the portals had been established much earlier. From the users' perspective, the aim was to provide citizens and businesses with a single digital point of access to government services and information. From the government's perspective, the creation of the public platforms was a starting point for providing coherent e-government services to citizens and businesses.

The e-health portal *www.sundhed.dk* is another example of user-focused services. The portal is a single point of entry for healthcare information and communication – between the healthcare service and citizens, and within the healthcare service.

Box 4.1. **A single electronic healthcare portal – *sundhed.dk***

The national healthcare portal, *www.sundhed.dk*, is a core element of the healthcare infrastructure. *Sundhed.dk* plays a key role in relation to citizens' (*i.e.* patients) active participation in prevention and treatment. The portal is also at the heart of the communications between citizens, patients and healthcare professionals as it allows interaction, dialogue and networking between patients, relatives, healthcare professionals, etc. It also provides a shared knowledge-base and a comprehensive overview of relevant information and patient data.

The national strategy for the digitisation of the Danish healthcare service indicates that the health portal will be further developed in 2008-12. Regular assessments will be made of whether existing solutions and planned ones, aimed at improving the citizens' experience, are relevant in relation to the themes at *www.borger.dk*. The aim is to ensure that by 2012, all relevant self-service solutions available at *sundhed.dk* can also be found at *www.borger.dk*. The intent is to ensure the full use of *sundhed.dk* is not only to develop joint initiatives but also for solutions to be developed by individual stakeholders. This includes initiatives by national players, regions, municipalities, GPs, specialists, etc. The latter should also take into account the possibilities of using *sundhed.dk* and the underlying infrastructure elements and thus contribute to the further development of the portal.

In addition, the strategy launched several additional initiatives to support the development of user-focused citizens and business services. Initiatives such as the development of citizens' clusters – *i.e.* "My Home" co-ordinated under the domain board Home and Supply and "My Children" co-ordinated by the LGDK (the organisation of the municipalities) – the integration of 30 digital citizens' services on *www.borger.dk* and the development of 10 digital business flows are examples. These initiatives are aimed at supporting public agencies preparing to integrate their solutions on the portals, and to support the development of new digital citizens' clusters and of optimised service processes. This approach can certainly sustain the development of the capacity and knowledge needed to support a citizen-centric and integrated service delivery. In Denmark there is already a wide range of experiences in working with public agencies on integrating services onto the portals, although during the interviews it was perceived that there is a certain need to support further development in this sense. Some of the challenges currently faced by the government in this regard include ensuring that resources are allocated to cross-government work to develop digital citizens' clusters and to maintain focus on systematic development of user-friendly and user-relevant services. The launch of *www.borger.dk* and *www.virk.dk* were expected to clarify the additional value for each agency when respectively contributing to, and benefitting from, digital citizens clusters, common digital components and integration standards.

The initiative on immediate settlements was also financed by the appropriation of the strategy. This initiative implied system-to-system communication in areas where there is no need for civil servants to register or handle data. The quality of service delivery is increased by the fact that cases are handled immediately at the reporting, *i.e.* auto-administration.

Moreover, to get a better picture of online citizen services, the government conducted a mapping exercise of these services. This was to give an overview of all digital services, the degree of digitisation of the services, and provide a base for further measuring of the use of citizens' online services. The project, which is part of the preparations for eDay3 (see later in this chapter), led to the key conclusions that the work done so far on the channels' strategy is poor, the knowledge on the uptake of services is lacking and the use in general is poorly measured. On the citizen side, a measuring mechanism is expected to be embedded in these services to enable the monitoring of how often an online service is used. The information will be a valuable tool in the effort to increase the up-take of digital services. Such a tool is already implemented in more than 100 solutions giving data every 20 seconds on more than 90% of all business forms sent to the public sector. Therefore, data on the business side is adequately measured.

In order to supply more user-focused services and to ensure a proper up-take of the services digitally provided; it is vital to increase the government's knowledge of the use of online citizen services. Efforts in this sense are significant to achieve the expected results. As such, it would be important to embed them in the e-government strategy. Knowing more about users' needs and opinions can enable the government to reap the benefits of all the investments that have been made in order to improve the online experience of the Danish citizens and businesses. In addition, enhancing the dialogue and forging the co-operation between the government and the users is an area that seems to need some attention to support the development of user-focused services.

In 2008, the Danish government focused on mapping the results of the various initiatives to be translated into an overall plan covering both the citizens-oriented and business-oriented areas. Various exercises were run to map the user take-up and the users' reaction to the services digitally provided. These include the analysis conducted within the framework of the citizens' portal and the one of the Ministry of Business and Economic Affairs to obtain an overall view of the core digital services. Even though there are differences in the status and development expectations in the two areas, the government recognises the relevance for those focusing on the development of citizens' user-focused services and those working on business-related areas to share knowledge and experience and draw on respective experiences.

The deployment of joint digital components

To improve the delivery of electronic services to citizens and businesses, a number of the e-government strategy initiatives target the development of joint digital components within the Danish public sector, *i.e.* digital components that are jointly developed and deployed, and reused, across the public sector. Examples of cross governmental co-operation are the digital infrastructure (*i.e.* the portals *borger.dk*, *www.virk.dk*, the Digital Document Box, the digital signature, "EasyLog On" as well as EasySMS and the "show a geographical site". The current status of implementation of these initiatives varies. The components cover various objectives ranging from better service delivery (*e.g.* EasySMS) to the development of an infrastructure that enables improved development and use of public electronic services (*e.g.* digital signatures). They all have some common features and joint marketing campaigns. A number of them have interdependencies (*e.g.* user management and digital signatures) and there are a number of dependencies between the components and *www.borger.dk* and *www.virk.dk*.

The components are still in a developmental phase, therefore there is little experience with either their deployment or actual use. The ongoing work

Box 4.2. **Communicating with the public sector – EasySMS/the Digital Document Box**

EasySMS (*NemSMS*) and the Digital Document Box (*Dokumentboks*) are integrated electronic communication services making it easy and secure for citizens and businesses, and the public sector to communicate with each other through e-mail. Additionnally, public authorities can send SMS reminders to citizens and businesses regarding, for example, medical appointments at or meetings with municipal case workers. The solution will be available for users in the second quarter of 2010.

EasySMS offers a number of facilities, such as:

- public institutions will be able to offer SMS reminders and information to citizens and businesses;
- citizens and businesses will be able to join a common register with mobile telephone numbers; and
- public authorities will able to integrate the services in existing e-government solutions allowing SMSs to be sent automatic and easily.

The Digital Document Box offers:

- secure e-mails between authorities and citizens and businesses;
- SMS or e-mail messages on new mails received;
- Access to citizens and businesses to one common platform for all digital communications with the public sector;
- authorities to integrate the services in existing e-government solutions, allowing for automatic and easy sending of e-mails; and
- citizens and businesses to reach, with one click, all relevant authorities using the services.

Source: Description of *Dokumentboks/NemSMS* on the Danish government public sector modernisation website: *http://modernisering.dk/da/projektside/bedre_digital_service/dokumentboksnemsms/* (accessed 17 February

seems to show that joint components across the public sector, or in selected domains, can enhance efficiency and in some cases also create large saving potentials. Initial analyses have in fact demonstrated that the development of joint digital components can lead to very positive business cases, as with EasySMS and the Digital Document Box. In this regard, the government has a prospective initiative concerning the deployment of business cases for selected joint digital components.

However, as the number of common components increases, there is a need for greater co-ordination in their development and for maintaining the focus on clearly defined objectives while envisaging the development of new

ones. This will allow motivated and efficient decision making and will avoid any waste of resources. Moreover, a future challenge may arise in relation to the need to find an increased number of qualified public ICT project managers with the background needed to understand the technical content and needs of the public administration thus, who would be capable of managing the relations with the private providers responsible for the development of the components. As part of a comprehensive plan for the deployment of the components, a specific communication strategy targeting the public agencies would be important.

The experience acquired so far by the Danish government provides a framework for identifying and developing new joint digital components that can demonstrate added value to the public agencies.

Electronic services: portals for better access and increased user take-up

With the establishment of the citizen's portal, several initiatives have been launched to ensure a systematic focus on users' needs, *e.g.* the development of 10-12 role models – *i.e.* personas[19] – for the citizens' portal. Four new "citizen themes" have also been added to the updated version of *www.borger.dk*, comprising homes, children, personal finance, and pensions (the same has been done in relation to *www.virk.dk* where four personas have been developed). The "citizens themes" have been developed using the perspective of citizens' everyday lives – *i.e.* based on a "life-events approach"[20] – and the related needs for information and digital services to be provided by the various authorities across the governmental structure. An additional three citizen themes concerning "health" – particularly due to an integration with the health portal, *sundhed.dk* – "traffic and transportation", and "culture and leisure" are expected to be developed in 2010. The mobile version of *www.borger.dk* was launched in November 2009. For the moment it is possible for citizens to gain access primarily to selected information from *www.borger.dk* on their mobile phones, but joint principles for the authorities' development of mobile services have also been laid out.

Information on working with personas is accessible to public agencies across levels of government. The approach was used in the development of the 30 top priority citizens services to be fully integrated into the citizens' portal. The 30 services were all identified and made fully digitally available on the portal by 2008 as expected in the e-government strategy. Many other services are also available and it is currently forecasted that all relevant public services will be fully digitally available by the end of 2012 (*i.e.* e2012 goal). In the meanwhile, it is part of the eDay3 initiative (see next section) that all digitally provided public services will be available through common solutions.

In 2008, a new version of the citizens' portal *www.borger.dk* was launched, embedding the citizens' personal page "*Min side*" (My Page). Using their digital signatures, citizens can now access "*Min side*" where personalised services and data about themselves are stored, *e.g.* tax, economy, housing and civil register related data. Joint government guidelines regarding the development and integration of services and the "look and feel" of services have been developed. Part of the solutions are linked to *NemLogin* ("EasyLogin"), so citizens only need to log in once and they can navigate freely between the various self-service options offered by the public sector. A similar single sign-on solution exist for businesses on *www.virk.dk*.

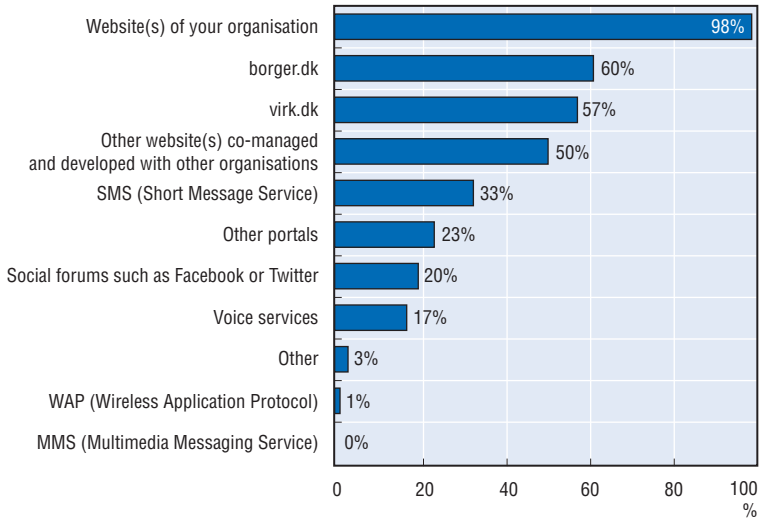
Additionally, the Danish government enables citizens to participate in digital ballots and discussions via the voting and discussion module on *www.borger.dk* which was developed by the Ministry of Ecclesiastical Affairs and the Ministry of Science, Technology and Innovation. Denmark's first real binding and secure electronic election (e-election) was successfully held in connection with the parochial church council elections in the third quarter of 2008. The experience gained will be used in future considerations over digital elections and referendums in Denmark. E-Elections are also widely used within the university sector, as a large number of Danish universities successfully use a common electronic voting system developed with the backing of the Ministry of Science, Technology and Innovation.

The e-government national strategy indicated that by 2009, businesses would be able to access all central and local government business-oriented digital reporting solutions via the business portal through a single sign-on, and this result was achieved by 2009, as expected. It also indicated that in 2010, 75% of business reporting would be digital. Currently, it is possible to access around 1 300 reporting solutions through the business portal. In 2012, it will be mandatory for businesses to carry out all reporting to the government digitally. A budget analysis on areas relevant to businesses conducted internally by some ministries (*e.g.* Ministry of Finance, Ministry of Economic and Business Affairs, Ministry of Industry) to identify the most relevant areas of digitisation resulted in the recommendation to digitise 18 areas, corresponding to approximately 50% of all business reporting to public authorities. The strategy adopted so far has been to make small adjustments in existing legislations, *i.e.* not passing a big e-government law. On 16 December 2009[21], a law was approved changing a range of laws on business reporting and making digital reporting mandatory in these areas. There seemed to be a common agreement among the interviewees on the fact that one point of access to the services is critical for businesses.

A general observation concerning *www.borger.dk* is that, while in the view of the government the site should be seen as the main entry point to all public services, only 20% of respondents to the survey conducted as part of the study *IT*

in Practice[22] said that the citizens' website is the entry point they prefer whereas 50% said that their municipal authority is their preferred entry point. Additionally, it is clear from Figure 4.2 that almost all respondents (98%) are delivering services through their own organisation's website. This point deserves some further thinking on the most appropriate strategy to adopt in the future the use of the government's citizen portal is to be increased, as expected by the government coherently with its e2012 goal. It may relate to the need of adopting a more active marketing strategy (see section on Managing the Access Channels to the Public Sector of this chapter) to ensure that the e-government services accessible through the citizens' portal are known to the most number of citizens; and to provide the right incentives for citizens to access the services provided on line, but without penalising at the same time the vulnerable segments of the population. Data shows that 42% of all companies – without help – mention *www.virk.dk* as the single point of contact for businesses, which shows that the business portal is well known. In addition, about 25% of all forms are currently sent through the business portal *www.virk.dk* – a percentage that is increasing rapidly. Thoughts are therefore currently on making the business portal the only entrance for businesses to the public sector with respect to reporting.

Figure 4.2. **Service delivery channels supported for the provision of e-government services**



Source: OECD survey of e-government in Denmark 2009. *Question 3.12 a) What service delivery channels does your organisation support for the provision of e-government services among the following ones?*

One of the significant decisions taken by Danish government was to ensure that citizens and businesses could easily find the public services they wish or need to use on line, and that all services could be found in one of the two portals,

i.e. the citizens' portal – *www.borger.dk* – or the business portal – *www.virk.dk*. The OECD survey asked the respondents to rank the importance of the two national portals for their organisation's service delivery. It is therefore significant that 35% of the respondents rated the national portals as not important to their organisation's service delivery. Only 9% of the respondents see the national portals as the primary service delivery channel, while 29% see it as an important service delivery channel and 20% as a somewhat important channel. This indicates that the public sector is somehow hesitant as to whether the national portals are seen as a sufficiently important and whether they are an integrated part of public sector organisation service delivery channels.

eDay3: Promoting the digitisation of the public sector

The overall objective of eDay3, and of the subsequent initiatives mentioned in this section (all aiming at getting public authorities to adopt the digital infrastructure), is for the public sector to meet e2012-objective that "all relevant written communication between citizens, businesses and the public sector is to take place digitally by 2012. Citizens will be given the right to communicate digitally with the public sector, whereas businesses will be required by law to use digital channels when dealing with the public sector." eDay3 marks the day where the digital infrastructure (*www.borger.dk*, *www.virk.dk*, EasyLogin, the digital signature and the document box) should be in use by all public authorities. eDay3 is therefore a stepping stone towards reaching the "e2012-objective" and meeting the goal – set by the national e-government strategy – of improving the communication strategy by promoting communication between the public sector and citizens and businesses using the central government's portals, seen as the central digital gateways to the public sector.[23]

Separate communication actions have been initiated from the agencies responsible for the two portals, *e.g.* a campaign was started in connection with the re-launch of the personalised version of *www.borger.dk* in third quarter 2008.[24] In addition to the specific goals of eDay3, it will also include a large marketing campaign in the second half of 2010 (around 1 November, *i.e.* the eDay3) in order to create public awareness about the new digital opportunities. This is also expected to help improve user up-take.

The concept of eDays is used to mark a certain date from which all public authorities are obliged to use specific digital solutions or procedures.[25] The eDay concept has been successful in helping to promote the digitisation of the public sector in Denmark. Under the headline "Easy access to public service on the Internet", eDay3 is to be launched on 1 November 2010. From then on, all national online self-service solutions with a need for secure identification have to use the common EasyLogin service with digital signatures. This means an end to the need for many different logins for different public sites and

portals.[27] This measure is supposed to increase the user take-up of *www.borger.dk* as an access point for all public sector questions, whether they are national, regional or local.

The new digital signature is a central element in the eDay3 initiative and is expected to come into use in the course of 2010. The digital signature currently in use is regarded by the interviewees as a good base, although it uses a first generation solution. More than 1.2 million digital signatures have been issued to citizens, in addition to approximately 242 000 that have been issued to employees in businesses and 30 000 that were issued to public sector employees. The new signature to be used for citizens starting from mid-2010 will use the next generation solution. The main preoccupation of the government with regard to digital signatures appears to be ensuring efficient digital document flows to the citizens and that users are served according to their needs. In particular, the government wants to overcome the problems related to the fact that the digital signature in use is apparently not easy to install and is bound to a specific computer. This creates the perception that it is not user – friendly and therefore hampers the up-take of its use. Furthermore, there are ongoing talks on an agreement to renew digital signature for the businesses.

In August 2008, on behalf of the central government, the regions and the municipalities, the Ministry of Science, Technology and Innovation signed an agreement with the PBS (Danish Payments Systems Ltd.) owned company DanID, on the development, implementation and operation of a new digital signature. The new digital signature will provide citizens and companies with more user-friendly, secure and flexible access to digital services across authority and sector boundaries in both the public and private sectors. Most notably, the agreement provides for a joint solution with the finance sector so that signatures can be used for both Internet banking and public and private digital services. This is expected to significantly increase the take-up of the digital signature by citizens. Moreover, it will also be possible to use the new digital signatures from any computer with Internet access irrespective of the geographical location of the user.

Getting public authorities to use the Digital Document Box is also part of eDay3. Thanks to this initiative, all citizens will be able to get a digital document box through which they can send and receive all official correspondence (*e.g.* letters, receipts of payments, simple communications) through secure e-mails to and from the public authorities. This means that citizens can choose to contact and communicate with the public authorities through the Digital Document Box. The project will enable public institutions to send documents and communicate with citizens and businesses directly, digitally and securely.

Finally, projects concerning visual integration to *www.borger.dk*, mapping and documentation, are all a part of the eDay3 strategy, as they all aim to improve online citizen services. As a part of the national eDay3 strategy, it will be required for all online citizen services nationwide to be visually integrated into *www.borger.dk*. Visual integration means that the service will be in the same graphic layout as *www.borger.dk* to improve the users' experience.

Enabling better access to electronic services

Facilitating the access to online public services can be regarded as one of the critical preconditions to ensure the desired up-take of e-government services. This means ensuring that users have the proper skills to exploit the services and that these are easy to access.

Increasing the Danish society's ICT skills

In addition to matters such as ensuring electronic communications and providing responsive e-government services addressed through the initiatives previously described in this chapter, the priority area of the e-government strategy that focuses on better online service delivery sets an agenda for a number of other key themes including the need to assess and measure the ICT awareness of the various user groups.

A survey done at the end of 2009 by the Danish government showed that 91% of Danish businesses have a computer and Internet access. When informed that all relevant written communication with the public sector will have to be done fully digitally, in 2012, only 2% of the Danish businesses indicated this would be a problem. Initiatives are currently being planned (*e.g.* eDay3) to reduce the 2% group even further.[28] The Danish government is aware of the fact that good ICT competencies and skills are important for individual citizens and for the society as a whole, as they are a precondition for national economic competitiveness, inclusion in society, access to the public sector and corporate digitisation and higher levels of productivity. Examining the issue of productivity in the context of ICT skills is crucial as computers and other technological tools are only productive when used in combination with certain types of skills (*e.g.* programming) and only have value for certain types of workers (*e.g.* empirical economists but not ballet dancers). More integrated use of ICTs is likely to lead to a second wave of productivity growth not only because of the increased adoption of ICTs leading to reductions in costs, but also because of changes in existing production and business processes. However, integration of ICTs requires the presence of an appropriate ICT skill base in the society.[29] In general, the Danes have strong ICT competencies and skills. This is shown by several international studies, though parts of the population still have weak ICT

competencies.[30] Regardless of the high rate of citizens' Internet use and access, this needs to be taken into consideration to avoid leaving these segments of the population unable to access opportunities digitally provided.

Since the last review, the Danish government has worked actively to improve the Danes' ICT competencies and skills, and to narrow the digital divide. In 2007, the Ministry of Science, Technology and Innovation (MSTI) published "The Danes' IT skills – a focused initiative"[31] – an initiative that has the aim to allow every citizen in Denmark to benefit from ICT and ensure that citizens' level of ICT skills is further improved.

The "IT barometer measurement"

This has been followed up by the introduction in 2007 of a measurement tool known as the "IT barometer measurement"[32] developed by the National IT and Telecom Agency (which is part of the MSTI) although data are collected by Statistics Denmark. The "IT-barometer" is used to measure the level of ICT competencies and skills among the Danes and complements other annual surveys. The IT-barometer consists of a web-based test on digital literacy that uses the same questions as the annual survey. The ICT skills of the population are being measured using 37 questions about ICT use. The questions focus on the ability to search and manage information, and to use technology to communicate and interact among themselves as well as with the public administration for personal and professional reasons. On the basis of the results, the population is divided into four groups according to their level of ICT literacy. The test is self-administered and, after having received the results, respondents get specific advice on how to further increase their level of digital skills. In 2009, the IT barometer showed that three fifths of the population assessed their ICT skills as medium to good. However, part of the population has still not embraced ICT as one fifth of the population has never used a computer, and one fifth only makes limited use of a computer. Some adjustments are planned in order to further improve these measurements which will continue to be taken in the years to come. The IT-barometer is regarded by the European community as a very innovative approach and represents an important supplement to international studies[33] on ICT skills in the population.

In 2008, in collaboration with various non-governmental and private partners, the Ministry of Science Technology and Innovation developed the "Learn More about ICT" network. The network consists of trade unions and associations, libraries, public citizens' service centres, interest organisations and adult education associations. One of the starting points of the network is a flexible ICT-pedagogical concept developed specifically for the network. The concept is particularly useful when teaching people

with no or very low ICT skills, but is flexible enough to be applicable for higher levels as well. Selected individuals from the involved organisations, with training as part of their everyday tasks, have themselves been trained as teachers specifically for the initiative. The network is backed-up by a website which acts as a virtual meeting point, discussion forum, archive and workshop for network participants. After the formal announcement of "Learn more about ICT", a steering group comprising representatives from the participating organisations has been established to co-ordinate the activities. It ensures co-ordination on ideas and on practical issues that are common to member organisations, *e.g.* campaign activities, training procedures, knowledge sharing.

The "Learn More about ICT" Initiative

In 2008, the MSTI embarked on a strategic partnership with key ministries[34] and industry associations with the aim of launching new initiatives and creating awareness on the necessity to promote ICT competencies and skills development. From October to December 2009, the Learn More about ICT Initiative was supported by a national campaign on digital literacy, focusing on creating motivation in the target group.[35] The campaign consists of television programmes, radio spots and the development of a campaign website by DR – the Danish National Broadcast. Furthermore, campaign material specifically designed for the initiative has been produced and distributed to all involved organisations to ensure the local and regional consolidation of the national campaign.

The positive value of the Learn More about ICT Initiative, is that the establishment of a national network of ICT teachers outside the established education system, it guarantees citizens increased access to tailored ICT training, targeting their needs and interests and is offered in a familiar context, *i.e.* training courses are offered through and within the participating organisations, which also share facilities. It is important to stress that the collaboration and activities within the network are and will be an ongoing process, not restricted to end in a given year. As the initiatives have been developed in co-operation with public and private organisations and NGOs in multi-stakeholder partnerships, the Learn More about ICT network covers the entire nation and is profoundly anchored locally. Furthermore, the national information campaign creates widespread awareness about the importance and benefits of good ICT-skills. Altogether, the increased level of awareness about the necessity of having ICT skills, combined with an increased amount of ICT courses, facilitates the development of the population's digital literacy and aims at making citizens' everyday life easier, businesses more competitive and the public sector more efficient.

The www.It-formidler.dk website

The website *www.It-formidler.dk* was established to support the development and sharing of educational material, and was launched in June 2009. The website is simultaneously an online production facility for educational material and an archive for the developed and uploaded educational material. Everybody can download the education material for free and use it for training courses. Furthermore, ICT teachers can use *www.It-formidler.dk* as a virtual meeting place.

In May 2009, as part of the government's continuing effort to strengthen citizens' ICT competencies and skills, the MSTI established a strategic alliance with industry representatives, including employer and employee organisations, aiming at raising awareness about the importance of ICT competencies and skills in society. As a part of this strategic alliance, the MSTI has launched a comprehensive, national mapping of non-formal training opportunities regarding further development of ICT skills in Denmark. The task is conducted in collaboration with the Ministry of Education, the Ministry of Employment, the Ministry of Culture and the Ministry of Economy and Business Affairs. The mapping will be used to illustrate relevant aspects of supply and demand, as well as for educating and guiding relevant target groups in order to increase their ICT-skills.

Enhancing public websites accessibility

The National IT and Telecomm Agency[36] works to ensure that digital self-services are accessible to all, and that universally designed solutions are used when equipment for digital government services is procured or put out to tender; promotes the development of an effective and usable Danish language technology; creates clear collaborative interfaces among public organisations (particularly those addressing the needs of disabled citizens), IT and telecommunications operators, other public institutions, and existing knowledge environments should have clear collaborative interfaces to the Danish Centre for Accessibility, the Centre for Equal Treatment of Disabled Persons, the Danish Centre for Technical Aids for Rehabilitation and Education, and National Procurement Ltd. The agency also intends to have collaborative interfaces with knowledge environments that are not specifically concerned with the disability area, but may be active in influencing developments in the area of IT and telecommunications. Such collaborative interfaces are to ensure that a higher degree of awareness is created in relation to IT and telecommunications accessibility.

In addition, the MSTI started a cross-departmental initiative to work for the introduction of more accessible digital applications within the public administration, with the purpose to make more public positions open to

people with disabilities. Another example of the initiatives taken in this area is the publicly funded free-of-charge screen reader application called *Adgangforalle.dk*. It enables the user to have digital text read aloud.

Open Standards and benchmarking of web accessibility on public websites

In 2006, the MSTI undertook a mapping of IT accessibility in Denmark. This decision followed-up on the Draft Parliamentary Resolution B40,[37] which was intended to ensure accessibility for people with disabilities in local government areas, and was in line with the e-government strategy that aims to promote and ensure accessibility of public websites, which the strategy considers a prerequisite for increasing the use of digital self-services and for the development of an inclusive information society. The mapping showed that none of the public websites, or the ICT-based working tools, were in full compliance with the accessibility requirements. The mapping exercise also concluded that many public web developers found it difficult to understand and implement[38] the Web Content Accessibility Guidelines 1.0 (WCAG).[39] To address this matter, in January 2008, the National IT and Telecom Agency launched improved online guidance efforts about web accessibility issues that included explanatory texts, practical examples and videos.

In the decision on the mandatory use of open standards for software in the public sector,[40] it was also made mandatory for public authorities to use the standard "Web Content Accessibility Guidelines"[41] on all new websites and for major developments on existing sites starting from 1 January 2008. The mandatory use of accessibility standards contained an obligation to explain non-compliance to the agreement (*i.e.* the "comply or explain principle").

Ensuring accessibility of public websites is probably one of the most challenging tasks for a government and conformance to the WCAG standard cannot be continuously monitored. In the case of Denmark, the screenings are done by external consultants on behalf of the National IT and Telecom Agency. In 2009, a total of 234 websites were tested in accordance with the WCAG standard and a charting of accessibility levels for a number[42] of selected websites was completed. On the basis of the results, a focused information campaign was launched in 2009 with a view to improve public websites' accessibility. The benchmark will be repeated every two years and the results of the screening will be made public on a dedicated website, *webtjek.itst.dk*. This will enable the progress of web-accessibility in Denmark to be monitored, and hence the effect of standards' adoption evaluated. All sites monitored may comment on the results on line and explain the reasons for not having conformed to the standards if this is the case. Finally, considerations in the near future may include the possibility of implementing

the new WCAG 2.0 standard finalised by W3C at the end of 2008 to replace the old WCAG 1.0.

Increasing awareness of the importance of e-accessibility

In co-operation with three other ministries (Ministry of Welfare, Ministry of Finance, and Ministry of Employment), the MSTI has developed a common strategy which contains different initiatives to increase awareness regarding the importance of e-accessibility in IT-based working tools. Within the framework of this strategy, the MSTI is responsible for the implementation of all initiatives which are: 1) to develop a targeted campaign to emphasise the importance of accessibility of IT-based work tools, 2) to follow and contribute to the national and international standardisation work in the area, 3) to develop a template for an IT-accessibility policy which public institutions can use to put focus on accessibility in their IT-strategies and 4) to update the public procurement toolkit which public authorities can use in relation to tender, development and purchase of accessible IT solutions. The benchmark from 2008 showed that there is still a major task to carry out in Denmark to secure the accessibility of public websites. Subsequently, the MSTI, Local Government Denmark, Danish Region and the Disabled Peoples Organisations Denmark (DPOD) launched an information campaign to improve the accessibility of public websites. The information campaign targeted web masters and the management levels of state and subnational governments. The purpose of the campaign was to offer concrete guidance on how to implement the WCAG criteria, to convey general information about accessibility and to improve insight and awareness on the importance of accessibility.

Increasing the accessibility of the public websites is mainly a political goal and the effects in economic terms are less important. Economic gains are more to be seen as side effects of having more accessible websites, *e.g.* more use of digital self-service and efficiency in public service delivery. Therefore, expectations in terms of effects should not be of an economical nature – at least in the short and medium terms – but should focus on improving electronic delivery of public services. It is in any case difficult to estimate the effects of the standards adoption in the shorter timeframe. As standards are increasingly used – *e.g.* when public sector institutions purchase new websites or undergo sizeable additions or changes to existing ones – and the evolution to accessible and secured websites in terms of increased accessibility will increasingly and progressively become evident. All initiatives undertaken so far by the Danish government alongside the information campaign do, in the short-term, raise awareness on the importance of websites' accessibility among web masters and within management. They will potentially produce the desired effects attached to having more accessible websites in the longer term.

The way forward: Making self-service solutions an opportunity for all

The wealth of initiatives previously described in this chapter and already implemented by Denmark, show the government's commitment to improve user-focused services. Taking into account that surveys on citizens' overall satisfaction show that the Danish citizens are happy[43] with the approach chosen by the government – as digital services are regarded as more effective than those off-line in terms of service delivery – Denmark is in the position of maximising the positive effects and impacts of its e-government programme on a larger number of citizens. The challenge is now for the government to understand how to "go the extra mile" and expand the benefits of e-government to the majority of the Danes. To this purpose, the overall e-government efforts can be optimised if coupled with proper multi-channel management and communication strategies, and sustained by the use of Web 2.0 technologies to facilitate the development of user-focused services. These and a number of additional relevant issues are addressed in the sections below.

Managing the access channels to the public sector

Data collected in relation to the study *IT in Practice* shows that an increase has been seen in the number of authorities that allow individual and interactive access to case handling in their own systems, as well as in the number of authorities that grant access to digital self-services linked to other authorities' systems through their own websites. However, personalised interactive case handling seems to represent a minor part of the interface between the public sector and citizens. A noteworthy development is the increasing use of SMS as a communication channel, since 30% of authorities use the option to text message citizens. It is, however, observed that the communication from the citizens to the public sector using such means does not report the same high values. This indicates unexploited potentials in developing this communication channel for increasing digital self-service.

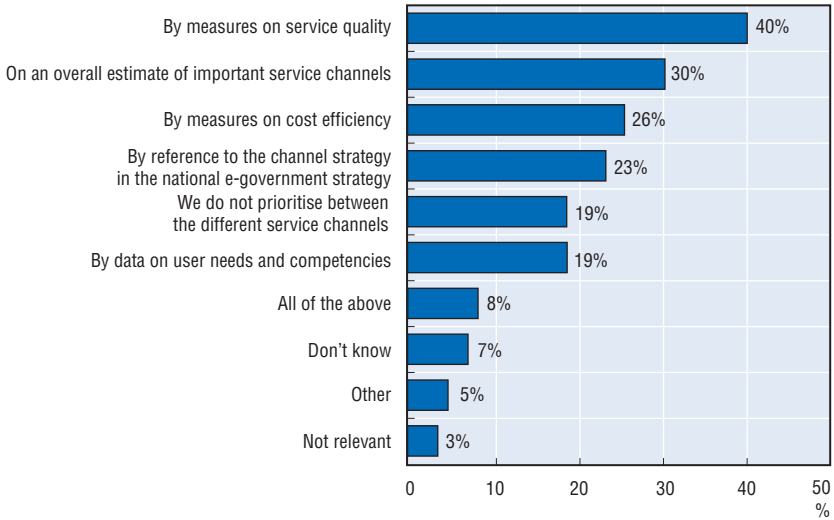
National surveys – conducted as part of the study *IT in Practice* – show that over half of the Danish population strongly (26%) or partially (27%) agree that digitisation has brought improvements, and that specifically the younger segment of the population has embraced digitisation regardless of educational and socio-economic background. It is primarily the citizens over 65 who lack digital competences. Citizens demonstrate an increasing awareness of why they use digital access channels and show interest in accessing the public sector on line – particularly after working hours – as well as in obtaining a fast reply to their requests. In the next few years, an increasing part of the population will most likely be naturally ready for digital contacts with the public sector and this will definitely increase the demand for public sector digitisation. The

widespread opinion among the interviewees seemed to be that if digital channels are to be attractive to citizens, they must include options that cannot be found elsewhere. However, interviewees, as well as the results of the survey, indicated that the decision to foster Internet-based communication and interaction with citizens cannot be regarded as an automatic choice. It needs to be preceded by an evaluation of whether other channels should be shut down or adjusted, and be part of a multi-channel management strategy.

The way in which public authorities are prioritising the use of different service delivery channels is important in order to understand their approach to user-centric public service delivery. The choice of priority of serviced channels, together with the reasons motivating it, provides an insight into the understanding of user segments, among citizens and businesses, that a government is trying to reach and how the policy agendas regarding service delivery are met. While half (50%) of the respondents to the OECD survey indicated they have a multi-channel delivery strategy, a significant proportion (41%) do not have one. Additionally, Figure 3.2 shows that the Danish public sector is mainly considering service quality measures when prioritising different service channels (40% of the respondents have indicated this as being a main approach), using an overall estimate of important service channels (30%) or looking at the measures on cost efficiency (26%). It is interesting to note that user considerations have been rated relatively low, together with non-prioritisation of the delivery channels (19% respectively), which indicate that considerations regarding users are not highly prioritised among public sector organisations. It is also worth noticing that the issue of referencing the channel strategy in the national e-government strategy is not a main consideration among public sector actors (23%), indicating a seemingly limited impact on channel management of the national strategy.

Interviewees indicated that the Danish public managers seem to be ready for a more proactive multi-channel strategic approach to the development of public sector interfaces with citizens and businesses. Most interviewees seemed to agree that the increased focus on communication channels is new and it is a positive sign that the public sector is concentrating on how to create the most efficient interplay between the digitisation of internal and external processes. This will enrich the discussion on access channels to the public sector and thus ensure that access related issues are given high priority in future e-government strategies. Any channels management strategy needs to be coupled, however, with a proper analysis on the convenience and feasibility of closing down some of the offline channels while making the online access mandatory, with a public campaign and a properly designed marketing campaign, ensuring a widespread public awareness on the services digitally provided, and with the assessment of the appropriateness of providing incentives to use of online services without making them a source of inequity.

Figure 4.3. **How does your organisation prioritise between the different service channels?**

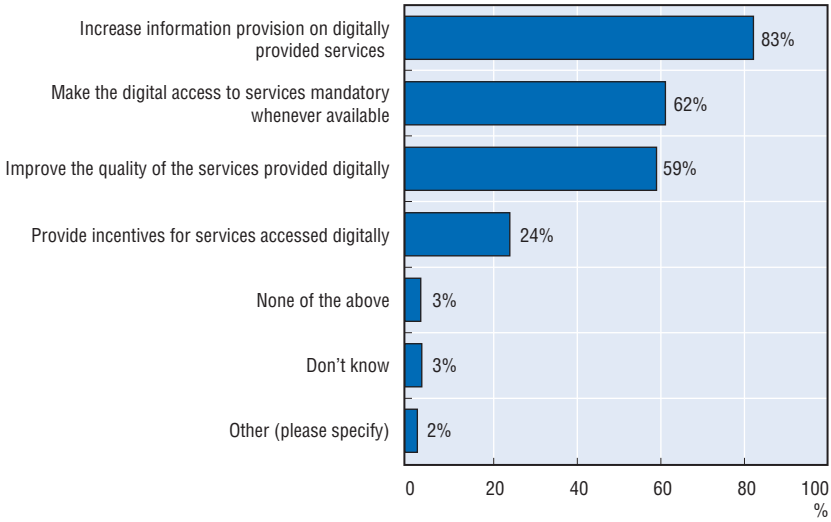


Source: OECD survey of e-government in Denmark 2009. *Question 3.2 How does your organisation prioritise between the different service channels?*

As many OECD countries are approaching the challenge of lagging user take-up, one of the most important approaches is creating incentives to use them, *e.g.* speedier responses to questions and requests, time-wise or monetary benefits, convenience and access outside office hours. Denmark, as for many other mature e-government countries, faces the issue of motivating the different user segments whereas increasing the availability and accessibility of e-government services do not represent significant challenges. Figure 3.3 shows that only 29% of the Danish public sector respondents to the OECD survey found it a priority to improve incentives for digital access to services. This indicates that, in order to increase user take-up, the most important issue to address is to make users aware of existing available services.

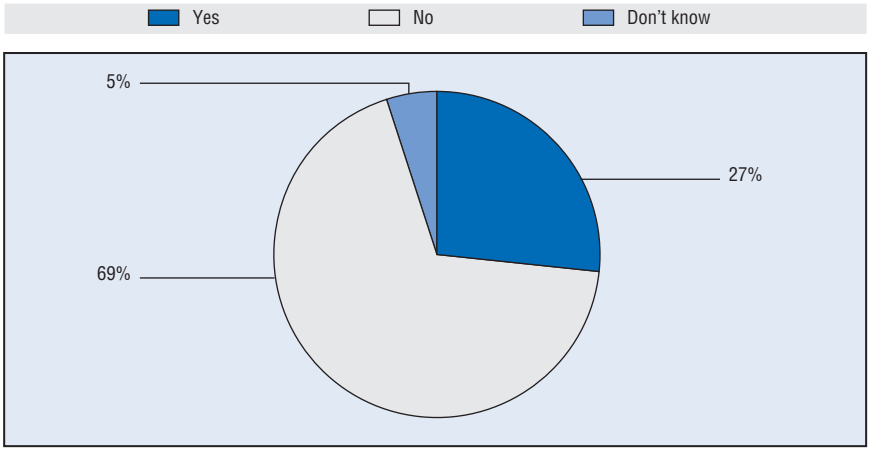
Marketing e-government services is crucial for the successful delivery of e-government services. As also emphasised in the OECD work on challenges and approaches to user-centricity and how different OECD countries are addressing the lagging uptake of e-government services provided, one of the necessary prerequisites for increased user take-up is that users – whether they are citizens or businesses – know about the existence of e-government services.[44] Figure 4.4 confirms the impression of under-prioritisation in Denmark of the marketing of services, as small percentage (27%) of the respondents from the public sector to the web survey conducted in relation to

Figure 4.4. **Instruments prioritised to increase user take-up of e-government services**



Source: OECD survey of e-government in Denmark 2009. *Question 3.6 What instruments do you prioritise to increase user take-up of e-government services?*

Figure 4.5. **Existence of a formal e-government marketing strategy**



Source: OECD survey of e-government in Denmark 2009. *Question 3.1 Does your organisation have a formal e-government marketing strategy (i.e the strategy that aims at informing the users on the digital provision of services and information)?*

this report indicated that their agency has an approved marketing strategy to inform the users on the electronic provision of services and information. A similar percentage (28%) of the public organisations surveyed within the

context of the *IT-in Practice* study, holds an approved-channel strategic approach, *i.e.* that they have a channel strategy approved by the board that determines the agency's guidelines for prioritising service channels. If digitisation is to go hand in hand with efficiency, the managing of channels and the marketing of opportunities provided by the government to access public information and services become pivotal and therefore need to be addressed. Taking into account which services and information flows single public organisations provide to citizens and businesses, and which user groups they serve may help in completing the assessment on which channels most appropriately serve the various segments of the population, and which could be reduced, adapted, or removed.

Compulsory self-service solutions for the most ICT savvy citizens

As an increasingly larger share of citizens will be ready for digital communication, the Danish government is considering the possibility of expanding the mandatory electronic application to some of the public services – *e.g.* similar to the application for state education grants – while still maintaining the "offline solutions" to meet the needs of that part of the population which cannot access the public sector via the Internet. This implies addressing the need to: communicate to the citizens that this is "the way to go", create incentives and provide advantages to motivate users to access services on line (*e.g.* cash payments, faster case work time and the provision of options not offered by analogue channels) and help overcome the scepticism of those who still do not want to communicate with the public sector digitally. (Results of the *IT in Practice* study indicate that 58% of the people surveyed completely or partly disagree that it is acceptable to make electronic applications to public services progressively mandatory).

Regarding rewards to citizens who use digital channels (*e.g.* cash payment, faster case work time), 53% of public managers surveyed in relation to the *IT in Practice* study indicated that they see a large or very large potential in this. It is interesting that such a significant part of public managers acknowledges the relevance of this approach. It is, however, not necessarily an attitude shared by the citizens using public services. Fifty three percent of citizens completely or partly disagree that mandatory application is "the way to go" regardless of the rewards. For instance, as the online access to state education grants has been made mandatory, there is a controversial discussion on whether or not to extend the compulsory access to similar public services.

Most of the interviewees share the opinion that more mandatory digitisation to strengthen the business case should adequately take into consideration the existence of vulnerable segments of the population, which require a specific strategy to address their needs. In this regard, the central

government has tried to further develop the Citizens' Service Centres as a way to overcome problems related to digital exclusion that in some cases still persist. The goal is that citizens should be able to get responses on the majority of relatively straightforward matters directly at the Citizens' Service Centres. Moreover, the idea is that libraries and citizens' service centres could be used for learning activities targeting young people and elderly groups.

Interviewees are supportive of the government's decision in this sense. They have indicated that the citizens' service centres are still very important as there are still many people who like the face-to-face approach as they are not comfortable using the Internet (*e.g.* in relation to matters concerning taxation, the municipalities function as a sort of post-office of the Ministry of Taxation interacting with those citizens that need the special assistance). In this regard, most of the interviewees representing all levels of government and different groups pointed out that they would like to see e-government development "walking on two legs". This means meeting the citizens where they are using ICT to make public services ubiquitous – and as such more efficient – but remembering those who cannot access services on line. Interviewees mentioned as an example the banking sector, regarded as driver when it comes to citizens, *i.e.* the banking sector maintained a nationwide coverage of physical branches, thus ensuring the face-to-face contact with the citizens and the offline provision of services to those who cannot access them on line. The development of e-government solutions does not exclude the possibility of having a back-up system that responds to the needs of those segments of the population which are unable to access services on line. Setting up goals for the focused inclusion of citizens while developing new digital solutions in the future would avoid the emergence of new sources of digital exclusion.

Additionally, there seemed to be a common view among the interviewees that ICT should be increasingly seen as a way to support and expand welfare-orientated initiatives in Denmark. ICT is seen as a way to free-up resources, and the idea is that a path should be identified for the future to enable a meaningful use of those resources to serve the more disadvantaged citizens. Such a perspective would enlarge the scope of an e-government vision which risks being perceived as excessively pragmatic if driven mainly by efficiency goals. In the view of the interviewees, it could be useful if in the preparation of the future e-government strategy, the government increasingly looked at all groups of citizens and took into account all layers of interaction with the citizens. Enhanced attention in this sense is seen as a way to avoid marginalising segments of the population which could instead be included if properly served according to their special needs.

Using Web 2.0: an additional means for developing user-focused services

In order to better know and respond to the needs of particularly vulnerable segments of the population, the government has been proactive: since 2009 all day care for children, home care, hospitals and services for the disabled are to be surveyed on the level of satisfaction of the users with the service they receive. The government will together with the municipalities, practitioners, organisations and experts develop a flexible tool to implement comparable user surveys. Each municipality and institution will also be able to ask additional questions relevant to specific local conditions; and it will be important to ensure that caregivers are involved whenever the users may have difficulty in participating in the survey. This is a good example of an initiative which is particularly aiming to address the interaction with vulnerable users, and to collect information on users' needs to support the development of user-focused services. This could benefit even more by an increased involvement of the citizens in the design of the services, which can be achieved for instance by promoting the use of Web 2.0 applications.

Web 2.0 has so far not been an explicit part of the Danish e-government strategy. In the broader sense of using Web 2.0, many authorities have tested some of the possibilities and experimented with the use of social networking services such as Facebook, especially the municipalities. However, the use is generally minor, and it is not based on a strategic or critical view.[45] If an approach envisaging the use of Web 2.0 for core business purposes and to increasingly interact with the citizens were to gain increased space in a future e-government strategy, it could be the next step in increasing the sophistication of the Danish digital society. It could ensure that an increasing number of citizens are enabled to take full advantage of the digital opportunities provided by the government. As part of the future e-government strategy, a new communication strategy – envisaging ways to involve employees from the public sector as digital ambassadors – and an increased use of Web 2.0 could sustain the government's efforts in this sense.

Chapter Key points

- Ensuring broadband penetration and enhancing citizens' ability to access and use the services and information provided electronically are prerequisites to ensure that a society can take full advantage of the opportunities offered by e-government and facilitate an increased uptake. Improving dialogue and forging co-operation between the government and users, and furthering the understanding of citizens and businesses' needs, expectations and use of online services, can be key elements in providing more user-friendly and user-focused e-government services, and to subsequently facilitate the desired increase in uptake.
- An e-government vision driven by expectations in terms of impact and effects of more user-focused services, and not mainly focused on economic efficiency gains, can support improved and more responsive electronic public service delivery. This, in turn, can foster the desired uptake of e-government services and thus enable the realisation of benefits.

Notes

1. See Chapter 1 (section 1.5.3) of this report for more information on i2010.
2. Contrary to many other EU countries, Denmark has chosen a market-based private sector investments strategy to increase broadband penetration. See also the Agreement on Telecommunications for reference.
3. OECD (2006), *OECD e-Government Studies: Denmark*, OECD, Paris.
4. Europe's Digital Competitiveness Report, *http://ec.europa.eu/information_society/eeurope/i2010/index_en.htm*.
5. Voice over Internet Protocol (VoIP, Voice over IP) is a general term for a family of methodologies, communication protocols, and transmission technologies used to deliver voice communications and multimedia sessions over Internet Protocol (IP) networks, such as the Internet. Other terms frequently encountered and synonymous of VoIP are IP telephony, Internet telephony, voice over broadband (VoBB), broadband telephony, and broadband phone.
6. Europe's Digital Competitiveness Report, *http://ec.europa.eu/information_society/eeurope/i2010/index_en.htm*.
7. Idem.
8. e-Inclusion means both inclusive ICT and the use of ICT to achieve wider inclusion objectives. It focuses on participation of all individuals and communities in all aspects of the information society. e-Inclusion policy, therefore, aims to reduce gaps in ICT usage and promote the use of ICT to overcome exclusion, and improve economic performance, employment opportunities, quality of life, social participation and cohesion". Ministerial declaration approved unanimously at the EU Ministerial Conference "ICT for an inclusive society", 11 June 2006, Riga, Latvia. *http://ec.europa.eu/information_society/events/ict_riga_2006/doc/declaration_riga.pdf*

9. *http://en.itst.dk/communication-and-accessibility/accessibility/our-goals*

10. The web is fundamentally designed to work for all people, whatever their hardware, software, language, culture, location, or physical or mental ability. When the web meets this goal, it is accessible to people with a diverse range of hearing, movement, sight, and cognitive ability. Thus the impact of disability is radically changed on the web because it removes barriers to communication and interaction that many people face in the physical world. However, when websites, web technologies, or web tools are badly designed, they can create barriers that exclude people from using the web, *www.w3.org/standards/webdesign/accessibility*.

11. *http://ec.europa.eu/information_society/activities/einclusion/library/studies/docs/einclusion_policies_in_europe.pdf* and *http://ec.europa.eu/information_society/events/ict_riga_2006/doc/declaration_riga.pdf*

12. *http://en.itst.dk/it-architecture-standards/accessibility/our-goals/?searchterm=accessibility.* Similar practices include the "Stanca Act" in Italy *http://www.pubbliaccesso.gov.it/normative/law_20040109_n4.htm* and the "Senior Citizens Policy" in Austria *http://www.bmsk.gv.at/cms/siteEN/liste.html?channel=CH0731*.

13. The Knowledge Society is one in which institutions and organisations enable people and information to develop without limits and open opportunities for all kinds of knowledge to be mass-produced and mass-utilised throughout the whole society. At its best, the Knowledge Society involves all members of the community in knowledge creation and utilisation; it supports the goal of high quality and safety of life. The Knowledge Society is therefore more of a collective mindset or distinctive way of life that a society may adopt. It is achieved by giving high value to quality and safety of life, accepting that this goal may be well served by mass production and mass utilisation of all kinds of knowledge; rearranging social institutions and organisations accordingly; treating people and information as assets; and involving all people in mass production and mass utilisation of knowledge in support of the goal of high quality and safety of life. UNDESA (2005), Understanding Knowledge Societies.

14. *http://ec.europa.eu/information_society/activities/einclusion/library/studies/docs/einclusion_policies_in_europe.pdf*.

15. OECD (2006), *OECD e-Government Studies: Denmark*, OECD, Paris.

16. An ICT security infrastructure is a coherent and robust security infrastructure to support the usage of digital signatures. The more technical term is: Public Key Infrastructure, or PKI. PKIs consist of three elements: (a) a trusted third party – a Certificate Authority, or CA – which guarantees the identity of a person or entity between the sender and the receiver of a message; (b) digital signatures, or certificates; and (c) two keys, one for signing messages, and one for encrypting messages.

17. "Towards Better Digital Service, Increased Efficiency and Stronger Collaboration", the Danish E-Government Strategy 2007-2010.

18. The Danish Ministry of Finance, (2009) OECD follow-up review of the Danish work on e-government – background material – Appendix E. More information on these initiatives is provided later in this chapter.

19. Descriptions of the standard workday of different types of public servants. Personas were used as part of the development of *borger.dk*. Personas are stereotypes of citizens that are supposed to tighten the connection between the public agencies/the developers and end-users and to creating user-centric

solutions. They were particularly used in the development of the four themes initially put on *borger.dk*.

20. Establishing service delivery processes focused on a "life-event" approach is a way to provide relevant services to specific user groups, focusing on their specific needs in phases of their lives or in specific life situations. Denmark, like several other OECD countries such as Italy, the United Kingdom, the United States, have adopted a life-event approach as a means to develop user-focused e-government services targeting specific situations in life. These approaches have shown highly user-focused e-government services targeting specific situations in life. These approaches have shown highly successful and seem to be a very effective way to achieve high user take-up in the given target group. OECD (2009), Rethinking e-Government Services: User-centred Approaches, OECD, Paris.

21. Change of the Law on Statistics Denmark and a number of other Laws (Mandatory Digital Communication between Businesses and the public sector, change rules on the composition of the Growth Council of Denmark, etc. Law nr. 1272/16 December 2009.

22. IT-in-Practice is a study commissioned by the Danish government. Ramboll Management Consulting (2009) It-in-Practice; Strategic Challenges and Public Sector Digitisation.

23. The Danish Ministry of Finance (2009), OECD follow-up review of the Danish work on e government – background material.

24. Actions such as communication through posters, flyers, stamps, candy, learning material for educational purposes as well as e-learning material. Channels were public libraries, citizen service centres and schools. Advertisements in trains and busses were also used.

25. eDay1: From September 1st 2003, all Danish public authorities got the right to send letters and documents by email to other public authorities. The right to require that other public authorities would equally send documents and letters electronically to them was also introduced.

26. eDay2: From February 1st 2005, the rights from eDay1 were extended to include letters and documents with confidential information. Furthermore, all citizen and businesses got the right to use secure e-mail for the correspondence with the public authorities.

27. The Danish Ministry of Finance (2009), OECD follow-up review of the Danish work on e government – background material.

28. The Danish Commerce and Companies Agency (2009), "IT readiness in Danish businesses" (*IT parathed i danske virksomheder.* by *Erhvervs– og Selskabsstyrelsen*).

29. OECD (2004), "ICT Skills and Employment" in Information Technology Outlook 2004 and OECD (2005) "New Perspective on ICT Skills and Employment", internal document of the Working Party on the Information Economy.

30. Europe's Digital Competitiveness Report *http://ec.europa.eu/information_society/eeurope/i2010/index_en.htm*.

31. The Danish Ministry of Finance (2009), OECD follow-up review of the Danish work on e government – background material.

32. *www.it-borger.dk/it-barometer*

33. EU Commission report: "Vienna Study on Inclusive Innovation for Growth and Cohesion: Modelling and demonstrating the impact of eInclusion" (March 2009).

34. Ministry of Science (including the national IT and Telecom Agency) and the Danish Agency for Libraries and Media (from the ministry of culture) on the state side. *www.it-formidler.dk/om-it-formidler* – mentions the parties.
35. National IT and telecom Agency, MSTI (2009) E-inclusion in Danish e-government.
36. The Agency is part of the Ministry of Science Technology and Innovation.
37. National IT and telecom Agency, MSTI (2009) E-inclusion in Danish e-government.
38. *www.epractice.eu/en/document/287737*,
39. *www.w3.org/TR/WAI-WEBCONTENT/*
40. Parliament Decision on the Use of Open Standards for Software in the public Sector (B 103 *Forslag til folketingsbeslutning om anvendelse af abne standarder for softaware id et offentlige*. *http://en.itst.dk/it-architecture-standards/open-standards*) approved on 01 June 2006. For more information see: *http://en.itst.dk/it-architecture-standards/open-standards* and Table 4 of this report.
41. In response to the finding that web developers can find it difficult to apply the existing guidelines, the Government has launched an improved online guidance about how to interpret the requirements of the Web Content Accessibility Guidelines (WCAG) so as to help web developers in their practical use of the recommendations for accessibility on websites.
42. For more information on the Web Content Accessibility Guidelines 2.0 (W3C recommendation of 11 December 2008) visit *www.w3.org/TR/WCAG/*.
43. IT ipractice. Rambøll Management Consulting (2009).
44. OECD (2009), *Rethinking e-Government Services: User-centred Approaches*, OECD, Paris.
45. National IT and Telecomm Agency (2009), Status on implementing Web 2.0 technologies in government.

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Chapter 5

Realising the Benefits of E-Government

The Danish government recognises the use of ICT as a prerequisite for the public sector to efficiently and effectively complete its tasks, achieve its goals and meet the expectations of citizens and businesses. This is why it regards e-government as being fundamental to reforming the public sector and to sustaining high improved service delivery and has adopted tools and strategies to ensure the full harvesting of these benefits. For instance, the business case model used by the Danish Ministry of Finance – based on international standards for ICT projects and business cases – is a key tool to deliver a financial overview and allow the users to compare the planned value and objectives to the estimated costs and investments. The value of the business case model could be enhanced by expanding its current focus on the efficiency of administrative processes and on the financial measurements and requirements to embed the follow-up on the realisation of the more societal, qualitative and policy oriented benefits. A revised business case model could also be used to enhance a more effective management across the government, including breaking down stove-piped working habits. Likewise, the government is not fully exploiting the opportunity of using e-government to share citizens' information, while complying with privacy and security obligations. Better use, and flow, of public sector information within and across levels of government is needed as well as a stronger clarity on who is the primary holder of core data across the government and on how it can be accessed or reused by multiple and endorsed parties to better meet the needs of citizens, businesses or government. The e-government benefits realisation and success is not always secured as government institutions do not always have the competencies and skills required to harvest the full value of existing e-government projects, particularly in the case of large ICT projects.

Benefits realisation	
Key assessment	Proposals for action
• There is a risk factor for large ICT projects linked to an inadequate availability of competencies and skills in the public sector. This situation has a negative impact on the benefits realisation and on programme success in the public sector and where the government institutions do not always have the capacity to fully harvest the full value of existing e-government projects. • The business case model used by the Ministry of Finance – based on international standards for ICT projects and business cases – delivers a financial overview and allows the users to compare the planned value and objectives to the estimated costs and investments. However, it is perceived as being used with a main focus on the efficiency of administrative processes. This narrower focus may make it more difficult for the government to harvest the full efficiency gains from e-government projects and to use this tool as an effective driver for necessary changes of processes and work habits. Additionally, it pays limited attention to the impact on citizens and businesses and to the prerequisites for increased user take-up when choosing the most adequate e-government solution. The business case model is precise and detailed regarding the financial measurements and requirements but less detailed regarding how to follow-up on the realisation of the more societal, qualitative and policy oriented benefits. The current focus of the business case model, while relevant, should not be the only driving aspect. A revised business case model could be used to enhance a more effective management across the government, including breaking down stove-piped working habits. • The government is not fully exploiting the opportunity of using e-government to share citizens' information, while complying with privacy and security obligations. Better use, and flow, of public sector information within and across levels of government is needed as well as a stronger clarity on who is the primary holder of core data across the government and on how it can be accessed or reused by multiple and endorsed parties to better meet the needs of citizens, businesses or government.	• **Consider focusing on further developing capacities and competencies to ensure full exploitation and leverage of e-government projects.** The government could place a stronger focus on competencies and skills renewal, which would mean developing core competencies and skills to meet and support the growing demand in the public sector on project and programme management and design related issues, particularly in the case of large ICT projects. This would enable the government to match the capacities available within the public sector with the ICT demands, to ensure support for e-government implementation as well as advances in the modernisation agenda. • **Ensure the full exploitation and leverage of e-government projects** – such as the citizen and business portals – and of the associated capabilities at all levels of government would be important. The government could for instance identify and prioritise future ICT enabled requirements and strategic and tactical investments – including seed funding of ICT initiatives – particularly those that are cross-agency. This could provide the opportunity to target economic benefits, even when this means moving from big contracts to smaller pilot projects. • **Improve information and data management could be achieved by:** ❖ Adopting an information policy covering major areas concerning public information management. ❖ Improving the structure and arrangements for data identification and management through the nomination of lead agencies responsible for retaining and managing those elements of data. This would enable the public sector to separate services from data ownership (*e.g.* having a leading institution) would support shared services – for example in hospitals). ❖ Applying the principle of sharing information and data which means that re-use could be promoted and applied increasingly and lead to the abolishment of siloed approaches, thus avoiding duplication of unnecessary data storage within different government institutions.

Benefits realisation	
Key assessment	Proposals for action
	● **Considering revising the business case model and the benefits realisation tools such as:** ❖ Developing, adopting, applying a business case model that better takes into account a broader set of criteria that sustain the selection of projects supporting a whole-of-government perspective. The aim would be to bridge the gaps between citizen and business interests on one side and the government's view in the choice of the digital solutions on the other. Such a business case model could also provide for taking input from end-user consultation into consideration, as appropriate, and for the identification of what needs to be integrated in order to reap the benefits of projects, both in terms of traditional (administrative) efficiency and broader efficiency and effectiveness considerations. ❖ Increasing the use of benefits realisation tools (*i.e.* benefits profiles, benefits maps, benefits realisation plans) to identify the distinct outcome and benefits from projects. This implies using ex post assessment tools for a coherent monitoring, evaluation and follow-up on projects.

Benefits realisation of e-government projects

The Danish government recognises that an effective and efficient use of ICT is a prerequisite for the public sector to complete its tasks, achieve its goals and meet the expectations of citizens and businesses. This is why it regards e-government as being fundamental to public sector modernisation and reform, to improved efficiency and effectiveness in government's operations and to the sustainment of improved service delivery. The previous chapters of this report have highlighted the general trends and a number of specific initiatives adopted by the Danish government to strengthen e-government through a more open dialogue between the citizens and the public sector, and a closer co-ordination and co-operation across levels of government. To achieve more user-focused and more cost-efficient services and to reduce bureaucratic burdens, the government has focused on the use of e-government with an integrated back-office and to implement a number of initiatives on labour saving technologies and solutions in the public sector. The purpose of this is to ensure the realisation of e-government benefits. The actual impact of e-government programmes on the functioning of the public sector and on the society at large can be assessed by investigating the benefits achieved by e-government projects. This chapter will look at the challenges encountered by Denmark and its main achievements in realising the benefits of e-government projects.[1]

The 2005 "OECD Country Study of E-Government in Denmark"

In order improve the overall framework supporting e-government implementation, the 2005 OECD E-Government Study[2] suggested a number of proposals for action. Among these was the possibility of making certain aspects mandatory in the back-office and work out mechanisms for long-term sustainable funding of activities and projects that run over several years – and depend on broad political backing – to ensure their support regardless of the changes in government and a systematic monitoring of expenditures. The study also recommended the development of a commonly applicable model for financing e-government initiatives and the adoption of more robust means for measuring results. Moreover, it suggested a monitoring of the effects of increasing centralisation and the increasing use of mandatory aspects of e-government in relation to public management in general. The OECD study also recommended examining the need to improve supply and demand of ICT skills, continuing the work on enterprise architecture and focusing on incentives for its implementation, considering a major independent review

Table 5.1. **Actions adopted by the Danish government in response to the OECD proposals for action**

OECD Proposal for action	Actions taken by the Danish government
2. Make certain aspects of e-government mandatory	Several initiatives have been launched. First of all, the Business Case Model for IT-projects has been made mandatory for all state e-government projects over DKK 10 million. Secondly, forms covering about 50% of all business reporting have been made mandatory to send electronically by 2010/2011. Finally, a project of mandatory enterprise architectural standards has been carried out.
5. Ensure mechanisms for long-term budgeting are working out	From 2005 to 2007 the budgeting system at the state level was transformed from an expenditure based accounting and appropriation system, to a cost based system. This has improved the local possibilities for financial management, and has introduced new options for coping with long-term budgeting in terms of including the annual costs of investments in the yearly budgets.
6. Improve the use of business cases for e-government and systematic monitoring of expenditures	A new business case model was developed in 2007 and has been implemented at state, regional and municipal level. Great communication efforts have been made. The model is obligatory at the state level. Several initiatives regarding monitoring expenditures have been made, regarding the state and regional administrative IT and infrastructure. Furthermore, monitoring of budget overruns on chosen state projects have been made as part of the study on economic aspects of IT-projects.
7. Develop a commonly applicable model for financing e-government initiatives	In 2006-07, a new financing mechanism concerning e-government was agreed between the state and respectively the municipalities and the regions – the so called "*digidut*" principles.
11. Develop more robust means of measurements	Once a year, the progress of e-government in Denmark is evaluated by Danish Statistics. Furthermore, it is worth noting that once a year a consultant agency (Ramboll) measures the progress of e-government in Denmark on behalf of the government. In addition, a tool to organise a systematic follow up on e-government projects is offered by the business case model. The Danish Commerce and Companies Agency has also developed a tool that gives data every 20 seconds on about 90% of all business reporting done to the public sector. Finally, the Ministry of Science, Technology and Innovation has also developed a tool to measure the effects of e-government projects.

Table 5.1. **Actions adopted by the Danish government in response to the OECD proposals for action** *(cont.)*

OECD Proposal for action	Actions taken by the Danish government
12. Monitor the effects of the increasing centralisation and the increasing use of mandatory aspects of e-government in relation to public management in general	Several initiatives have been launched to achieve a greater centralisation of e-government solutions, *e.g.* some of the central initiatives of the strategy. Furthermore, as part of the strategy, an initiative regarding obligatory architectural standards has been carried out. The result, however, has been that public agencies were primarily looking for advice and guidelines rather than obligatory standards. The issue of mandatory standards regarding architecture and investments in e-government projects is still under consideration.
15. Examine whether there is a need to improve demand and supply of ICT skills	Since 2006, the Ministry of Science, Technology and Innovation has carried out annual measurements of the level of IT skills among the Danes. The measurement tool is known as the "IT barometer". The IT barometer for 2009 showed that three fifths of the population assessed their IT skills as medium to good. However, a part of the population has still not taken IT to heart. One fifth of the population has never used a computer, and one fifth only makes limited use of them. Measurements will continue to be carried out in the years to come.
16. Continue the work on enterprise architecture and focus on incentives for implementation	As part of the e-government strategy, a central initiative on enterprise architecture FORM has been launched. As part of the initiative, all the services the public sector delivers to citizens and businesses have been outlined. FORM has its own virtual editorial office that maintains the overview of the services of the public sector – the project as well as the virtual office is joint cross government collaboration. The overview is continuously used by the citizen and the business portal among others. Furthermore, this overview has been the point of departure for establishing the digital domain boards and identifying their respective domain areas. Generally, the Digital Taskforce has great focus on developing enterprise architecture in relation to specific projects and actual implementations, rather than developing general guidelines on enterprise architecture.
18. Consider a major independent review of the impact that KMD is having on the e-government and the competiveness of the Danish ICT market.	In 2008, KMD was sold and thus is no longer owned by the municipalities. This was due to a political decision among the municipalities. Local Government Denmark has since established a new organisation called *Kombit*, which shall attempt to co-ordinate municipal requirements for digital solutions.
20. More focus on the relation between online and offline channels: develop a common design manual for websites; Develop a single portal for citizens; Develop a multichannel strategy	In 2008, the citizens portal was launched with a "My page" and personalised information. In that respect, joint government guidelines regarding building of services, integration of services and the look and feel of services have been developed. Priorities in respect of a national channel strategy are very much present in the e-government strategy, focusing on the citizen and business portal as the central digital entrances to the public sector. Furthermore, local public agencies are encouraged to develop specific channel strategies for their organisations.
22. Room for improvement of both *ex ante* and *ex post* monitoring and evaluation of e-government. • strengthen e-government monitoring and evaluation by requiring that more information be provided to ministers and the public. • increase the focus on common tools for e-government business cases. • consider including the e-government in the work of the independent evaluation institute.	All measurements of e-government are public and normally presented to the steering committee of Joint Cross Co-operation. Furthermore, once a year a report on the Danish competitiveness is presented for the government and within this report, the status of e-government is present. For business cases tools, see Proposal 6.

of the impact of the presence of KMD – the former *Kommunedata* on e-government implementation and on the competiveness in the Danish ICT market. Finally, the study also raised attention on the importance of

improving both *ex ante* and *ex post* monitoring and evaluation of e-government by requiring that more information be provided to ministers and the public focus on common tools for e-government business cases and by including e-government in the work of an independent evaluation institute.

The economic settings and context for the e-government initiatives

The following sections describe the measures taken by the Danish government to ensure the availability of appropriate funding to sustain e-government implementation as well as the development of an environment conducive to the use of ICT and innovative approaches to spur progress in e-government.

Funding e-government

All authorities are responsible for their own digitisation as part of continuous business maintenance and development. This represents by far the largest e-government funding. The joint public efforts (*e.g.* joint-solutions) need separate funding. By mid 2007, new economic settings for the e-government programme were agreed between the state, the regions and the municipalities, *i.e.* the existing joint cross governmental appropriations were changed. The new economic settings were established in relation to the approval of the joint e-government strategy for 2007-10. The new economic settings entail the following:

- DKK 268 million in 2007-10 was appropriated to implement the 35 initiatives of the joint e-government strategy 2007-10.
- DKK 20 million per year between 2008-10 was appropriated to the general activities of the Digital Taskforce, including the financing of ten employees.

These appropriations are all joint cross-government appropriations financed equally by the state, the regions and the municipalities. The DKK 268 million used to finance the initiatives of the e-government strategy 2007-10 does not equal the actual amount spent on the implementation of the strategy. Of the 35 initiatives, the most central initiatives are financed by the specific joint cross government appropriation. However, other initiatives are financed by the specific parties, *e.g.* the Ministry of Finance (initiative on public registers), the Ministry of Economics and Business (initiative on the business portal), and Local Government Denmark and Danish Regions (on digital leadership). Furthermore, specific initiatives have achieved additional joint cross government appropriations in the yearly political negotiations concerning the budgets of the municipalities and the regions. An example is the appropriation of a new ICT security infrastructure (PKI infrastructure) supporting digital signatures worth DKK 205 million in 2009-14.

The e-government programme is not limited to the 35 initiatives which are part of the national e-government strategy, but it is the result of a number of e-government initiatives implemented across levels of government. These initiatives support political agendas[3] such as efficiency and effectiveness, modernisation and quality development in the public sector, and are crucial tools for enhancing the development of less labour intensive service provision.

Moreover, the fund for assistive technology, *i.e.* the PWT Foundation, previously known as the ABT-fund[4] which aims at co-financing investments in projects that seek to employ new technology and innovative ways of working and structuring organisations, contains DKK 3 billion for the period 2009-15. Public institutions can, alone or in partnership with private firms, seek co-financing for projects that support less labour intensive working practices within the public sector. The aim of the fund is to be able to realise a profit bigger than the initial investment of approximately EUR 400 million by 2018[5] in labour saving solutions.[6] There are several reasons behind the decision of the Danish government to focus on the use of labour saving technologies in the public sector. First of all, Denmark is facing the same demographic challenge of ageing as other OECD countries *i.e.* there will be fewer public sector employees and more elderly people for the welfare state to take care of.

Box 5.1. **Projects supported by the PWT Foundation (supporting investments in labour-saving welfare technologies in the public sector)**

The following projects have been supported financially by the PWT Foundation:

- Test of new workflows with tele-medical consultations and common systems for documentations in the treatment of venous and mixed wounds. (DKK 1 million)
- Test of technologies to lift and shift lying positions of patients. (DKK 22.5 million)
- AmbuFlex: Demand-driven patient treatment with web-based clinical self-monitoring. (DKK 0.64 million)
- Labour-saving in public construction cases. (DKK 15 million)
- Laboursaving technology and organisation of pacemaker/ICD-control (DKK 2.8 million)
- Automated sterile central. (DKK 12 million)
- Automising molecular pathological FISH studies. (DKK 1.3 million)
- Automising case handling. (DKK 37.4 million)

Box 5.1. **Projects supported by the PWT Foundation (supporting investments in labour-saving welfare technologies in the public sector)** *(cont.)*

- Better ward rounds in own home. (DKK 22.8 million)
- Centralisation and digitisation of housing support and benefits for families with children. (DKK 2.7 million)
- Demonstration project on the use of GPS systems for people with dementia in own homes. (DKK 2.5 million)
- Demonstration project on using robot vacuum cleaners in elderly care centres. (DKK 4.5 million)
- Digital reservation for child care. (DKK 2.1 million)
- Digital reservation for GP consultations and access to case files. (DKK 0.9 million)
- Digitisation of maternity guidance. (DKK 2.7 million)
- Digitisation of day plans for people with autism. (DKK 7.5 million)
- Digitisation of the disability and adult sector. (DKK 7 million)
- Donor self-booking and the digitisation of donor registration and blood donations. (DKK 4 million)
- Electronic lock entities. (DKK 9 million)
- Establishing a modified "just-in-time" concept for The New University Hospital. (DKK 2.1 million)
- Shorter hospitalisation through quicker and better diagnostics. (DKK 11.2 million)
- Common medicine card. (DKK 80 million in 2009; budget reservation of 119.6 million in 2010)
- Re-use of administrative patient data for measuring the quality of health services. (DKK 3.05 million)
- Quick access and single sign-on for mobile doctors and nurses. (DKK 6.0 million)
- Introduction of electrical elevation pelvics/bath chairs in the area of patient care. (DKK 3.1 million)
- Intelligent and trust-based initiative towards private businesses. (DKK 16.5 million)
- IT support to the Common Acute Reception Unit (*Fælles Akut Modtage Enhed* (FAME). (DKK 3.1 million)
- IT support to time and operations planning. (DKK 11.7 million)
- *Mobilplanforalle.dk*. (DKK 1.4 million)

Box 5.1. **Projects supported by the PWT Foundation (supporting investments in labour-saving welfare technologies in the public sector)** *(cont.)*

- National penetration of tele-medical assessment of wounds. (DKK 9.1 million)
- New organisation of the task "get up from the floor after falls" in the home care sector. (DKK 0.5 million)
- Online home nursing – net-booking in home nursing. (DKK 3.5 million)
- Towards digital handing in and assessment of written tests. (DKK 4.5 million)
- Patient suitcase for rehabilitation in own home. (DKK 1.46 million)
- Pilot project on the use of video conference equipment especially in cases for extensions of deadlines. (DKK 7.8 million)
- Safe identification of patient tests. (DKK 1.3 million)
- The Strength Suit. (DKK 2.1 million)
- Technology for self-activation for retarded and multi-disabled adults. (DKK 1.6 million)
- Tele-pathology and digital image storing. (DKK 2.1 million)
- Tele-interpretation in the health sector. (DKK 41 million)
- Washing and disinfection system for beds and toilet helping devices. (DKK 0.8 million)
- Video-based citizens service. (DKK 1.5 million)
- Elderly and disabled friendly toilet. (DKK 5.6 million)

Additionally, the Danes have increasingly higher expectations regarding the quality of the public services provided. Finally, the government is fully aware of that it needs to adopt new solutions to maintain the current level of public service provision to citizens and businesses.

The PWT Foundation, faces three key challenges:

- It is rather difficult to get high-quality project applications from all areas of the public sector as some sectors have more experience in writing good applications than others.
- The projects' applications need to demonstrate a likely productivity gain as it is not enough for the projects to demonstrate a raise in the general service level
- From 2009 on, pilot projects that demonstrate a positive business case will be implemented nationally; therefore, it is necessary to monitor the pilot projects closely and gather sufficient documentation without creating too much red tape in doing so.

The interviewees indicated that the PWT Foundation, was conceived as a good system but it is getting too bureaucratic. They have the impression that it is too cumbersome to develop an application to the standards required for its acceptance, and that it is difficult to demonstrate from the beginning the productivity gains as these are difficult to be estimated with the requested certainty up-front. Interviewees believe, therefore, that if more applications to put forward innovative projects are to be expected, more flexibility should be shown. The PWT Foundation recognises that the application process can be perceived as quite demanding. However, the rationale behind the process is that the projects are to be implemented nationally in a later phase. In order to do so, it is necessary to gather a sufficient amount of data on the projects. Otherwise it would be difficult to convince Local Government Denmark or Danish Regions that ideas are good and should be implemented nationwide. Even though the experience so far with the application process is positive, in the sense that the PWT Foundation has received more than 100 applications in the biannual application rounds, it would be important to find a balance between the concerns of the applicants and of the foundation.

In addition to goals such as electronic communications and accessible and coherent electronic services – which are targeted through a number of initiatives such as the eDay3[7] – and the achievement of economies of scale – gained through a more integrated provision of ICT services throughout the public sector[8] – the priority area for better e-government services of the national e-government strategy sets an agenda for a number of other key themes relevant to the digitisation of the public sector. Issues such as compulsory digitisation, re-use of data via system-to-system solutions are addressed through a number of initiatives and projects (outside and within the national e-government strategy) that aim to realise the benefits of e-government.

Better use of public resources

The project on immediate settlements, which focuses on the identification of fields where settlements can be handled faster and more efficiently in the back-office realising economies of scale (*e.g.* creation of enterprises, tax reporting, address changes), exemplifies a number of initiatives on which the Steering Committee has wished to put more focus in order to reprioritise the funding for e-government projects. The idea is to reorganise processes and operations to improve the use of public resources, provide better services and improve the funding allocation to e-government projects to ensure that benefits are realised. For instance, the government is aware that moving from a contact-based, or face-to-face, service delivery to a more automated interaction with the citizens requires efforts to ensure an adequate process mapping, including the use of lean methodologies[9] and the provision of services easy to access and use.[10] It is characteristic how in

many instances the government took the lead to develop initiatives aimed at realising e-government benefits and then negotiated with the subnational levels to ensure that this was followed (*e.g.* based on the establishments of the Shared Service Centres at the state level, the Ministry of Finance together with the Danish Regions and Local Government Denmark are carrying out analyses of respectively the regional and municipal administrative services to see if a similar structure would lead to economies of scale with similar cost-savings potential at the subnational level too).

It is also interesting to see the efforts made by the Danish government to monitor and improve the funding mechanism in specific thematic areas, such as in the health sector. In the third quarter of 2008, the Danish government and the Danish regions decided to begin an analysis of the use of ICT in the health sector. The goal of the analysis was to provide a general model for funding ICT investments in health welfare both at the state and regional levels, and joint public investments. Based on the current and projected expenses for ICT in the health sector, the model seeks to qualify and prioritise the digitisation efforts in accordance with the current challenges and needs in health sector, the economic appropriations of the sector and possible efficiency gains derived through investments. The analysis to be concluded by April 2010 is intended to provide a governance model with a division of assignments reflecting the proposed model for funding, which at the same time shall meet future challenges of co-ordination, prioritisation, and prospective development in e-health and expectations in terms of profits realisation. The analysis also focuses on optimising the work processes in the health sector at both state and regional levels.

Budgetary barriers

The funding mechanism for e-government projects has limited flexibility according to interviewees from all levels of government and provides limited incentives for innovation. For all projects with a budget above EUR 10 million, a business case is required. For projects with a budget of more than EUR 60 million, the Ministry of Finance has to prepare a business case for the Finance Committee as according to the Danish budgeting system large e-government projects have to go before Parliament.[11] It is often the case that by the time projects are approved, the budget has changed. In fact, when the agencies present the projects and set the budget they do not always have a complete view of what the real costs are, *e.g.* changes in the budget may occur, because the ICT system to be used to implement the project may have changed. As a result, the revised budget has to be submitted to the parliament causing delays in the implementation. Moreover, interviewees claim that in some areas the digitisation could have advanced more if they had received seed funding at the beginning.

The current system requires the agencies to already have the funds needed to start a project. IT projects are therefore financed by the individual authorities through their main budget. In the existing system, each ministry has access to loans within set limits which are regulated by the Ministry of Finance. This access is managed independently of the concrete projects, and the decision to use the loans for specific projects is at the discretion of the individual agencies. In the case of cross governmental projects, a consensus on the projects has to be reached among various agencies that will have to fund the project. Interviewees feel that this is not always easy as they have to work on building consensus before ideas and projects get funded. Moreover, many interviewees underlined that they would like to see the investments and costs shared at first when they apply for loans. In their view, they could receive some seed funds initially to start up projects and prospective earnings and then receive the real financing for the implementation once the idea is proven feasible and has been approved. They believe that such a financing mechanism could be more efficient.

Finally, the sow-harvesting problem[12] is also perceived as a systemic challenge, as the interviewees found it difficult to identify who is actually benefiting from the e-government projects. Trying to have a business case as precise as possible on the potential financial returns of the investments could possibly help tackle this matter. In relation to this matter, they also observe that the risks are not systematically identified, nor do the politicians seem ready to accept them. The overall impression of the various players is, therefore, that finding the funding is a lengthy and tedious exercise. Additionally, interviewees indicated that as the returns on the initial investment often come after two to three years, it is very difficult to demonstrate up-front the potential for gains as it is needed to obtain the funding. This perceived loss in terms of time between the moment the financing is requested and when the effective gains are shown in the view of the interviewees has a negative impact on the projects management cycle. Finally, some interviewees also expressed the desire to see stronger government efforts to ensure that the savings achieved through innovative projects remain within the agencies that invested in the implementation of those projects. Currently, the option to keep the savings exists in the case of projects at the state level which are managed internally. With regard to regions and the municipalities, the incentives differ, depending on what is digitised and if the gains are subject to DUT. The gains of IT projects typically stay in the municipalities (the mutuality agreement), but are recognised as extra funds for service improvements.

The Danish ICT market

The Danish government has tried to create a multivendor market by ensuring the use of defined standards, general tender procedures and joint solutions. However, the interviewees observed that the ICT market in

Denmark is perceived as being closed, restricted and not competitive. Interviewees expressed their wish for this to change in the future and for the market to be more open. These conditions apparently limit the interest of the private sector in doing business with the government. Interviewees indicated they would like to have more suppliers in the market, international and national, the latter developed also thanks to incubators.

With regard to the ICT market at the municipal level, the interviewees were of the opinion that it remains fairly closed as a result of the role that KMD[13] played until recently. KMD was owned by the municipalities and was the only provider of core ICT services for the local government. It was then privatised and *Kombit*[14] was established to focus on ICT governance at the municipal level, and with the specific mission to help ensure that the solutions the market develops are suited to the needs of the municipalities. The role of KOMBIT is to strengthen the "buying power" of the municipalities in the ICT-market, and this initiative shall be acknowledged as being a key strategic move to strengthen the municipalities' awareness and decision making independence with regard to ICT in a context which is still dominated by KMD. Although KMD is not the only provider on the market it has *de facto* monopoly on some service area. Interviewees believe that this is also due to the fact that KMD still influences the definition of the solutions' specifications to be developed and deployed at the municipal level and to the fact that it still has control over key public data[15] which it still gives the impression to regard as its asset as opposed to seeing it as a public value. In addition, there are framework agreements with private companies so that the market is not really open.

KMD has played a significant role in the progress of e-government implementation at the local level in the past ensuring – or having the capability to ensure – interoperability and duplication and/or proliferation of systems according to the interviewees. However, it has been the impression that the municipalities to some extent did not sufficiently take ownership of their own e-government development, leaving much of the policy-oriented and strategic decisions to KMD. Interviewees anticipated that the municipalities will probably have a stronger voice in the future but for the moment, awareness and support for ICT among the political leadership is considered limited.

According to interviewees, fostering ICT capacities and raising political awareness at the local level by showcasing good practices through the benchmarking of ICT use by the municipalities could be an option to create incentives, even though it cannot be used as a stand-alone tool.

Supporting the use of ICT in small and medium enterprises

Aware that ICT plays an increasingly important role in increasing business productivity and innovation – which applies not only to the ICT

industry itself, but also to businesses in a wider sense – the MSTI has tried to boost the use of ICT in the small and medium-sized enterprises (SMEs) through the establishment of the IBIZ-Centre,[16] – the "Innovation Centre for eBusiness". As SMEs play an important role in the Danish industry, their innovation capacity represents a crucial factor in the increase of the Danish industry's competitive power in the global market. It is therefore important to strengthen the SMEs' capacity to innovate, and the Danish government recognises the use of ICT as a major factor here.

According to a study conducted by the Ramboll Management Consulting for the Research and Innovation Agency, there is a clear potential for innovation using ICT, but a large proportion of SMEs do not have the ability to realise this potential. Many small companies, in particular, lack the necessary competencies in relation to ICT development. The study indicates that 25% of the SMEs did not achieve innovation outcomes in the period evaluated partly because a large number of them face significant barriers in relation to ICT-use such as the lack of the required ICT skilled workforce. At the same time, the study shows that companies that follow best practices and implement new ICT solutions are those that achieve the best results. According to the study, the companies showing best performances have a more holistic approach in relation to the implementation of ICT and tend to involve customers and suppliers in innovation processes – relying on ICT supported collection of data on customer experiences with innovative practices – and are more aware of the value of ICT use within the company. The study suggests that there is a need to renew and strengthen the effort to enhance the awareness and capacities of the SMEs, since the widespread and informed use of ICT is vital in ensuring that the Danish business community can take full advantage of e-government benefits to respond to customers' changing needs, create value and meet the challenges from global competition.[17]

Fostering innovation

In November 2006, the government, with the support of a majority in Parliament, earmarked DKK 100 million annually between 2007 and 2009 for a special programme on User-Driven Innovation under the theme "Denmark as a leading innovative society".[18] The purpose of the programme was to enhance the development of new products, services, concepts and processes of both businesses and public institutions through greater use of user-driven innovation. User-driven innovation is about engaging users in the process through new ways. By focusing on present and future needs of users, creating products and services that more accurately and efficiently meet those needs, innovation solutions are designed which are more likely to increase satisfaction among users. Thus, user-driven innovation is considered by the Danish government as an important tool to strengthen

competitiveness of Danish industries and to create better welfare solutions within the public sector. An external interim evaluation of the preliminary results of the programme, run in April 2009, showed that small businesses in particular have benefited from the programme. The overall conclusion of the mid-term evaluation is that the programme helps to make Danish companies and public institutions more innovative. Of the participating companies, 72% will develop new products, services or concepts, 36% have already done so. In the public sector, 82% of the institutions will develop new products, services or concepts and 32% have already done so.[19]

A general Business Case Model for digital projects: A tool for decision making and effects measuring.

An overall assessment of the effective realisation of e-government benefits starts by understanding how they are perceived and what the expectations of the government are. It also requires an analysis of the business models and methodologies used nationally to measure and evaluate the achievement of specific benefits as well as the overall impact of e-government projects. The sections below describe the methodology and tools adopted by the Danish government to ensure an efficient and effective management of e-government projects and thus ensure the realisation of the expected benefits.

The general Business Case Model[20]

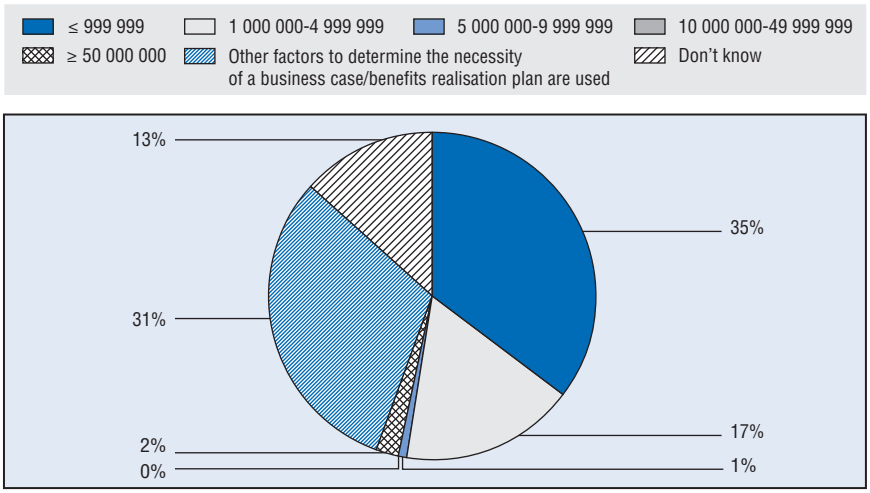
The general Business Case Model – a tool for better and more transparent decision making and effects measuring – was developed by the Digital Taskforce on behalf of the parties from the STS in collaboration with the Ministry of Science, Technology and Innovation, Local Government Denmark (LGDK) and the Danish Regions as part of the national e-government strategy 2007-10.[21] It works as a tool for risk assessment, decision-making support and prioritisation, also through return on investments and Net Present Value, in relation to the approval of planned e-government projects. Since April 2008, the use of the general Business Case Model has been mandatory to use for all central government agencies when starting up new e-government projects with budgets equal to or higher than DKK 10 million while for other projects the principle "comply or explain" is applied. The use of the general Business Case Model is also recommended for e-government projects at the subnational level.

Initially used mainly with the purpose to improve project design, the government expects the business case model to contribute to the improvement and decentralisation of project management, to establish a common understanding of what a business case is, and to ensure that investments lead to economic or qualitative effects which can be measured.[22] As such, the general Business Case Model is regarded as an evaluation and

monitoring tool for *value-creating investments* that focus on the business aspects of the ICT solution being used. It was made for e-government projects (*i.e.* any project where a part of the expenditure is on ICT) and the idea behind the development of the business case model is that through its continuous use the project manager is forced to deal with a number of important and relevant issues, and to affirm the project's potential. The model is thus expected to maintain the balance between costs, functionalities and risks, and should be used continuously throughout the project cycle. The general business case model consists of two documents, a primary document[23] and a spreadsheet document (the business case spreadsheet).[24] The estimated time for its completion is one week, but the interviewees are of the opinion that the user guidelines could be clearer and more thorough.

In consideration of the fact that the use of the business case methodology (or benefits realisation framework) is mandatory only for specific project budget levels for which a public organisation will need to provide a formal business case analysis or show a benefits realisation plan – either internally set or externally demanded – it is interesting to note that even "small" budget projects (below DKK 1 million) are using a business case methodology/a benefits realisation framework (according to 35% of the respondents, see Figure 5.1). This shows that among Danish public sector actors, the use of formal cost-benefit assessment methodologies is accepted and used where possible.

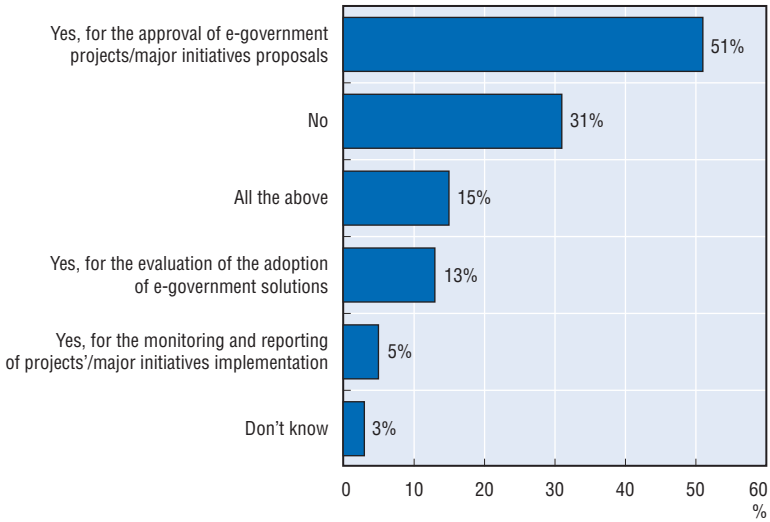
Figure 5.1. **Project budget limits for the use of a formal business case methodology/benefits realisation framework**



Source: OECD survey of e-government in Denmark 2009. *Question 2.5 If yes, what is the projects value amount for which your organisation requires any type of a benefits realisation plan (in Danish kroner)?*

In relation to the use of the business case model, it is also interesting to remark that 84% of the respondents from the municipal level provided a positive answer to the question on the use of the business case model even though its use is not mandatory for the local government agencies (see Figure 5.2)

Figure 5.2. **The use of Business Case Model by the Municipalities**

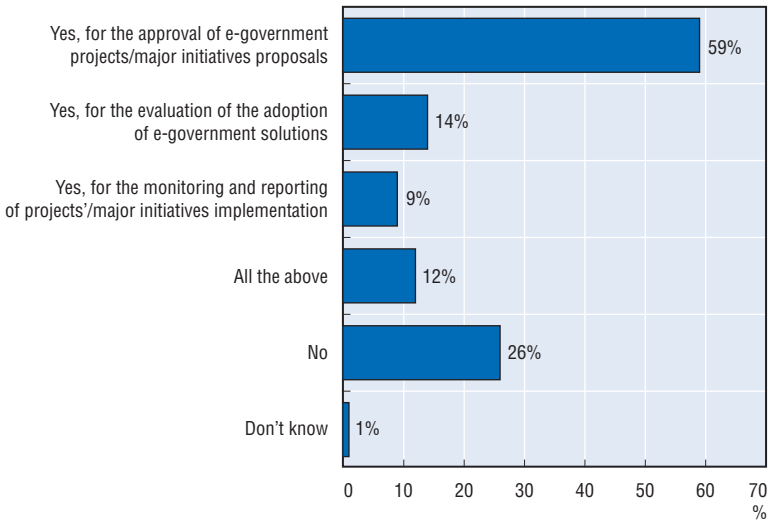


Source: OECD survey of e-government in Denmark 2009. *Question 2.4 Does your organisation apply a formal business case methodology/benefits realisation framework even when the use of it is not mandated by the central level of government? (Responses provided by the representative of the municipal level)*

Figure 5.3 shows that 59% of respondents to the OECD survey are using a formal business case methodology and/or a benefits realisation framework for approval of e-government projects or major proposals of initiatives; 14% answered that they use those methodologies for the evaluation of the adoption of e-government solutions, and 9% use those methodologies for monitoring and reporting purposes. It is interesting to note that 26% – or more than a quarter of the respondents – answer that they do not use any methodologies to assess costs and benefits, meaning either that projects are so small and "obvious" that decisions are taken without further analyses, or that it is not part of a systemic and structured approach to the project cycle.

Even if the interviewees representing the various levels of government and holding a broad range of positions and representing different domains unanimously recognise the importance of having a general business case model common to everyone, most of them think that the general Business Case Model should be revised for several reasons. The first argument

Figure 5.3. **The use of formal business case methodology/benefits realisation framework**



Source: OECD survey of e-government in Denmark 2009. *Question 2.4 Does your organisation apply a formal business case methodology/benefits realisation framework even when the use of it is not mandated by the central level of government?*

mentioned by them is that the general Business Case Model is too financially oriented. Many interviewees believe that a focus on cost-cuts and efficiency gains in the public sector cannot be the only aim as it risks narrowing the approach which could instead include a broader perspective (*e.g.* more societal gains) and thus avoid creating problems of e-inclusion.[25] Interviewees believe that the business case model used by Denmark suits the identification of whether business cases are financially sound but it is less suited at spotting benefits from a societal perspective. They believe that as it looks more at the financial aspects, it does not focus on the real benefits for the users (*e.g.* reduction in administrative burdens for businesses).[26] In the interviewees' perspective this is the result of having an e-government agenda strongly driven by efficiency gains, *i.e.* the political aim of freeing resources through e-government to develop better services for businesses and citizens which became a strong determinant for the definition of the Danish e-government programme, as well as the main link between the e-government and the public sector modernisation agendas.

Many interviewees would like the government to increase the focus on how to use e-government to enable better performance in core business areas (*e.g.* healthcare, education and better decision making) where "better" does not necessarily mean cutting costs. This would imply embracing a wider notion of efficiency, whereby increased efficiency is not only measured in

terms of possibilities "to do more with less" but also in terms of opportunities to reach out to higher numbers of citizens or to vulnerable segments of the population. For instance, many interviewees mentioned that ICT could be used to redefine primary and lower secondary education. This would lead to better education rather than solely to administrative gains measured in terms of time and money saved through to the use of ICT. In such cases, the focus would be on how to create new learning opportunities through ICT, how to use ICT to ensure the same learning opportunities are offered to all students, how to enable the teachers to provide better content and in a better way, as opposed to being on how to reduce the time needed by a teacher to conduct its administrative task.

The case of e-health was also mentioned during the interviews as it is felt that a business case model defined on the basis of cost savings and an efficiency agenda, rather than driven by a wider vision, does not always suit the selection of the best projects in areas like healthcare. The interviewees working on e-health underlined the fact that the health sector is very different from other areas where the Business Case Model can be applied to evaluate the returns of investments based on the measuring of the actual costs and gains of the projects (all gains). When implementing a system in the health sector, the aim is to provide better treatments, better services and improved safety[27] to the patient and not necessarily to cut costs. The medicine card was mentioned as an example of a project having a goal (same treatment everywhere, safety and service are guaranteed) to which the Business Case Model cannot be applied. The interviewees underlined the fact that, though they would like to see the business case taking into account the "warm hand" effects (*e.g.* social benefits), it has mainly been used to assess "cold hand" projects (*e.g.* digital signature), and a balance between the two aspects is made on a case-by-case basis. They are fully aware of the need to prioritise the use of scarce resources but expressed the desire of having a business case model more suitable to the specific needs of the e-health projects too.

Moreover, interviewees emphasised that the Business Case Model does not sufficiently support the assessment of ICT infrastructure projects. Previous experiences have shown that large projects with a large ICT component are often so complex that during the implementation phase, the timeframe for completion changes and costs become higher than expected. According to the interviewees, the Business Case Model does not capture these peculiarities and as a result agencies responsible for the implementation are often faced with the problem of being unable to deliver. Interviewees acknowledge that this creates frustration and in their view it does not provide incentives to develop new projects. Interviewees also indicated the fact that for big ICT projects (*e.g.* in e-health), it is difficult to get funding as the value is shown on a long-term basis.

The Business Case Model creates a basis for taking decisions by showing the best potential for savings. The single ministry's budget is cut on the basis of these estimates and the earnings of the projects are expected to be used by the implementing agency to cover part of the implementation costs. A revised general Business Case Model capable of sufficiently taking into consideration the peculiarities specific to large ICT projects, *e.g.* with the driver for the project being not only achieving savings but also getting an infrastructure that can be shared among public agencies and which can create cross-sector efficiency drives would be better. Having a general model and ensuring a minimum demand for the use of the Business Case Model would help in improving its use. Some of the criticism expressed by the interviewees also focused on the fact that they would appreciate more support in raising the awareness within their institutions on the relevance and importance of using the business case in a global perspective.

Finally, with specific regard to the regions, the interviewees underlined that goals in terms of efficiency may vary among regions and the general Business Case Model used does not take this aspect into account. As a result interviewees believe it hampers the assessment of the benefits a project could produce in the long-term in relation to specific efficiency goals relevant to a certain region. The general Business Case Model looks at economic efficiency gains but it could expand its scope not only to cover sub-national needs, but also to embed other priorities such as the aim to develop critical ICT skills. This implies, however, some strategic thinking in terms of the ICT human capital that the government would like to develop in the public sector. It seems that there is a need for a more "mature" culture supporting a more mature use of the business case model driven by a broader view this could lead to increased efficiency gains in wider societal terms, *e.g.* often projects are not proposed because the business case model would show they would not lead to savings and they would be turned down.

Strengthening the management of ICT projects

The Digital Taskforce in co-operation with the Ministry of Science, Technology, and Innovation (MSTI), the Danish Regions, Local Government Denmark (LGDK) and the Ministry of Finance developed a project model.[28] The model targets public sector project managers, public employees and any other stakeholder involved in e-government project implementation. The aim is to facilitate the development of a common language and to provide a manageable tool for better planning, documenting and managing of digitisation projects. The ambition with the project model, which consists of four phases (*i.e.* the idea formulation phase, the analysis and planning phase, the development and implementation phase, the closing and evaluation

phase) and is available in a pdf-version and on line,[29] is to offer simple guidelines to improve project management.

The National IT and Telecom Agency has also developed several tools in order to strengthen the ability of public authorities to successfully manage ICT projects so as to derive maximum value from the projects and ensure widespread use of ICT in completing their tasks. In 2007, the National IT and Telecom Agency developed a tool for the measurement of public ICT projects. The aim of this tool was to make public sector managers capable of measuring the broader effects of e-government projects.[30]

Monitoring the management and the implementation of large-scale ICT projects

In consideration of the fact that various ICT initiatives have exceeded both budget and time limits, the government established a committee to look at how to improve the planning and implementation of government IT projects. The mandate of the committee was to identify the extent and key causes of budget and time overruns in large-scale ICT projects as well as the extent to which ICT projects meet stated goals. The committee was also to identify best practices in managing IT projects and other capital investment projects, and to propose possible courses of action for realising higher levels of success in handling future IT projects and in interacting with external advisors and vendors. The assessment studied nine projects, interviewed project participants, vendors and advisors, analysed leading private sector companies, and established an "Advisory Group" of CIOs, CEOs, CFOs and HR-directors from large private companies. The preliminary results of the assessment point out that state institutions often undertake initiatives which are too risky compared to these institutions' project maturity and resources and that the private sector is more successful in managing large-size projects. In general, procedures across ministries, for example concerning the budgets, do not support systematic management and follow-up – as opposed to private sector good practices – and risk-management is not linked to follow-up on budgets. There are low levels of ICT maturity and low levels of cross-government support for ICT projects. This leads to a high level of reliance on external advisors and vendors, even though the study also observes that the interaction with external vendors is marked by many hurdles, mistrust and mutual reproach.

The government also completed a study[31] on the economic perspectives of ICT projects. The study attempts to assess the extent of financial and time overruns and lack of delivery of government ICT projects. Furthermore, it attempts to describe best practices when carrying out ICT projects in large public and private companies in Denmark and internationally. On this basis, the study provides recommendations for future planning, budgeting, management, organisation and implementation of government ICT projects.

Assessing the impact of ICT projects

In 2006, at the request of the Auditor General the National IT and Telecom Agency began developing a tool to enable managers to assess the impact of public ICT projects. The tool makes it possible for the individual authorities at subnational or national level to assess the costs of a project in relation to the impact within a number of areas. It is possible to measure not only quantifiable effects such as productivity gains, efficiency and savings, but also effects of a somewhat different nature, *e.g.* it can also be measured whether an ICT project has resulted in increased awareness, greater accessibility or better service for citizens. The tool was completed in 2007.

Assessing the management of ICT projects

In June 2008, the Audit of the State Accounts on its own initiative conducted an investigation concerning the management and impact assessment of five public e-government projects[32] with development budgets of between DKK 20.6 million and DKK 131.5 million. The projects were selected as examples of governmental e-government projects to ensure the representation of various ministries to get a broader picture of the project management capability of the various institutions. The study focused on project management and examined the projects with the perspective of providing an overall assessment of how the five institutions have handled decision-making processes; project management; and impact assessment. The report does not contain a detailed assessment of each of the five projects, but an analysis of them in relation to the following three questions:

1. Is the decision to initiate the project taken on a well informed basis, and are the roles and responsibilities defined for the implementation of the project?
2. Is the institution's project management, including planning and monitoring, of digitisation projects satisfactory?
3. Does the institution seek to gain knowledge about the efficacy of the implemented digitisation projects, and does it make systematic gathering of experiences on project management?

Acknowledging the fact that the development budgets for governmental e-government projects are often large, the report highlights the fact that in recent years there have been examples where it has been necessary to add more resources to ongoing projects as a result of weak planning and management of the projects.[33] This is often justified by the fact that digitisation projects cannot be interrupted when a lot of resources have already been invested. Although the five institutions had adopted a number of relevant management tools used in connection with e-government projects and had defined roles and responsibilities for their implementation, the Audit of the State Accounts' overall assessment was that the management and the

impact assessment of the five projects could be strengthened. The decision-base for launching the e-government projects was in several cases not adequate as the decisions to initiate the projects were not based on comprehensive analyses of risks, or the budget and comparison of benefits and costs and the management of the projects did not always adhere to the basic elements of good project management. In addition, some of the stated project objectives were not sufficiently specific, which complicated management and a subsequent impact assessment. The final assessment[34] was that the project management of the five e-government projects was not fully satisfactory. None of the five institutions had used all the control elements, which the Audit of the State Accounts considers to be part of good project management. In addition, there were weaknesses in relation to the definition of objectives, milestones and compliance with its own monitoring and reporting standards. Most of the institutions intend to implement a comprehensive impact assessment, but did not yet present a concrete plan for doing so. Only a minority of the institutions are now carrying out a systematic collection of experience in project management.

Public sector capacity for e-government projects

There is a strong connection between the availability of the required human capital and the realisation of e-government benefits. The following sections highlight some of the measures that have been adopted by the Danish government to ensure that skilled human resources are available in the public sector to properly manage e-government projects without having to rely heavily on the help of external consultants.

Developing public sector competencies

Aware of the fact that the ability of public authorities to manage ICT is essential for them to be able to run their operations efficiently and effectively, the Danish government has developed a model and tool for the systematic management of authorities' ICT-related competencies to assist them in achieving the full value-added of ICT investments. The model and the related tool developed by the Ministry of Science, Technology and Innovation are intended primarily for the management level of the government authorities, but they can be used by other public or private players wishing to optimise the value of their ICT usage.

Interviewees stated that the public sector could be better equipped to manage e-government projects without having to rely on external consultants, which would enable savings in terms of consultancy fees. Interviewees pointed out the fact that the public sector relies too heavily on external ICT consultants: according to official data, in 2009 the state

administration spent almost DKK 1.8 billion on ICT consultants.[35] Apparently, the capacity available in the public sector to support the development of the skilled workforce required to manage and develop e-government projects (*i.e.* the capacity to define projects outputs, to ensure timely implementation and achievement of results) is not considered adequate. This seems to highlight the need to better ensure the availability of more project managers properly skilled to develop and manage projects with an ICT component.

The availability of internal competencies could, for instance, be addressed by requiring that systems be as simple as possible so that the capabilities internally required are the most common ones and only seldom would specialised competencies need to be outsourced. Ensuring that each agency has a similar system and developing simple ones would certainly help in the availability of the required human resources. Contract management is another area where a more skilled public sector workforce seems to be needed to ensure that the competencies and skills required to manage projects are available and that projects are technology-enabled and not technology-led. A good understanding of contracts and of the associated risks is required in order to be able to manage vendors, which does not always seem to be the case. ICT consultants are hired to deal with these matters and this creates dependency, vulnerability and does not support the development of internal skills.

As previously indicated in this chapter, there is a general competency challenge within the public sector in Denmark in relation to e-government projects' management. In line with this, interviewees expressed their wish to have managers capable of sustaining projects that translate political aspirations into services. These managers should function as change agents ensuring strategic thinking but also the establishment of an environment which enables change. What emerged during the interviews is that it would be desirable to have a team of ICT expert project managers representing various experiences and perspectives (*e.g.* of various regions, municipalities). This would foster a co-operative and co-ordinated effort and would help avoid a fractured approach among the state, the regions and the municipalities.

Measuring the maturity

To enable better management of large public ICT projects, in 2007 the Ministry of Science, Technology and Innovation developed a tool for public authorities and ICT suppliers.[36] The tool gives both parties a better and common basis for assessing their own and their partners' ability to manage a major ICT project and bring it to a successful implementation. At the same time, the tool may be used by private companies in preparing partnership agreements with the public sector on major ICT projects. The tool consists of two models, for measuring the ICT maturity of ICT suppliers and buyers respectively. Maturity models are especially relevant for large high-risk ICT projects involving a great

deal of customisation. The models for measuring the ICT maturity have been prepared in co-operation with the industry associations (Danish IT Industry Association, ITEK/Confederation of Danish Industries, and the Danish Management Board), the Danish IT Society, Local Government Denmark and the Danish Regions. The models are based on market dominant international maturity models which are quite extensive and difficult to use in practice. In Denmark, the models are a pioneering effort, both in a public and private context.[37] It is nevertheless important to underline that the maturity models constitute a foundation for long-term strategic work to improve the ability of authorities to manage and implement ICT projects successfully and efficiently – including the ability to select and manage suppliers in such a way that these will contribute optimally to the projects.

The proper infrastructure to facilitate communication and information access

Enabling communication and information sharing and access is a prerequisite of the integrated delivery of services and of an effective co-ordination and co-operation across levels of government. This requires the establishment of a proper enabling infrastructure as highlighted below.

Open standards

Open standards help ensure that IT systems can communicate with each other while also creating increased competition between the suppliers of these systems. The Government of Denmark has made important steps and taken important decisions with regard to this matter. With a decision approved on 1 June 2006, the Danish parliament asked the Danish government to ensure that public sector use of ICT, including software, be based on open standards.[38] To increase competition the decision stated that, on or before 1 January 2008, open standards were to be established in all ICT areas where technically feasible so that communication between citizens, businesses and the government agencies could be realised in formats based on open standards. The Danish parliament specified this further in a conclusion paper in June 2007, from which it appeared that specific open standards in seven different areas[39] should be mandatory for public procurement of ICT after 1 January 2008. The basic principle is "comply or explain" meaning that any authority which purchases a new system that does not comply with a relevant standard mentioned above must publish an explanation of the reason for the non-compliance.[40]

Public information access and sharing

The Danish government recognises that data are public value and that as such unlimited access to public data is important to enable anyone to create

Box 5.2. **Open Standards**

The Parliament Decision on the Use of Open Standards for Software in the public sector (B 103 *Forslag til folketingsbeslutning om anvendelse af åbne standarder for software i det offentlige*) was approved on 2 June 2006. To increase competition, the Parliament Decision stated that the Danish government should no later than 1 January 2008 – or as soon as technically possible – maintain a set of open standards that could serve as inspiration to other public authorities. Open standards should hereafter be the basis of public development of software and procurement of software. Moreover, the Parliament Decision described that the Danish government should ensure that all digital information and data, which public institutions exchange with citizens, companies and governmental bodies, is found in formats based on open standards.

In September 2007, the Danish government, Local Government Denmark and Danish Regions made an subsequent agreement on the use of mandatory open standards for software in the public sector. The agreement implied that all public authorities, from 1 January 2008, were to use seven sets of open standards for new IT solutions. The agreement also requires the authorities to be able to receive text documents in two open document standards.

In October 2008, the Ministry of Science, Technology and Innovation launched the website *digitaliser.dk*, which provides a single shared access to public IT architecture and access to open standards for all authorities, suppliers and others wishing to participate in the development of the digital Denmark. At the same time, the National IT and Telecom Agency published a series of recommendations and principles for good IT architecture in the public sector. The recommendations and principles is an initiative under the joint public digitisation strategy 2007-10. In fact, *digitaliser.dk* was developed on the basis of the recommendations for IT architecture, including the use of open source and open standards.

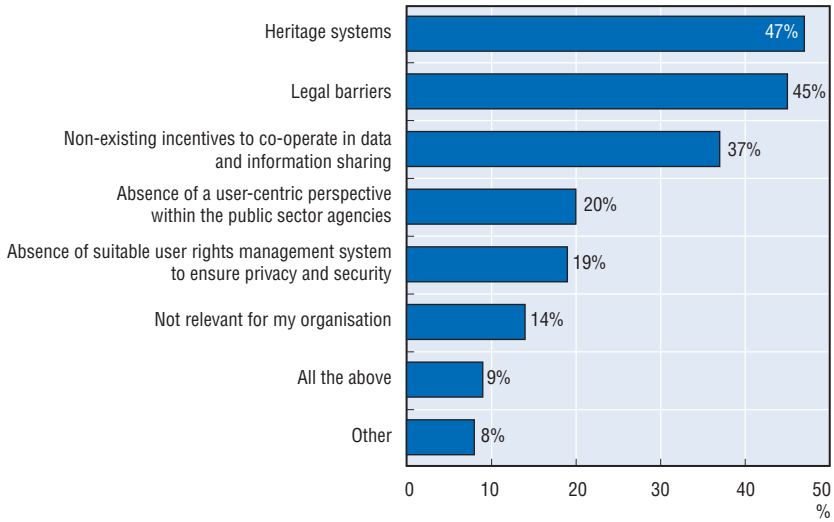
In October 2008, the Ministry of Science, Technology and Innovation concluded a survey which showed that comprehension of the use of mandatory open standards is very widespread among public authorities, that requirements for their use are typically included in the specifications of requirements in public procurement procedures and that these requirements are also maintained after contracts have been signed. The status of the implementation in early 2010 is that six of the seven sets of standards are in wide use as they were before the parliamentary decision. In January 2010, a political agreement was reached in the parliament with regard to open standards for text documents. In this field, the binary format of Microsoft Office (.doc) is still dominant in Denmark and it was decided to set up common criteria for the use of mandatory open standards in the area, that the state will be obliged to use from 1 April 2011. There are considerations about making PDF a mandatory standard for transmission of text documents which are not to be further edited – such as publication of decisions, guidelines or other information.

Source: Government of Denmark (2009), IT and Telecommunications Policy Report 2009 and National IT and Telecom Agency (2009), "Open Standards in Denmark", unpublished internal paper, 6 November 2009.

solutions which the government could not propose itself. Data in Denmark are free. There is an agreement between the central and subnational level according to which data should be provided free of charge. Nevertheless, the interviewees pointed out that there is still a widespread belief that public data are owned by the agency that collects them (*i.e.* idea that data belong to one organisation as opposed to being public property). This issue will need to be addressed to enable full data sharing. Nowadays, it seems that the achievement of such an aim is hindered by the political reluctance which needs to be tackled. A change in this approach would sustain the establishment of a system based on the principle of "take the data once and use it many times". Allegedly, it is still too frequent that people have to enter the information more than once. The health sector was mentioned by the interviewees as an example of an area where the sharing of information and data could be improved, *i.e.* not all information and data are shared between the general practitioners and the hospitals in order to ensure coherent treatment of a patient. Finally, many interviewees underlined the fact that data infrastructure needs to be further developed to make the data accessible free of charge in a reliable form, *e.g.* interviewees still consider that it is quite expensive to make data accessible in electronic form. It is definitely important to identify barriers for data sharing in order to remove them where appropriate and lawful. Figure 5.4 indicates that three barriers are significant for the respondents to the OECD survey: heritage systems (47%), legal barriers (45%) and non-existent incentives to co-operate on data sharing (37%). The latter is interesting and may indicate that attention should be given to the incentive structure for sharing information and data.

Even though the responses provided to the OECD survey indicate that the Danish public sector at large is concerned with reusing data if they exists (*i.e.* 43% of the respondents indicated that they use data from other organisations when available and 42% that they either use data from other organisations or ask for them), improved information and data sharing and increased data standardisation were mentioned by the interviewees as areas deserving efforts and attention. The establishment of a common taxonomy through an agreement reached at the ministerial level on simplified rules and on a common terminology would support improved service delivery. The processing of personal data on income can be taken as an example; a national and common taxonomy used to define income would enable a move forward with pervasive solutions. The obstacle is practical and linked to the various rules being used in different ministries. If all those ministries used the same taxonomy to define income there would be no legal obstacle for them to use the data. The view of various stakeholders is that FORM,[41] has been developed as a tool to classify all public tasks and services: it should be used by all government agencies as the common framework for the development of specialised taxonomies and terminologies. As FORM is mapped to legislation

Figure 5.4. **Barriers to data sharing**



Source: OECD survey of e-government in Denmark 2009. *Question 4.9 What are the primary barriers for the sharing of citizens' data between agencies?*

and responsible organisations it can become a powerful tool in defining the relevant subjects and actors that should be part of such work in specific areas.

In the case of education, for example, it is difficult to gather and manage data. The Ministry of Education is working on the development of a data management system that would allow the digital sharing of information partnering with the private sector (*i.e.* IBM and Ramboll Management). Interviewees suggested that the responsible Domain Management Board – yet to be chosen – should establish a common taxonomy in the education area (define and describe what is education, who are the students, etc), as the lack of such taxonomy is perceived as one of the key barriers to having a common system supporting the exchange of data and information between institutions and to the enhancing of public service delivery.

Creating the conditions for continuous success

Realising e-government benefits is about having the right competencies in place to ensure the use of ICT to better serve the constituents. Denmark has the proper infrastructure, human and economic factors in place, as well as a back-office which is increasingly moving to higher integration. All these are the right prerequisites to support the realisation of e-government benefits. A continuous and full exploitation of these advantages can ensure the optimisation of the benefits that can be achieved through the wealth of projects implemented. The sections below highlight some areas which are crucial to

ensure that the conditions are created for the realisation of e-government benefits in the long-term.

A collective approach for cross cutting projects

The Danish government has put a lot of effort into the use of e-government to push forward the implementation of cross-cutting projects as well as the mandatory adoption of certain ICT based practices. This has facilitated the realisation of the benefits of e-government as a tool to support improved delivery of a certain number of public services. Efforts have been made to boost the adoption of open standards to support the deployment of e-government services available for all, and to foster the integration of systems and databases to be able to better serve citizens and businesses by providing services through electronic platforms (*e.g.* in the case of employment to help citizens to find employment on their own – a central database held by the Ministry of Labour can be accessed through the citizens and business portals which function as entry point for their info).

In line with these efforts, the government is presenting a youth package (*i.e.* a proposal that includes a policy to facilitate co-operation between the departments that provide services at the municipal level as well as within the Ministry of Labour's job centres) based on the decision to enable exchange of data between the educational service providers at the municipal level and the job-centres that are fully decentralised and managed by the municipalities.[42] This is an example of the use of e-government to further co-operation,[43] facilitate the access to and exchange of data, and improve service delivery. Another example is the collaboration between the National Cadastre under the Ministry of the Environment and the Land Registration Court – now fully centralised and digitised – which relies on back-office integration to ensure integrated management of geospatial data. These are good examples of initiatives that show how the interaction across levels of government, the integration of systems, the needs assessment and multi-stakeholders' engagement have been exploited to create the necessary and sufficient conditions for benefits realisation of e-government.

E-Government should promote a collective approach with the aim to jointly deliver the best solution in order to serve the citizens and businesses in the most efficient and effective way. In order to optimise the benefits of e-government, efforts seem to be needed to reinforce the collective focus and overcome the silo-approach which somehow seems to persist and which risks hampering the full realisation of e-government benefits. This is seen by many, as the result of the fact that some ministries have had an early and key role in e-government implementation, and on this basis they regard themselves as being better positioned to understand what is needed to optimise e-government benefits. The project on digital signatures is also an example of the positive

result of a collective and collaborative approach adopted by various players across the government. The business reference model FORM is another example of co-operation and could also be seen as a strategic tool in a context where options based on enhanced sharing and collaboration increasingly become more relevant, *e.g.* cloud-computing and the use of Web 2.0 solutions. From a Web 2.0 perspective, FORM exemplifies the Danish government's efforts to support "open government data". FORM provides a common structure (metadata) for data and content on various websites. The list of FORM users is already quite long, but given the nature of the tool as a reference model its use becomes interesting if adopted by a large number of users.

Creating the critical mass

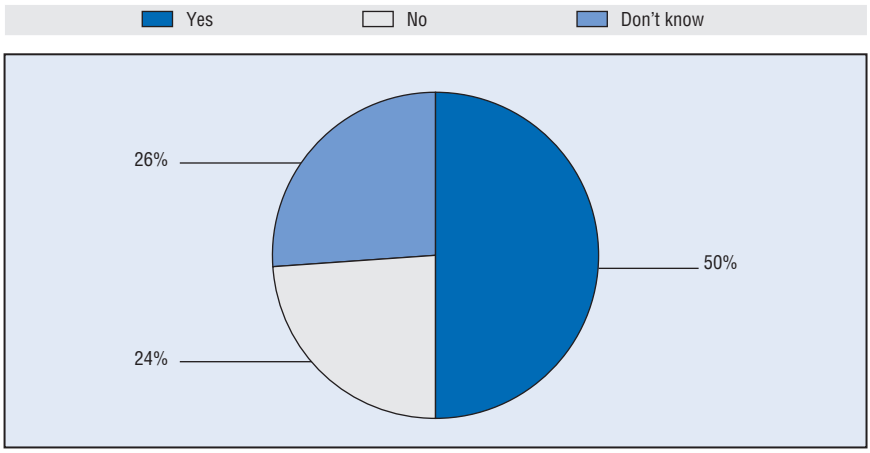
Denmark has two important advantages relative to other OECD countries when it comes to innovative service delivery, *i.e.* the high level of trust in government which facilitates the task of implementing key tools such as data re-use and the relatively small size of the country. These advantages should be used to optimise the benefits achievable through e-government. In the case of increased back-office integration and closure of channels, for instance, even though in absolute terms they can lead to considerable savings, these can be realised only if a critical mass of users is created. Space for improvements in this sense include: a multi-channel strategy and an increased use of Web 2.0. Looking ahead, particularly in view of the future e-government strategy, an increased focus on providing citizens with new kind of services and service delivery without leaving people behind would be important. The advantages mentioned above could help in achieving this aim. Some of the very good examples which were repeatedly mentioned by the interviewees include the taxation domain, whereas the education sector was indicated by several as one area with great development potential.

The education sector is seen as a strategic development area for the future and in the view of the interviewees it deserves more attention. New strategic developments could entail various actions, *e.g.* more learning opportunities being provided through electronic platforms, fostering the development of an e-curriculum, facilitating proper training of teachers through innovation teaching centres or similar, and adopting mechanisms to ensure the proper flow of information as well as the digitisation of the internal processes particularly in the primary and lower-secondary education to make the work more efficient and provide better education.

Strong interest for further ICT education seems to reflect also the need, both in the public and private sectors, for more resources capable of managing complex ICT systems. Apparently, there is a shortage of ICT skilled people in Denmark as also seen in other OECD countries.[44] Interviewees felt that ICT is seen as a commodity, or as an instrument to drive efficiency and cut costs, and

that there is not enough training in Denmark on how to advance policy and business objectives by the use of ICT. Interviewees indicated that they would like to see more emphasis placed on building awareness and knowledge on the broader value of ICT to sustain a full capturing of the opportunities offered by the new technologies to pave the future of Denmark in the next 10 years. New electronic communication channels and platforms using Web 2.0 can support new ways of reaching out to and engaging population segments that are not usually in contact with the public sector and its service provision. Web 2.0 tools (such as social networks, wikis and blogs) offer new facilities that break down barriers to individual citizens engagement with the public sector and make it easier to voice opinions and give suggestions to public authorities regarding the quality of services, regulation, outcomes of policies, etc. In addition to enhancing the public sector's dialogue with the businesses and the citizens, making use of new technological platforms can also facilitate and strengthen co-operation and co-ordination within and across levels of government. The use of Web 2.0 concepts in the public sector has increasingly attracted attention in Denmark, as in many other OECD countries, especially due to the large number of citizens that daily use electronic social forums and read web blogs. Reaching out to large parts of the population through these novel electronic channels has become increasingly important to businesses, public sector actors, and politicians. Figure 5.5 shows that the Danish public sector is embracing the use of these new communication channels and platforms.

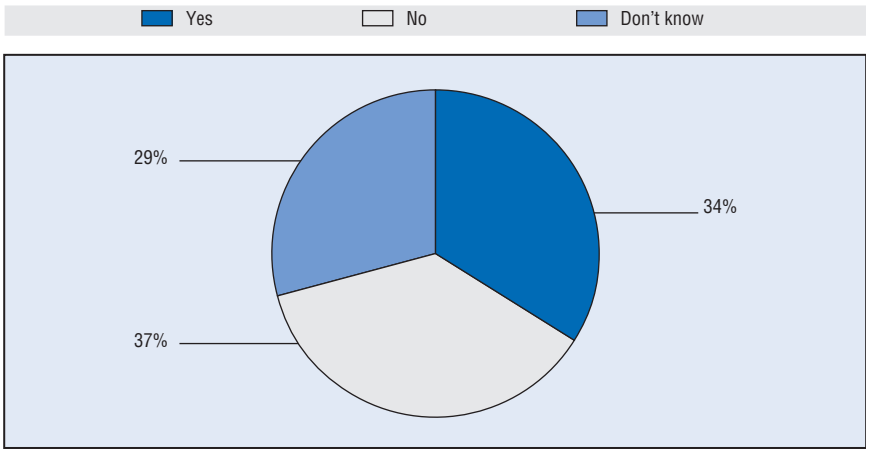
Figure 5.5. **Does your organisation currently use, or is planning to use Web 2.0 to support public sector modernisation efforts?**



Source: OECD survey of e-government in Denmark 2009. *Question 1.9 Does your organisation currently use, or is planning to use Web 2.0 (e.g. wiki, blogs, electronic social networks) to support public sector modernisation efforts?*

Figure 5.6 shows instead that roughly one-third of the respondents to the OECD survey (34%) are using or have plans to use Web 2.0 technology as a tool to increase citizens' engagement and participation in public service delivery. Another third of the respondents (37%) indicate that they are not using or are planning to use Web 2.0 while the last third of the respondents (29%) answered that they don't know. Having one-third of the public sector already using, or being in the process of introducing, the use of it seems to indicate that the potential of the new platforms for furthering citizens' engagement is broadly recognised and its increased use is actively under consideration.

Figure 5.6. **The use of or plans to use Web 2.0**



Source: OECD survey of e-government in Denmark 2009. *Question 3 14 Does your organisation use, or plans to use, Web 2.0 technology concepts as a tool to increase citizens' engagement and participation in public service delivery (co-design and co-delivery of services)?*

User-driven innovation in the public sector

There is a political will in Denmark to achieve efficiency gains through e-government – *i.e.* cut costs, produce savings and re-use the money – but the process could go a step forward and embrace a wider set of benefits (*e.g.* efficiency outside the public sector intended as achievements of societal gains, increased equity). Enlarging the set of targeted benefits would optimise the instrumental value of e-government beyond the narrow focus on achieving economic and monetary benefits. It would help in shifting the focus from the use of e-government to cut costs in the management of the government operations, to the use of its potential to drive forward the application of new technologies to foster open government and better serve the citizens and businesses. Such an approach, which would need to be supported by a strong political will, would expand the goal of efficiency and effectiveness to embrace broader societal goals. This would imply strengthening the role of the public

sector as a main driver for the use of new technologies. Many public authorities use collaboration tools in projects, but these are typically restricted to professionals working within the projects teams, *e.g.* in the health sector there are a number of patient forums for special groups. So far the biggest strategic initiative in professional collaboration on a Web 2.0 platform has been *digitaliser.dk*,[45] which was launched in October 2008 by the Ministry of Science, Technology and Innovation. This good example could be replicated.

To foster innovation in the public sector, the Danish Council for Technology and Innovation under the Ministry of Science, Technology and Innovation – in its function as a counselling and policy-formulating body for the government regarding innovation policies – was asked to develop a strategy for the strengthening of innovation within the public sector which was launched in late 2008. The strategy, which was developed in close co-operation with central key stakeholders within the field and in an open and inclusive process together with additional interested parties, complements other initiatives aiming at modernising the Danish public sector, *e.g.* the Government's Quality Reform,[46] work on public procurement, and the established fund to support the projects using labour reducing technology in the public sector. The strategy points out the need to use relevant knowledge and innovative practices and to use unexploited potential in enhancing collaboration between different actors. The main points of the strategy include 1) the demand for securing a systematic creation and dissemination of knowledge about innovation within the public sector; 2) research projects, *e.g.* that the industrial Ph.D.-scheme must be extended to include the public sector – also financially – and that 3) innovation alliances should be promoted.[47] In support of innovation alliances, the strategy recommends that the incentives for innovation networks and innovation projects be applied and that a knowledge centre and a living laboratory be created.[48]

On a more practical level, interviewees feel that an approach overly driven by purely economic efficiency gains favours the adoption of rigid mechanisms and tools that can constrain the development of innovative practices. Furthermore, many interviewees underlined the fact that they have a limited budget for innovation and as a result innovation is present[49] on a small scale, and particularly at the municipal level, though no results have been seen on any significant scale so far. Raising awareness of public servants on the potential value of e-government to serve citizens in new ways and through new channels can help stimulating innovative thinking. Fostering innovation in the public sector is not only about deploying new technologies but it is also about creating an environment in which the mindset of public servants, as well as their perspective those they serve, can change. As part of the new e-government vision it could be helpful for instance to increase the ICT support provided to civil servants that are not carrying out administrative

tasks at the central level but who serve marginal, peripheral, and/or vulnerable segments of the population (*e.g.* elderly, disabled, students).

A good example of an initiative aimed at fostering innovation is MindLab[50], a cross-ministerial innovation unit which involves citizens and businesses in developing innovative solutions for the public sector. MindLab is the result of the co-operation between the Ministry of Employment, the Ministry of Taxation and the Ministry of Economic and Business Affairs and as such operates across ministries and covers a number of areas affecting the daily lives of nearly all Danish citizens. MindLab, which is meant to be an interface for the dialogue between the government and the citizens, focuses on the end-users real needs, paying special attention to disabled citizens, and on their experience when interacting with the public systems. The core idea is that new technologies should be used to re-organise processes and services based on the users' perspective. Mindlab has not been extensively engaged in the development of e-government projects.

Chapter Key points

- Monitoring and improving the e-government funding mechanism supported by a governance model, which meets future challenges of collaboration, co-ordination, prioritisation and prospective profits realisation, can help reaping the benefits of e-government.
- An overall assessment of the effective realisation of e-government benefits requires, among others, an analysis of the business models and methodologies used across levels of government to measure and evaluate the achievements of specific benefits and the overall impact of e-government projects. A systematic and consistent use by all levels of government of a business case methodology driven by a broader efficiency view can lead to increased efficiencies in wider societal terms.
- In the effort to realise e-government benefits, governments could consider using e-government to enable better performance in core public service areas (*e.g.* healthcare, education and better decision making) where "better" does not necessarily mean cutting costs – but doing things in a simpler and smarter way. Embracing a wider notion of efficiency and effectiveness that also covers outreach to increasing numbers of citizens and to vulnerable segments of the population will eventually also contribute to overarching efficiency and effectiveness goals.
- The realisation of e-government benefits entails the availability of right competencies and skills within the public sector to ensure an optimal use of ICT to better serve the citizenry and businesses.

Notes

1. OECD (2007), "Benefits Realisation Management", report presented at the 35th Session of the Public Governance Committee (GOV/PGC/EGOV(2006)11/REV1), OECD, Paris.
2. OECD (2006), *OECD e-Government Studies: Denmark*, OECD, Paris.
3. These political agendas have been formulated in the Danish government's "Quality reform" and "The action plan for transferring resources from administration to citizens centred services". The latter has been a crucial element in a political agreement between the state and the municipalities of freeing up resources in the municipalities of approximately DKK 5 billion (approx. EUR 666 million) by the year 2013 and e-government has played a significant role in this political agreement. For more information see Chapter 1 (Section 1.5.1).
4. *www.abtfonden.dk/Om_Fonden/Informationsmateriale.aspx*
5. 3 milliarder kr. fra 2009-2015 – see *www.abtfonden.dk/Om_Fonden/Informationsmateriale.aspx* – and Ministry of Finance (2009), OECD Follow up review of the Danish work on e-government – background material.
6. The ABT Fund can invest in various projects all across the public sector – as long as they increase productivity/cut costs. The ABT Fund is currently investing in projects within the following fields:
   - Telemedicine
   - IT projects (e-Government)
   - Robot technology and automation
   - "Welfare technology" (technologies that are used directly in the care sectors)
   - The ABT Fund can also invest in projects that aim at improving work procedures – with no use of technologies (e.g. LEAN). The ABT Fund can invest in small pilot projects or in large full scale implementations.
7. For more information on the eDay3 initiative that aims to ensure the dissemination of a number of key public digital solutions – *e.g.* Digital Signature, *borger.dk*, *virk.dk* – established within the framework of the e-government strategy with the purpose of achieving administrative savings through better and improved digital communication among public authorities and between the authorities, the citizens and the businesses, see Chapter 3 of this report (Section 3.4).
8. For more information on the Administrative Service Centres for IT and administration of budgetary and salary functions and travel booking which have been established within the Ministry of Finance with the purpose of taking over the services provided by the individual ministries and agencies and thus achieve economies of scale in the administration of respectively IT and budgetary and salary functions and travel booking across the state, see Chapter 1 of this report (Section 1.6.2).
9. Lean service redesign uses the basis of the lean process improvement approach to achieve a fundamental redesign of the service based on defined customer and stakeholder outcomes.
10. For more on this aspect, see Chapter 3 of this report (Section 3.5).
11. A parliamentary decision from 2006, stated that projects above DKK 50 million had to be approved by the finance committee in the parliament. See section 2.2.18: *http://translate.google.dk/translate?js=y&prev=_t&hl=da&ie=UTF-8&layout=1&eotf=1&u=http%3A%2F%2Ffm.dk%2FPublikationer%2F2006%2FBudgetvejledning%25202006%2FKapitel%25202%2520Dispositioner%2520over%2520givne%2520b*

evillinger.aspx&sl=da&tl=en. Source: *Budgetvejledningen* 2006, *Finansministeriet* (2006). This has just recently been changed and elaborated with more precise demands and a limit of DKK 60 million was established. See (same section) *Budgetvejledningen* 2010, *Finansministeriet* (2010).

12. The challenge for successful e-government development and implementation is often to share resources in all government levels – either jointly within, across levels of government, or individually. The main issue is that sharing resources for e-government development is from experience not easy. OECD work on cost-benefits analysis of e-government and OECD e-government country studies show that the organisation investing in e-government development is not necessarily the organisation that will harvest the full benefits of this investment – also known as the "sow-harvest" dilemma. Some e-government solutions are of a generic character that generates benefits broadly for the public sector as a whole and thus not necessarily specific to the organisation that develops and implements an e-government solution.

13. A transition agreement was made with KMD before they were sold for five years. Though on ICT in the municipal social sector KMD has a monopoly.

14. KOMBIT is the new name for Kommune Holding A/S, which was founded in 2003 – partly as a holding company for KMD, the foremost IT solutions provider to Danish municipalities. The name change to KOMBIT took place in May 2009 following the privatisation of KMD. One hundred per cent owned by Local Government Denmark (LGDK) which represents Denmark's 98 municipalities, KOMBIT is charged with facilitating high-quality shared IT solutions for local governments. Based in Copenhagen, KOMBIT aims to play an important role in making Denmark a world leader in digitised public administration.

15. In connection to the sale of KMD, an agreement was made about the extraction of data from the KMD databases to underline that data should be accessible regardless the choice of supplier.

16. Ministry of Science, Technology and Innovation (2009), The use of ICT in small and medium enterprises – Challenges, opportunities and barriers. For more information: *http://ibiz-center.dk*.

17. The report completed by Ramboll Management Consulting covers SME ICT use to support innovation. Its purpose is to uncover the role of ICT as a driver for innovation among SMEs and SMEs' position in relation to new technological trends. This is done through an analysis of the overall ICT application and innovation capability of enterprises. The starting point is the IT in practice ® study, which reveals the informed business IT use among the 500 largest companies in Denmark. The study covered the timeframe December 2008 to January 2009 and was commissioned by the Research and Innovation Agency. Rambøll Management Consulting & Dansk IT (2009), IT in Practice 2009 – Strategic challenges and public sector digitisation.

18. The programme for user-driven innovation, administered by the Enterprise and Construction Authority. The Management Board Secretariat serves the programme's board of directors, evaluates and prioritises requests in connection with distribution of project funds under the programme. The Programme Boards' 12 members are appointed by the Ministry of Economic and Business Affairs and are a broad mix of people with a background in both the private and public sectors. Consortia may apply for funds for projects where user-driven innovation methods are used to develop new products and services. Seven rounds of applications have so far been run and 73 projects with a total project-budget of DKK 500 million have

so far been promised. The total Aid from the Program for User-driven Innovation is DKK 250 million. An eighth application round has just completed and pending applications are expected in early December 2009.

19. Ministry of Finance (2009), Program for User-Driven Innovation.

20. Ministry of Finance (October 2009), The Digital Task Force: A general business case model for digital projects.

21. The Danish government, Local Government Denmark (LGDK) and the Danish Regions. The Danish E-government Strategy 2007-2010. Towards better digital service, increased efficiency and stronger collaboration.

22. Ministry of Finance (October 2009), The Digital Task Force: A general business case model for digital projects.

23. The primary document consists of four main sections: (1). *Solution Description* This section should contain information about the business and IT-related scope, stakeholders, alternative solutions and the project and sub-project dependencies to other projects. (2). *Business implications*. This section should include reflections on the economic consequences and ratios, and qualitative benefits should contain an implementation strategy, a milestone plan and key performance and risks. (3). *Implementation and monitoring*: This section should contain indicators. (4). *Ownership:* This section should contain a list of project owner, project manager, suppliers, sponsors and those responsible for approving the project and the milestones.

24. The Business case spreadsheet consists of an expenditure-based cash flow statement for the first five years, an expenditure-based table over appropriation consequences, also for the first five years and a table with the key economic indicators and the financing rate and the discounting rate.

25. For more on e-inclusion, see Chapter 3 of this report (Section 3.1.3).

26. OECD (2007), "Benefits Realisation Management", report presented at the 35th Session of the Public Governance Committee (GOV/PGC/EGOV (2006) 11/REV1), OECD, Paris.

27. In the healthcare domain one of the main concerns seems to be to increasing the safety of patients, *i.e.* taking the right medicine at the right time, which is very different from just having an agenda that promotes projects chosen only on the basis of a business case driven by costs-cutting goal.

28. The project model is a simplified version of the prince2 project management concept aiming at providing easy to use tools. This implies provision of concrete templates for example as PID, project plan, issue log, communication plan, stakeholder analysis, risk analysis, ppt-slides to use for relevant project workshops, etc. *http://modernisering.dk/da/projekter/redskaber_og_vejledninger/projektmodel/* –

29. The online version: *www.modernisering.dk/fileadmin/user_upload/documents/Projekter/Redskaber_og_vejledninger/Projektmodel/Opdateret_projektmodel_ver._1.0.htm#OVERSIGT*

30. *Effektmåling af offentlige it-projekter* (Measuring the effects of public ICT projects) by the National IT and Telecom Agency. *www.itst.dk/it-arkitektur-og-standarder/it-styring/it-projektstyring*

31. This is the project initiated by the Ministry of Finance and the final analysis and recommendations shall be ready for publication by March 2010.

32. Lovtidende is a "magazine" announcing the laws, decrees, orders etc, in order to make them finally valid (after the approval of the parliament and the signature of the relevant minister and the queen as required by the constitution). In 2006, it was decided that it should only be published online. The CAP-project – supports the administration of the EU Common Agricultural Policy since the reform in 2003. The system supports new procedures, new requirements for accreditation, and provides a modernised infrastructure with more efficient administration of payments. *www.virk.dk* is the national business portal functioning as the primary entrance for the business and industry to the public sector. miniMAKS is a system that supports working procedures in the agency, National Survey and Cadastre. The system is a step towards digitising administration of housing and construction.

33. Ministry of Finance (October 2009), The Audit of the State Accounts' report on Public IT projects.

34. Ministry of Finance (2009), The Audit of State Accounts' report on Public IT projects.

35. Data cover expenses for consulting in the IT telecommunication fields including strategic consulting, security consulting, applications development etc. Ministry of Finance (2009), Purchase of external IT services in the state administration.

36. The National IT and Telecom Agency (2009) IT management.

37. Internationally, the UK Government has been the only one so far to establish a similar maturity model for public authorities.

38. Parliament Decision on the Use of Open Standards for Software in the public Sector (B 103 *Forslag til folketingsbeslutning om anvendelse af abne standarder for softaware id et offentlige*) approved on 01 June 2006. For more information see: *http://en.itst.dk/it-architecture-standards/open-standards*.

39. Standards for data exchange between authorities (A Danish XML dialect called OIOXML), Standards for electronic document handling (A Danish set of specifications called FESD), Standards for electronic public procurement, (A Danish profile of UBL 2.0 called OIOUBL), Standards for digital signatures (A Danish X.509 certificate policy called OCES), Standards for public web sites and accessibility (guidelines based on WCAG 2.0) Standards for it security (The Danish implementation of ISO 17799), Standards for word processing documents for further editing (ODF 1.0 from ISO and OOXML 1.0 from ECMA).

40. National IT and Telecom Agency (2009), Open Standards in Denmark.

41. For more information on FORM, see Chapter 2 of this report (Section 1.2).

42. *http://bm.dk/Beskaeftigelsesomraadet/Flere%20i%20arbejde/Beskaeftigelsesindsats%20for%20ledige/Jobcentre.aspx*

43. The need for such a system was identified as a result of the assessment of the needs of a specific segment of the population – youth – and upon the intention to devise a system to better serve them responding to their needs. The package was developed by the ministry of labour with the benefit of the input of the practitioners and service providers from the municipalities – as they were regarded as those more engaged with young people.

44. See OECD (2005), OECD e-Government Studies: Mexico, OECD, Paris and OECD (2007), OECD e-Government Studies: Turkey, OECD, Paris.

45. *www.digitaliser.dk* is a platform for sharing and discussing ideas, challenges, documents and other resources related to it-architecture, open standards and

digitisation at large. It is open for all authorities, IT vendors and others wishing to participate in the development of the digital Denmark.

46. For more information on the Quality Reform Programme, see Chapter 1 of this report (Section 1.5.1).

47. Innovation alliances are collaborative arrangements between public organisations, private companies, knowledge institutions, and potentially also with users with the aim to create innovation and spur knowledge dissemination. The rationale is found in the fact that public innovation is for the benefit of society and that, especially within certain fields, there will be synergetic effects between innovation in the public and the private sectors. Hence, innovation alliances are well suited within the fields of public welfare for example where not only the public sector but also private companies may have an interest in collaborating/co-operating, and where research-communities can support with new knowledge, technology, and knowledge dissemination.

48. Ministry of Finance (2009), Innovation in the public sector – innovation alliances.

49. For more information on examples of projects using user-centred innovation in the welfare area, see Chapter 3 of this report (Section 3.3.1).

50. *www.mind-lab.dk/en/om_mindlab http://www.mind-lab.dk/en/o*

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ANNEX A

Experiences from other OECD members

E-Government: new challenges and opportunities

OECD countries are increasingly focusing their efforts on broadening the scope of e-government programmes to enhance its value as a driver to sustain public sector reform goals and achieve public efficiency and effectiveness, while sustaining ongoing service delivery improvement. For many of them, this has meant broadening the e-government vision to take into consideration that enabling societal-wide efficiency and effectiveness could realise better use of public resources at large – *i.e.* to help improve public service delivery, to enable citizens to better access services – without losing sight of the necessary focus on efficiency and effectiveness is essential. Broadening the e-government vision implies, for the majority of OECD countries, a citizen-focused (and/or business-focused) and a whole-of-government approach to e-government development. In pursuing this approach, many OECD countries are in the process of rearranging governments' online and off-line organisational structures and of establishing service clusters that cross the traditional organisational structures of programmes, departments and agencies.

E-Government services enable governments to be more relevant to their citizens and businesses by meeting new needs and demands for online choices and by matching the level of services' quality with users' expectations. E-Government services provide governments with a greater ability to respond to individual users' needs through customised or integrated offerings while maintaining consistent quality of service delivery across the country. The paradigm shift towards citizen centricity has increased governments' focus on the user take-up of e-government services in light of political and managerial considerations that try to balance different aspects of public welfare: how can the satisfactory balance between legitimate concerns over cost-effectiveness and the outcomes of the investments be made?

Optimising e-government development for users to obtain higher user take-up can also lead to improved performance and more efficient usage of

public sector resources in general. These considerations have become central in governments' decisions on e-government implementation and have led to an increasing use of cost-benefits analysis and tools to follow-up on projects. OECD governments do not seem, however, to see a contradiction between becoming citizen-centric in service development and delivery, and improving efficiency and effectiveness in the public sector as such. These trends create new challenges for OECD countries which relate to the need to adopt strategies, programmes and structures that enable governments to achieve the needed savings as well as a more effective management of the resources available while delivering high quality and integrated services, *e.g.* reorganising the back-office to get as many of the services as possible online in a full transactional based model, using channel management proactively as an instrument for creating incentives for behavioural changes among users. The country experiences mentioned below exemplify some of the practices that have been adopted by OECD countries to tackle some of the most common challenges they are currently facing.

Delivering high-quality and cost-effective service delivery in Canada

The Government of Canada has launched the **Service Improvement Initiative** aimed at increasing citizens' satisfaction with government services. The initiative builds on the main ideas that better quality of services contributes to higher satisfaction among citizens, and that high quality and cost-effective services reduce costs for business and individuals and increase the efficiency of government operations. The Human Resources and Social Development Canada[1] (HRSDC) and Service Canada[2] have been identified as the leaders/champions to drive the development of online services and information, and to support the overall service delivery transformation of the government. Consequently, their role in a larger transformation agenda is well established and is part of a broad strategic planning process. HRSDC and Service Canada have been involved from the very onset of Government On-Line (GOL) and continue to develop online services and information.[3]

The focus of HRSDC and Service Canada's work is to make the Internet a self-service channel for Canadians by delivering efficient and fully integrated citizen-centric services and benefits within a multi-channel delivery network. As part of the Initiative, Service Canada's mandate includes providing Canadians with better services at lower cost whether by operating services more cost-effectively or by tackling possible fraud and abuse of programmes. To achieve savings targets, a number of integrity strategies were introduced. For example, by implementing rigorous forecasting, planning, tracking, and reporting procedures, Service Canada achieved an accuracy rate of 94.5% for employment insurance claims. It also helped people apply for employment insurance benefits by providing comprehensive information sessions that

helped them learn their rights and responsibilities under the programme. By improving the accuracy of its payments, standardising and automating its services, as well as improving the way it purchases goods and services for day-to-day operations, it delivered about CAD 424 million in savings during 2006-07, well beyond the set savings target of CAD 355 million.

Source: Her Majesty the Queen in Right of Canada (2007), Service Canada Annual Report 2006-2007, *www.servicecanada.gc.ca/en/about/reports/ar_0607/pdf/ar_0607.pdf*, accessed 22 March 2010.

Canada: Measuring citizens' service satisfaction

The **Common Measurements Tool (CMT)** was first released in 1998 as an easy-to-use client satisfaction survey instrument that would facilitate benchmarking across jurisdictions. Using the CMT, public-sector managers are able to understand users' expectations, assess levels of satisfaction, and identify priorities for improvement. By using the questions set out in the CMT, jurisdictions can also compare their results against peer organisations, identifying best practices and sharing lessons learned. Public sector managers are able to construct a user satisfaction survey by selecting among the core questions of CMT those that meet the needs of their organisation, or customising questions that will help improve the quality of their specific services. The CMT assists in this process by identifying a set of "core" questions that measure the key drivers of satisfaction – *i.e.* those elements or attributes of the service experience which, when present, ensure high levels of satisfaction. The CMT builds on the intellectual foundations of Citizens First, a national survey of Canadians, which identified the drivers of satisfaction, namely timeliness, knowledge/competence, fairness, courtesy/comfort, and outcome.

Whereas the original CMT questions focused on face-to-face or in-person service delivery, taking into account the degree to which citizens use a variety of service channels (*e.g.* telephone, Internet, mail, kiosk) when accessing government services as well as the need to respond to the challenges that the multi-channel service delivery environment presents to public-sector organisations, the ICCS Institute for Citizen-Centred Service (ICCS) set out to deliver a single, integrated, multi-channel client survey instrument that is easy to use, enables benchmarking, and produces effective results for policy and programme managers alike. Significant enhancements to the original CMT include:

- Questions addressing satisfaction with electronic and telephone service delivery.
- Core questions that reflect the specific drivers of satisfaction for each service delivery channel.
- Adoption of an "agreement" scale (in place of a "satisfaction" scale) to enhance usability.

- Language that is consistent in both French and English.
- A new user manual written for public-sector managers.

Since being recognised by the Commonwealth Association for Public Administration and Management (CAPAM) with a Silver Award for International Innovation and by the Institute of Public Administration of Canada with a Gold Award for Innovative Management, the CMT has been adopted by more than 30 municipal, provincial, territorial, and federal governments across Canada and around the world. The Institute for Citizen-Centred Service (ICCS) serves as the custodian of the CMT, and makes the tool and associated support materials available through its web site. The ICCS also maintains a CMT benchmarking database that enables organisations to compare anonymously their results with those of peer organisations.

Source: www.iccs-isac.org/en/cmt/ (accessed 30 April 2010)

Canada: ICT projects and outcome management

In 1996, the Canadian Treasury Board Secretariat developed the Enhanced Management Framework (EMF) to assist with the management of ICT projects. EMF is an integrated management model for managing ICT projects and the overall ICT portfolio. It is based on four principles:

- Alignment of ICT investments with business strategies.
- Establishment of clear accountabilities for managing ICT investments.
- Development of project management disciplines.
- Identification and management of risks on a continuous basis.

The Enhanced Management Framework is being expanded to include Outcome Management (OM)[4] for ICT projects. Outcome Management is defined as "the set of activities for planning, managing, and realising the desired outcomes from initiatives". Outcome Management builds on management fundamentals such as plans, accountability, monitoring and evaluation; it concentrates on specifying benefits and how they will be achieved, addressing the limitations of cost/benefit analysis by using a log frame type of modelling for more precise identification and qualification of initiatives' hard and soft benefits and consequences.

The OM approach focuses on realising benefits[5] – not just project deliverables. In doing so, it ensures the strategic alignments of outcomes with the line of business. OM continues after the implementation of ICT project and process changes to ensure that expected benefits are realised. It is a flexible approach that is adjustable as a project develops. It also provides a common framework that can be adapted at the project, portfolio, program and initiative levels. It therefore has broad applicability beyond ICT projects and can potentially be adapted to horizontal initiatives as well.

The OM approach identifies clear stages in the project life cycle, as well as appropriate performance metrics which can be used by policymakers to make evidence-based decisions about whether to proceed with, modify or terminate projects. In this way, it is a management rather than an audit tool. While the OM approach details and assigns accountabilities, it also allows managers to adjust and/or change priorities along the way in response to changing circumstances and political priorities.

The Canadian government has identified the following key lessons learned from using the Outcome Management approach:

- Align outcomes with departmental and government priorities.
- Engage all stakeholders in the process.
- Use Outcome Management to gain flexibility in defining intangible or "soft" benefits.
- Conduct Outcome Management early in the project lifecycle.
- Integrate Outcome Management with existing methods, frameworks and tools.
- Successful Outcome Management requires champions, education and communication.
- Cost/benefit analysis is useful to document an initiative's costs and areas for cost avoidance, as well as conducting options analysis.

Source: OECD (2007), Benefits Realisation Management.

Connecting the implementation of flagship projects and the achievement of policy objectives in the Netherlands

To ensure the alignment between e-government and public sector reform goals, *i.e.* de-regulation, the Dutch government adopted an organisational structure as part of the Ministry of the Interior comprising a Unit working on programmes for all levels of government in the areas of "Services, Deregulation and Information Policy" and a Unit responsible for ICT implementation also working for all levels of government. This unit, which has recently been transformed in an executive agency, delivers for example the national digital signature DigiD. The IT-policy of the central government is part of a different directorate general (organisation and management of central government), combined with other (shared) services for all ministries like HRM, organisation advice, facilities, operational management, etc.

Source: http://www.epractice.eu/en/document/288324

Aligning e-government with other policy areas through policy documents in the Netherlands

In May 2008, the Dutch Cabinet published a new vision concerning better government and service provision: a connected service provision and

e-government action programme. The action programme, known as National Implementation Programme (NUP), covers both the infrastructure required and the significant flagship projects that use (or are expected to use) that infrastructure. The aim of this approach is to ensure that the relationship between the implementation of the flagship projects and the achievement of policy objectives is clear. As the projects use the e-government infrastructure, they also demonstrate its added value. On 1 December 2008, a joint declaration was signed by the representatives of the national, regional and local governments to adopt the National Implementation Programme as a joint strategy for the next three years. This means that Dutch e-government initiatives will be focused on the flagship projects and the infrastructural products and services.

The policy statement "**Towards the Electronic Government**", published in September 2004, is a policy statement that elaborates on the e-government aspects of the Modernising Government Programme and of the national ICT Agenda. The statement offers an overview of the joint agenda for electronic government covering the coming years. It sets out seven priority domains, listing the essential components of these domains and the action required to proceed to their full implementation. Together with its respective progress reports it serves as the basis for the further development, management and implementation of the information infrastructure.

Source: http://www.epractice.eu/en/document/288324 (accessed 30 April 2010)

The Netherlands: Assisting e-government implementation

The primary aim of the Dutch Iteams programme is to assist municipalities, provinces and water boards to implement e-government. The programme provides an irreversible impetus to the introduction of e-government in municipalities, provinces and water boards by helping to arrange coherent, customised professional support, eventually resulting in an approved implementation plan. This initially applies to the 13 components listed in the Statement of 18 April 2006. Meanwhile 376 municipalities have applied to the EGEM's Iteams for support; 95 municipalities have completed their implementation plans; and 67 municipalities have not yet submitted a request for support.

Source: www.epractice.eu/en/document/288324 (accessed 30 April 2010)

E-Government as a driver to achieve administrative simplification in Portugal

Portugal is one of the few OECD countries which have chosen to integrate administrative simplification and e-government politically and strategically to achieve the public policy goal of making everyday life easier for citizens and businesses in their interaction with public authorities. By actively seeking the

synergies between administrative simplification and e-government – using the latter as a key lever for simplification – Portugal has tried to impose significant and swift changes on its public administration and its administrative culture both at central and local levels.

The policies to enhance simplification and e-government are outlined in the **Simplex programmes of 2006, 2007, and 2008** that seek to strengthen the focus on, and link between, e-government and administrative simplification. Together, they consist of 757 initiatives, which have enjoyed widespread political support at the highest level since their inception. The objectives of the Simplex programmes cover a number of key areas such as efficiency and effectiveness of public administration, service delivery; public trust in the public sector and its service delivery; competitiveness and economic development). Some of the ideas underlying the Simplex programmes (*e.g.* simplification of existing regulation, better regulation and improved law-making, elimination of paper-based practices, deregulation, easier access to services, de-bureaucratisation, and rules harmonisation) had already been under preparation before their launch. However, by establishing and launching the programmes, the initiatives were given political priority, a common organisational and governance framework, and a common direction.

The highest political support to the programme is secured by the fact that the responsibility for the Simplex programmes lies with the Minister for the Presidency of the Council of Ministers, with direct support from the Prime Minister and that a State Secretary for Administrative Modernisation has been appointed. A dedicated office has been created (SEAM – the Cabinet to the State Secretary for Administrative Modernisation) to be responsible for overall strategic co-ordination and monitoring, while a dedicated unit, the Agency for Administrative Modernisation – *Agência para a Modernização Administrativa* (AMA) – co-ordinates at the operational level and at the level of technical development of ICT tools and structures for e-government. Previously responsible for the overall public sector transformation, the Office of Public Services Reform, *Unidade de Coordenação da Modernização Administrativa* (UCMA), under the responsibility of the Minister of State and Internal Affairs, was put in charge of co-ordinating this programme with contributions from all ministries, which were asked to submit their proposals for simplification projects.

Source: OECD (2008), Making Life Easy for Citizens and Businesses in Portugal, Administrative Simplification and e-Government, OECD, Paris.

Achieving collaboration and co-ordination across levels of government through the e-Government Interoperability Framework in New Zealand

In New Zealand, the government has set up an e-Government Interoperability Framework (the "e-Gif") to help public sector institutions achieve

electronic interoperability through common policies and standards. The e-Gif is a collection of policies and standards which: 1) helps government agencies to more easily work together electronically; 2) makes systems, knowledge and experience reusable among agencies; and 3) reduces the effort required to deal with government on line by encouraging consistent approaches. State-level agencies are required to use e-GIF, and local governments are invited to do so.

Source: OECD (2008), Making Life Easy for Citizens and Businesses in Portugal: Administrative Simplification and e-Government, OECD, Paris.

Ensuring co-ordination between institutions and across levels of government through the Administrative e-Service Directory (DVDV) in Germany

The DVDV lists electronically available e-government services and fulfils an important need in terms of creating a secure and reliable communication infrastructure, based exclusively on open Internet protocols and allowing cross-organisational, paperless processes. In operation since January 2007, it has helped more than 5 200 German civil registration agencies to save more than EUR 1 million per month. Worldwide, it is one of the first and largest standardised Service Oriented Architecture (SOA) implementations in the government area, and was made possible through unique co-operation between various levels of government and sectors in the Federal Republic of Germany. The DVDV's range of applicability is not limited to civil registration but is open to any kind of communication with and between public administrations in Germany (G2B, G2G). Besides civil registration communication, the DVDV also supports processes, *e.g.* in tax administration and in the area of justice. At the Lisbon Ministerial Conference 2007, the German DVDV (*Deutsches Verwaltungsdiensteverzeichnis* – German Administration eServices Directory) won the eGovernment Award 2007 in the category "Effective and efficient administration".

Source: www.epractice.eu/cases/dvdv, accessed 4 October 2008.

Increasing the e-government user up-take with the Crossroads Bank for Social Security (CBSS) in Belgium

The social security system in Belgium is complex, involving more than 2 000 offices dealing with collection of contributions, delivery of benefits (such as unemployment, holiday pay, healthcare reimbursement, old age pensions) and determination of supplemental benefits. These institutions are spread across all governments – federal, community, regional, provincial and municipal. The Crossroads Bank for Social Security (CBSS) network in Belgium was introduced as a proactive approach to deal with the problem of low up-take of social service delivery by improving social security systems, speeding up services and increasing efficiency while reducing fraud and error.

The CBSS links all these agencies through a network with a secure connection utilising unique identification keys for citizens. Using a citizen identification number, CBSS facilitates information storage and retrieval by government agencies, allowing governments to easily access citizens' data and simplifying citizens' interaction with the government. This outreach of government services is particularly important and helpful for disenfranchised individuals, such as the undereducated, who may not be able to fill out complex forms, or people who distrust government in general. These activities greatly increase user take-up of e-government services – and also help government to better realise its service mission to citizens.

Source: OECD (2008), OECD e-Government Studies: Belgium, OECD, Paris.

The Australian "Gateway Review Process"

At key decision points (referred to as "Gates"), a Gateway is a review process that focuses on the issues that are important to the project at that stage of its life. Gateway reviews are conducted by independent reviewers – people not associated with the project itself. The cost of engaging reviewers is met by the Ministry Finance. Gateway reviewers come from the public and private sectors and are selected for their skills and experience. The Gateway review was conceived as an interactive and co-operative process involving the Gateway review team, the SRO and the project team. It is neither an audit nor intended to be onerous on the sponsoring agency (*i.e.* the review should not require new documentation to be produced – it focuses on information already developed and the project can continue while the review is being conducted).

Review reports are confidential, high level, evidence-based, constructive and action oriented. They identify issues and recommendations that can contribute to the governance, assurance and overall success of the project. They provide an overall assessment of delivery confidence for the project at the "Gate" being assessed, as well as an indication of how critical its recommendations are. A red/amber/green rating is used to indicate the overall assessment of delivery confidence for the project. An enhanced notification process is in place so that, if a project is experiencing problems, early remedial intervention can occur. This involves the Finance Secretary writing to the relevant agency chief executive to advise that the Gateway review team has raised concerns. This advice asks the agency to consider appropriate escalation action, including advising the relevant minister and the Secretaries of the Department of Prime Minister and Cabinet and Finance, and further investigating the findings through separate in-depth inquiry or review. Enhanced notification applies throughout the project life-cycle and is triggered by incidences of red or sequential amber ratings.

Gateway has been used in the United Kingdom since 2000 and in the Australian Government since 2006. Participants in these jurisdictions confirm that applying Gateway improves project delivery. Gateway strengthens the governance of major projects and assists agencies to deliver projects on time, within budget and in accordance with the stated objectives. Some key benefits for agencies include:

- better alignment of service delivery with the government's desired outcomes and available funds;
- access to the knowledge of highly experienced peers;
- improved accuracy in planning;
- improved allocation of skills and resources;
- improved procurement and contract management processes;
- improved risk management;
- reduced time and cost over-runs;
- increased supplier confidence;
- greater assurance that the project can progress to the next stage of development or implementation;
- increased competence and valuable development opportunities for individuals involved in reviews;
- dissemination of better practice techniques across the public sector, leading to enhanced project management awareness and skills; and
- enhanced agency awareness, responsibility and accountability through open, targeted and honest communication.

Source: www.finance.gov.au/publications/gateway-publications/brochure.html (accessed 30 April 2010)

Australia's ICT "Two Pass" Business Case

In 2008, the Government of Australia introduced a two pass review process to obtain better information to support its decisions on major investments in ICT-enabled projects proposals. The process is expected to also better position agencies for the Gateway Review processes.

Proposals are subject to the ICT Two Pass Review process if they:

- are ICT-enabled (*i.e.* the policy or service delivery outcomes are highly dependent on the underpinning ICT system);
- have a total cost estimated to be AUD 30 million or more, including ICT costs of at least AUD 10 million; and
- involve high risk in terms of cost, technical complexity, workforce capacity or schedule.

The government may also apply the process to other proposals where it considers they would benefit from the review.

First Pass Business Cases

The purpose of the First Pass Business Case is to provide Cabinet with the information it needs to decide whether to give first pass approval to major ICT-enabled project proposals that are subject to ICT Two Pass. The First Pass Business Case supports the sponsoring Minister's Cabinet submission seeking first pass approval for a proposal.

At first pass, agencies prepare an initial business case with one or more well considered options. Agencies must then seek in-principle agreement to the proposal from government to develop one or more options for further consideration. Agencies must comply with the First Pass Business Case Requirements and the ICT Business Case Guide when completing the First Pass Business Case Template and Costing Spreadsheet. Government considers the first pass business cases and decides whether to: agree in principle, subject to a second pass business case refer the proposal back to the agency for refinement, ask for the proposal to return in the next budget as a first pass business case, or reject the proposal. An objective of the first pass review is to minimise the use of agencies' resources on developing a proposal prior to the government's initial consideration.

Second Pass Business Case

At second pass, agencies develop the business case for the second pass review by the government. The second pass business case includes detailed cost assessments and risk mitigation strategies. The cost estimates are based on rigorous planning in terms of the scale and features of the ICT infrastructure applications and support required, including non-binding, tender-quality estimates from the private sector where appropriate. Agencies must comply with the Second Pass Business Case Requirements and the ICT Business Case Guide when completing the Second Pass Business Case Template and Costing Spreadsheet. Agencies develop their draft second pass business case. Finance reviews second pass business cases and provide feedback to agencies. Agencies incorporate feedback and submit final second pass business case. Government considers the second pass business case and decides whether to: approve a second pass business case for implementation, consider the proposal in the next budget, or reject the proposal.

Source: www.finance.gov.au/budget/ict-investment-framework/two-pass-review.html (accessed 30 April 2010)

Australia: ICT skills in Australia

A special task force has developed a strategy for ensuring availability of future ICT skills in the Australian public service. Recognising the fact that to build agencies' service delivery capability, employees' skills must be enhanced, the focus of the strategy is to improve ICT skills in project management, business processes and security to support the implementation of the national e-government strategy.

The strategy includes a number of initiatives:

- steps to increase staff mobility;
- accreditation, mentoring and apprenticeship programmes;
- training and workshops in ICT skills;
- development of workforce plans;
- skills and resource sharing between agencies;
- additional remuneration for staff increasing their ICT skills.

The strategy also includes establishing a permanent ICT skills group to plan future work on ICT skills in the Australian public service.

In 2006-07 the Ministry of Finance, in response to the Taskforce report, initiated a pilot apprenticeship programme, in collaboration with key departments and agencies. The programme was structured to meet the needs of the Australian Public Service (APS) and managed the recruitment of over 70 ICT apprentices through a group training company. These apprentices worked in 10 departments and were eligible for employment in the APS on completion of their Certificate IV training course.

The Ministry of Finance also promoted ICT career opportunities in the APS. A package of information was provided to ICT industry association websites, educational institutions, major industry trade shows and other regional and interstate events. This information highlighted the interesting and rewarding ICT careers available in the APS. Building on the success of this pilot and as part of the 2008-09 budget measures, the government agreed to establish a whole-of-government ICT Cadetship Program and to expand the Apprenticeship Program to include an interstate-based component and a pilot of school-based apprenticeships. The apprentices receive on-the-job experience while working towards a Certificate IV in ICT and those who complete the program are able to apply for a permanent position in the APS through a whole-of-government recruitment exercise.

In March 2009, the Ministry of Finance launched the whole-of-government ICT School-based Apprenticeship Program in Canberra. School-based apprentices will transfer to the APS ICT Apprenticeship Program upon successful completion of the school-based programme. A new whole-of-

government APS ICT Cadetship Program started on 9 February 2009, with 28 second or third-year university students placed across the APS in Canberra, Adelaide and Sydney. Cadets combine a minimum of two days per week working in a government agency with part-time university study. On the successful completion of their undergraduate degree, cadets become full-time employees in their host agency. This work is also complemented with a formal mentoring system for women in ICT professions across the Australian government.

Source: Australian Government (2007), Meeting the Demand for ICT Skills in the Australian Public Service – Today and for the Future. Report of the ICT Professional and Skills Development Taskforce.

The French e-government projects Value Assessment Tool: Mareva

The French Electronic Administration Development Agency (ADAE) has developed an analytical method for analysing the value of e-government projects called MAREVA (*méthode d'analyse et de remontée de la valeur*). MAREVA is used in selecting projects to be funded, monitoring projects during implementation, and evaluating projects after implementation. By February 2006, the methodology had been applied to 30 projects.

The benefit of the MAREVA method lies in providing a standard, consistent, repeatable method for appraising and selecting projects to be funded that can also be applied at the termination of the project to determine the actual value of the project. Many countries use return on investment (ROI) or cost/benefit analysis to evaluate projects. Because these two types of analysis can be carried out in many different ways, it is often impossible to compare projects. MAREVA standardises the costs and benefits to be considered and the metrics generated. The system also factors equity between employees, users and organisations into evaluations, as well as project risk and the origin of the project mandate (*i.e.* by law or other circumstances).

The MAREVA method consists of:

- Standard calculations of return on investment (ROI) using three indicators: 1) breakeven point, 2) internal rate of return, and 3) recurring gain from the project.
- Assessment of value using four additional indicators: 1) strategic alignment with organisational goals, 2) economic justification using benefits and costs, 3) risk assessment, and 4) follow-up on expected results.
- Presentation format using a radar diagram (see Figure 2) to portray values for profitability, risk control, external considerations, internal considerations, and the necessity of the project.

The MAREVA valuation methodology explicitly considers external benefits to users as well as internal benefits to public sector employees and

administration. The methodology also measures risk and the necessity of the project (*i.e.* is the project obligatory).

Source: OECD (2007), Benefits Realisation Management.

Norway: Developing benefit indicators

Hoykom is a grant programme promoting broadband use and applications in the Norwegian public sector. It is financed by the Department of Trade and Industry and the Department of Education and Research. The Research Council of Norway has provided an overview of the programme and over 400 projects through external reviews and audits. The Council has taken several steps to improve the programme's effectiveness and results by:

- Requiring a benefits realisation plan laying out what benefits to be achieved and how and when they will be achieved, and to demonstrate high-level organisational support.
- Requiring a cost/benefit analysis.
- Mandating reporting of progress in terms of indicators used in the benefits realisation plan.
- Updating the benefits realisation plan at the end of the project.
- Reporting actual benefits one year after project implementation.

There are three crucial elements: a realistic project and benefits realisation plan, high-level organisational support, and a measurement system that facilitates identification of benefits to be achieved and what was actually realised. The *Hoykom* case demonstrates the advantages of standardising the measures to be used for similar types of investments (*i.e.* sectoral or technological investments), allowing for comparison across similar projects and identification of best practices.

Source: OECD (2007), Benefits Realisation Management.

Awareness raising: A priority in the Korean new national plan (2008-11)

The Korean government has established a four-year national plan (2008-11) to increase user take-up of e-government services. The action plan takes a phased approach to increase the usage rate of e-government services through increased public awareness, user take-up, and public satisfaction level.

- **Phase I (2008)** focused on increasing public awareness of e-government services (with the aim of reaching 86% of user awareness) and on establishing a legislative framework for promoting e government services. All Korean e-government services are to be branded by a "Korea e-Government" brand as a means to raise public awareness and strengthen advertisement efforts through co-operation with private Internet portals.

- **Phase II (2009)** focused on customising e-government services to meet user needs; the provision of "My-egov" services and the identification of administrative services that could be useful to the public as e-government services; the application "integrated ID management system (G-PIN)" will be developed further to strengthen ICT security.
- **Phase III (2010)** focuses on creating a quality management system in order to increase user satisfaction levels; and it will focus on applying professional service quality assessment agencies for quality assessment of e-government services.
- **Phase IV (2011)** will focus on reaching the targeted rates for public awareness (90%), user take-up (60%), and service satisfaction (80%).

Source: Korean Ministry of Public Administration and Security, 2008.

Germany and the United States: Marketing e-government

Marketing is an integral part of the German initiative *BundOnline*. Initially the marketing focus was on enhancing awareness of the *BundOnline* and the services it offers to citizens, businesses and government agencies. As transactional services have become available, the focus is now concentrated not only on making the services better known to businesses but also on improving usage.

In the United States, the Office of Management and Budget (OMB) is trying to boost citizens' awareness of federal e-government service, through a marketing and outreach strategy focused on about 10 of the 25 "Quicksilver" projects. Marketing includes targeted outreach to particular customer segments, innovative ideas on how to increase usage, and methods on providing greater synergy among e-government offerings. OMB gives each agency project office resources to reach out to citizens. The marketing plans focus on how many customers are using the service and whether or not it meets their expectations. The approach focuses on enhancing utilization and adoption.

Source: OECD (2009), Rethinking e-Government Services: User-centred Approaches, OECD, Paris.

United Kingdom: Increasing user take-up through "Connect to your council" take-up campaign

The take-up campaign to increase the number of people using online council services effectively and efficiently was launched by UK communities and local government on 8 May 2006. Under the strap-line of "Connect to your council", the campaign was designed to raise citizen awareness of a wide range of online council services, from finding information on rubbish collection, to applying for school places, or paying bills. People visiting the campaign homepage at *www.direct.gov.uk/mycouncil* only need to enter a post

code, town or street name to be taken directly to the relevant service page of the local council website. With two-thirds of UK homes connected to the Internet and over 10 million broadband connections, there is a huge opportunity for people to connect with their council on line, by putting themselves in charge of when, where and how they access local services. A pre- and post-campaign survey measured the impact of the campaign.

Source: OECD (2009), Rethinking e-Government Services: User-centred Approaches, OECD, Paris.

Notes

1. Former departments of Human Resources and Skills Development Canada (HRSDC) and Social Development Canada (SDC)
2. Service Canada was created in September 2005 as part of the Initiative to provide enhanced, one stop-shop services to Canadians, delivered with a strong client-service orientation, with the aim to bring government services and benefits together making it easier for Canadians to get more of the help they need in one place, whether by phone, Internet or in person. It has since its creation been in the process of integrating services from a number of departments to form a single service delivery network. The goal over time is the continuous improvement in service delivery and client satisfaction, including closer co-operation with provinces on one-stop-shop service delivery.
3. HRSDC and Service Canada currently have 11 Government On-Line projects and also manage five "clusters" of information and services including the Financial Benefits cluster, the Human Resources Management cluster; the Jobs, Workers, Training and Careers cluster; the Persons with Disabilities cluster, and the Youth cluster Users' support issues, *e.g.* email management, and technical ones such as search functionality and content management tools and processes are being re-evaluated in light of Service Canada's scope and goals.
4. Government of Canada (2006) *Outcome Management Guide and Tools*, *www.olis.oecd.org/COMNET/PUM/egovproweb.nsf/viewHtml/index/$FILE/GOLI_OM_GUIDE_ AND_TOOLS.PDF*
5. New Zealand has also developed an Outcome management approach called Pathfinder. See bibliography for more information.

ANNEX B

Reaping the Benefits of Cloud Computing, Web 2.0 and Open Data: OECD Country Experiences

Cloud Computing

Developments in ICT mean it is now possible for different teams, offices or even organisations to share the same ICT infrastructure. The different hardware can be brought together and used to deliver increased flexibility and responsiveness to business needs while reducing costs. Essentially, it means moving from ICT that has been procured separately by organisations as their own infrastructure, to a new model in which ICT is provided as a utility.

The term "cloud computing" comes from the way some large Internet firms responded to rapid change and growth in their businesses. The physical infrastructure the company owned became a pool, or cloud, of resources, available to the whole business rather than being linked to a specific location or process. Resources were typically located in purpose-built data centres, providing optimal levels of security and reliability. As well as enabling business flexibility, the cloud approach also provided other benefits. For example, it led to the development of new standards that made it possible to deploy business applications on any available computer system, rather than just those that had been uniquely configured to fall in the unit costs of computer resources because workload was allocated flexibly and dynamically to any available computer system, the businesses saw much higher system utilisation levels. It also led to further significant cost savings in both capital expenditure on computing resource, as each server carries a bigger workload, and on operating expenditure, as things like energy consumption are reduced.

The adoption of cloud computing is still at an early stage of development among OECD countries. As a result, there aren't many *ex post* facts or evidences yet available which create some resistance to its adoption by many

governments. What can be inferred is that the cloud model is sufficiently proven for there to be clear benefits to the public sector.

Thanks to cloud computing resources, systems, software and information are provided on-demand and can be shared by public institutions. By facilitating a more rapid access to innovative IT solutions, as well as the sharing and/or consolidation of systems, cloud computing can allow economies of scale and enable public agencies to spend less time – and taxpayers' money – on procedural items and focus more on using technology to achieve their missions, goals, etc. On this basis, cloud IT services and social media applications are part of many governments' push for "better government at lower cost" (*e.g.* the US, Korea, and the UK). Therefore, even though there are no strong evidence/facts yet on the results actually achieved that can be mentioned, it is clear that there will be a major shift in the ICT industry to the cloud model, and that the benefits will be substantial. Governments, therefore, cannot afford to miss out on these opportunities and, in the relatively short term, it will be possible to mitigate many of the risks through putting in place a private cloud for government – sharing resources across the public sector. Establishing the Government Cloud will involve a major change in the way ICT is procured and supplied, which will in turn require significant change in both ICT suppliers and public sector organisations.[1]

Web 2.0 and open data

The term Web 2.0 is used to describe the social use of the Internet with tools that allow people to collaborate and share information on line in ways previously unavailable. Web 2.0 is used for web-based communities, virtual worlds, and hosted services for social networking, social interaction and information dissemination. The concept of social networking encompasses new patterns of use and behaviour, changing culture and interaction within the public sector and between the citizens and the public sector, as well as new technologies to support these changes. The tools being used or considered by public agencies include web logs or blogs, wikis, online forums; RSS, mash-ups, social network services; and services such as Flickr and YouTube.

The use of the new collaborative tools and approaches of Web 2.0 offers an unprecedented opportunity to achieve more open, accountable, responsive and efficient government. Leadership and policy and governance changes are needed to: shift public sector culture and practice to make government information more accessible and usable; make government more consultative, participatory and transparent; build a culture of online innovation within government; and promote collaboration across agencies. Web 2.0 can harness the wealth of local experts, knowledge, ideas and enthusiasm to improve

schools, hospitals, workplaces, as well as to improve policy making, regulations and service delivery. Web 2.0 is also a key means for renewing the public sector, offering new tools for public servants to engage and respond to the community, empower the enthusiastic, share ideas and further develop their expertise through networks of knowledge with fellow professionals and others. Together, public servants and interested communities can work to address complex policy and service delivery challenges.

One of the most critical aspects of Web 2.0 technologies is their impact on access to public sector information (PSI). When information is released it creates new and powerful dynamics which can drive innovative use and reuse, allowing the commercial, research and community sectors to add value to it. Such benefits can be facilitated by licensing Public Sector Information, on as liberal terms as possible. Open access to PSI usually refers to PSI which is freely available at zero cost and on terms and in formats that allow users to copy, use, transmit, reuse and transform the PSI from its original form.

Internationally and nationally, there is a growing recognition of the extent to which PSI is a resource that should be managed like any other valuable resource, *i.e.* to optimise its economic and social value.[2] As policy makers and service deliverers, governments spend large sums collecting, analysing and transforming vast amounts of data, information and content. The government has already invested in the production of this information. Thus it exists as a national asset. On the one hand, information should be expensive because it is so valuable (for example the right information at the right time can drastically change a situation) and at times expensive to collect. On the other hand, information should be free because the cost of distributing it is decreasing all the time. As in the case of cloud computing, there is yet no general business case for the use of Web 2.0 and open data as a means to increase government's openness (which relate to the adoption of a broader approach to efficiency). Therefore, several fronts need to be considered, when looking into the benefits of using Web 2.0 and open data: Economic Value, Improved service delivery and Social Value, Good governance (government).[3]

In terms of economic value: Opening up useful government datasets has proved extremely successful in the United States, where all government data – unless there is a security, privacy or business case otherwise – is made public. Making geospatial data publicly available actually increased the value 20 times more than what the US government could have generated by commercialising the data themselves.[4] The essential aspect of Web 2.0 is that users create their own content and combine it with third party content (mash-ups). Information from government which is not available to be re-used for free will be excluded from these kinds of mash-ups. This will lead to a situation where only information from citizens and businesses will circulate in Web 2.0 and government will be absent. In addition, the budgetary effects of

Web 2.0 are indirect. Governments can try to sell the information they produce as part of their normal duties (*e.g.* maps related to maintenance of roads and public planning, registers of addresses legislative text) to the market which will evaluate the cost and will choose the information with the best price/quality ratio in relation to their business case.

Once it is made freely available by governments, PSI has great economic potential. According to a survey conducted by the European Commission in 2006 (MEPSIR study[6]), the overall market size for PSI in the EU is estimated at EUR 27 billion.[7] Various international studies[8] confirm economic benefits of open PSI licensing. Often these benefits are so great that the increased corporate and individual taxes on additional economic activity outweighs any revenue losses in the move from charging for PSI to distributing it free of charge. Likewise, the 2007 UK Power of Information Review estimated the amount of money generated by direct sales of information by UK trading funds to be much smaller than the wider value of PSI to the economy.[9] The potential benefits of dealing with information are not isolated to the public sector. The 2008 UK Capgemini Information Management Report found that failure to properly exploit information assets was costing the UK's private and public sectors a staggering GBP 46 billion and GBP 21 billion[10] respectively.[11]

These studies seem to indicate that the gains for the governments are the highest as the already produced information is free for re-use by third parties (no legal restrictions or prices for re-use). According to these studies, the free information will give an impulse to the economy and the extra income from this impulse is supposed to exceed the potential income from the sale of information. With this principle (and expectations) in mind, some EU member states (*e.g.* the Netherlands) are preparing legislations to abolish copyright on public information. References to the countries' experiences can in this case also represent a valuable way to support this point.

In terms of social value: Many of the social benefits derived from PSI are not easily quantifiable in economic terms but they improve citizens' quality of life in a myriad ways. The general drift away from passive modes of communication to social media sites, picking and choosing content preferences, sharing, referring, collaborating is growing rapidly with consumers who are more active than ever before, and raising the potential for citizens' engagements. The same move is happening with the citizens demanding the same active, participatory, collaborative approach to the governance, administration and activities of their communities. With participation at the heart of this emerging global Gov 2.0 agenda, governments need to consider how to facilitate an engagement that is informed inclusive, safe and meaningful.

In terms of the relevance for government or the political level: People now expect to have similar engagement with their political representatives

and government agencies that intersect with their lives. Web 2.0 and open PSI can be instrumental in enhancing engagement, transparency, openness and accountability both in government.

The establishment of "a pro-disclosure culture around non-sensitive public sector information" seems therefore to be straightforward enough. Yet, the list of objections that might be made to the release of PSI – reasons for arguing that this particular piece of information is not "non-sensitive" – and the perceived obstacles (e.g. security considerations, economic reasons, risk of manipulation), is virtually endless. These matters should be carefully considered in agencies' management of Web 2.0, but they should not become reasons for preventing moving forward with open data. The overseeing of the new policy of openness by an agency with sufficient authority and independence can ensure that each decision which might obstruct the free flow government information is informed and the risks associated with it are limited.

Increased use of cloud computing, Web 2.0 and open data will not be easy, for it directly challenges some aspects of established policy and practice within governments. However, as these tools and practices are central to the delivery of government reforms like promoting innovation, and improving public service delivery changes in culture, practice and policy to support them are inevitable.

The experiences below exemplify the approach adopted by some OECD countries to deal with issues related with cloud computing, Web 2.0 and open data.

Australia

The Australian government has a strong commitment to openness and transparency which is also seen as complementary to the potential of Web 2.0.

In terms of good governance, a task force was commissioned with the preparation of a Gov 2.0 Report, which was already recognised as an important contribution to the global Gov 2.0 discussion and the Australian government is due to formally respond to it. In terms of major legislative reform the goal of improving Freedom of Information is well underway. There is legislation to update the Archive Act and introduce an Information Commissioner to oversee improvements to transparency, accountability and the Gov 2.0 agenda, an Information Commissioner designate has recently been appointed pending legislation being enacted.

Examples of innovating with open public sector information to make it useful to citizens include the Victorian Government new bushfire initiative, the Federal Government's My School, and the Australian Agricultural and Natural Resource Online. Examples of the use of Web 2.0 tools to engage the

community, recognising the social Value of PSI are the National Library's Australian Newspaper Digitisation program and the impact of voluntarism on the notable success of this initiative.

Examples of agencies opening up their datasets include the Office of Spatial Data Management (with Australian Government's 2001 Spatial Data Access and Pricing Policy being one of the first programs globally to make data previously sold available without charge) and the Australian Bureau of Statistics (ABS). The ABS has also been at the forefront of the movement within the Australian government to free up data. There has been a surge in the use of ABS data, going from around a million downloads per year when data was sold to recover costs, to over four million downloads a year in the first full year of free access.

Source: *www.finance.gov.au/publications/gov20taskforcereport/index.html* (accessed 30 April 2010)

The US "Open Government Directive"

The Open Government Directive which was informed by recommendations from the Federal Chief Technology Officer, who solicited public comments through the White House Open Government Initiative, builds on the idea that the three principles of transparency, participation, and collaboration form the cornerstone of an open government. Transparency promotes accountability by providing the public with information about what the government is doing. Participation allows members of the public to contribute ideas and expertise so that their government can make policies with the benefit of information, which is widely dispersed in society. Collaboration improves the effectiveness of the government by encouraging partnerships and co-operation within the Federal Government, across levels of government, and between the government and private institutions. This Open Government Directive establishes deadlines for action. However, because of the presumption of openness that the President has endorsed, agencies are encouraged to advance their open government initiatives well ahead of those deadlines. The memorandum published on 8 December 2009 requires executive departments and agencies to take the following steps towards the goal of creating a more open government:

- **Publish Government Information On line:** To increase accountability, promote informed participation by the public, and create economic opportunity, each agency shall take prompt steps to expand access to information by making it available on line in open formats. With respect to information, the presumption shall be in favour of openness (to the extent permitted by law and subject to valid privacy, confidentiality, security, or other restrictions).
- **Improve the Quality of Government Information:** To improve the quality of government information available to the public, senior leaders should make

certain that the information conforms to the Office of Management and Budget (OMB) guidance on information quality and that adequate systems and processes are in place within the agencies to promote such conformity.

- **Create and Institutionalise a Culture of Open Government:** To create an unprecedented and sustained level of openness and accountability in every agency, senior leaders should strive to incorporate the values of transparency, participation, and collaboration into the ongoing work of their agency.
- **Create an Enabling Policy Framework for Open Government:** Emerging technologies open new forms of communication between a government and the people. It is important that policies evolve to realise the potential of technology for open government.

As part of the ongoing implementation of the Open Government Plans, the first comprehensive review of progress on the implementation of the directive was published on 26 April 2010 by the OMB. The Cabinet departments and other major agencies were asked by the Office of Management and Budget to evaluate version 1.0 of their plans (or recent revisions) against the requirements of the Open Government Directive.

The review builds on 30 metrics drawn directly from the directive and gives a diversified overview of how the US federal government is progressing. The results were posted on *www.whitehouse.gov/open/around* and on each agency's open government page. The results have been published using a traffic light system for all departments and agencies. An agency that meets all of the criteria gets an overall green flag. An agency that fails to fulfil even one criterion gets an overall yellow flag to signify that work remains to be done to improve the plan as part of the implementation process. In addition, an evaluation of each of the four major components of the plan – Transparency, Participation, Collaboration, Flagship Initiative – as well as a process section were included.

There are important lessons to be learned not only from the government's self-evaluation efforts, but also from the reviews and recommendations submitted by outside groups and individuals to sustain the US Administration in its commitment to improve operations and data transparency and expand opportunities for citizen participation, collaboration, and oversight. In particular, emphasis is placed on the need to identify and spread the information on agencies' leading practices, on the mandatory use of existing technology platforms (*www.data.gov*, eRulemaking, IT Dashboard, *www.recovery.gov*, *www.USAspending.gov*) and on public engagement and participation – supported by technological platforms (read: electronic social media, wikis and other Web 2.0 tools).

Source: Office of Management and Budget (OMB), "Memorandum for the Heads of executive departments and agencies" titled "Open Government Directive" *www.whitehouse.gov/blog/2010/04/26/honest-assessment-open-government-initiatives* (accessed 30 April 2010).

The US "Data.gov"

The *Data.gov* launch, on 21 May 2009, underlined President Obama's commitment to open and transparent government. *Data.gov* is a flagship administration initiative intended to allow the public to easily find, access, understand, and use data that are generated by the Federal government.

Data.gov operates at two levels. The website is the public presence, delivering on the government's commitment to transparency. On the policy level, *Data.gov* is about increasing access to data that agencies already make available and making available additional data sources that have not been freely presented to the public in the past. For data that are already available, the emphasis is improved search and discovery as well as provisioning of data in more usable formats. For data that have not been widely available due to current business processes and policies, the focus is on providing data in a more timely and granular manner while still protecting privacy, confidentiality, and security.

On an operational level, the focus of *Data.gov* has been on creating the website and associated architecture designed to catalogue Federal datasets, improve search capabilities, and publish information designed to allow the end user to determine the fitness for use of a given dataset for a particular application. The goal is to create an environment that fosters accountability and innovation. Realising the vision for the website requires agencies to:

- Make their most relevant and informative data and related presentation tools available through *Data.gov*;
- Do so in a manner that supports use and innovation by stakeholders – public or private; and
- Agree on a shared performance management framework centring on quantifying the value of dissemination of high quality, secure, public information that does not raise privacy or confidentiality concerns.

The Department of the Interior's and the Environmental Protection Agency's Chief Information Officers (CIOs) serve as the co-leads for development and operations of the *Data.gov* website, with support provided by the General Services Administration and the Office of Management and Budget.

Source: www.data.gov "Concept of Operations", Version 0.7, 3 December 2009.

The US IT Dashboard

The IT Dashboard (*http://it.usaspending.gov*) is a new US website which provides the public with an online window into the details of Federal information technology investments and users with the ability to track the progress of investments over time. The IT Dashboard displays data received from agency reports to the Office of Management and Budget (OMB), including general information on over 7 000 Federal IT investments and detailed data for nearly 800

of those investments that agencies classify as "major". The website includes for instance a section with information on the total IT spending as well as the percentage of change in IT spending for the management of government resources (*e.g.* IT management, IT infrastructure maintenance) and for the delivery of services to citizens. The performance data used to track the 800 major IT investments is based on milestone information displayed in agency reports to OMB called "Exhibit 300s" Agency. CIOs are responsible for evaluating and updating select data on a monthly basis, which is accomplished through interfaces provided on the website.

The beta release of the IT Dashboard is regarded by the US government as the beginning of a new era of transparency into the Federal IT portfolio. The government expects many new features to be introduced in the coming months. For the time being, some of the features that the government is working on include:

Analytics

- Earned Value Management (EVM) analysis for investments where applicable, as additional data are provided by agencies.

More Data

- Evaluations of all Major Investments: Agency CIOs will continue ranking their investments in the coming months.
- More detailed contracts data: linking more investment data to awarded contracts.
- New data elements to be used for more advanced investment analysis.
- Historical performance of major investments over time.

Data Feeds

- Additional features for filtering and aggregating data.

Participation

- Additional chart customisation features.
- Agency-generated content, such as widgets or mash-ups using IT Dashboard data.
- Personal portfolios: create the personal own portfolio of investments to watch and subscribe to updates to these investments.
- Users feedback will be used to evolve this platform.

Source: The IT Dashboard at *http://it.usaspending.gov/*

Social networking in the US Public Sector

The US State Department will be launching its own social network, called Statebook for employees and diplomatic officials, which is envisioned to function

similarly to commercial social networks such as LinkedIn. With employees spread across the globe, Statebook will enable the sharing of information among colleagues and will serve as a way to find subject-matter experts in various fields and potential resources. Using the network will allow employees to post profiles that other users can validate, as well as link to other resources, articles or posts they've contributed to other Web-based communities.

The office of eDiplomacy has been a part of the Bureau of Information Resource Management since October 2003. Its mission is to connect diplomats with IT decision-makers and improve collaboration efforts within and outside the department. Other major projects by the office include virtual presence posts, which allow the department to engage with, and therefore serve, communities without an American embassy or consulate building; the Diplopedia wiki, the department's internal unclassified online encyclopaedia; communities @State, which encourages personnel to form online blogging communities; enterprise search, which provides a range of search tools and databases for employees to find information on its intranet and interagency networks; classified web publishing on its classified interagency network; and collaboration clearinghouse, an advisory on best practices and collaborative tools.

Social networking has become a driving force in the Obama administration's moves to make the federal government more open to the public and encourage greater public participation. It is also trying to foster greater internal collaboration by using sites such as Facebook to share information across departments or with the community. The Homeland Security Department, for example, launched its First Responder Communities of Practice online network on 1 February 2010. The network links fire, law enforcement, emergency medical services and emergency management personnel and enables them to connect and share advice on how to best prepare for and respond to all hazards.

Source: The IT Dashboard at *http://it.usaspending.gov/* (accessed 30 April 2010)

The UK: Unlocking PSI in the UK

The UK **Office of Public Sector Information (OPSI)** has established a PSI "Unlocking Service" in beta which individuals can use to gain access to PSI in a straightforward way.[12] The service allows individuals to make requests for PSI that they wish to reuse. Requests can include pointing out where licences are too restrictive for reuse or suggesting where an API for data would be useful. The OPSI checks first that the data is not already available under data access laws and if it is not, uploads the request to allow others to vote for it. OPSI also contacts the PSI holder on the individual's behalf to seek the release of the information.

Another project aimed at improving, expanding and adding value to PSI is **Your Archives**[13] which was launched in beta in April 2007 by The National

Archives in the UK. It is a wiki that allows people to submit both articles about historical subjects and articles about records in The National Archives' collection. People can also use the site to collaborate with others on research projects and can edit other pages. The site does however retain a number of restrictions on the use of its data.

Similarly to the US the UK has embraced a number of principles supporting Open data which are laid out in the policy document "Putting the frontline first: smarter government" (December 2009). Key ideas are that access to information empowers citizens and that data can also be used in innovative ways that bring economic benefits to citizens and businesses by releasing untapped enterprise and entrepreneurship. Public services are run and assessed on objective, non-personal "public data" that are generated in the course of service delivery. The taxpayer has already paid for its collection, but does not always have the right to access it. By enabling access on the terms of public data principles the UK expects to create opportunities for third parties to develop innovations using free government data.

The UK ICT strategy for government: Public Sector Network

The UK ICT strategy for government builds on the idea that the Government Cloud infrastructure is expected to provide a secure and resilient shared environment through which public sector bodies can resource ICT services at greater speed and lower cost. This is seen as key enabler of the GBP 3.2 billion annual savings laid out in the Operational Efficiency Programme.

The **Public Sector Network Strategy** foresees the establishment of the Public Sector Network to be a single, coherent telecommunications infrastructure for the whole of the public sector. It is expected to replace the existing approach where each public body designs, develops, installs and maintains its own network – an approach which has led to fragmented and expensive service delivery. As well as reducing operating costs and complexity, the Public Sector Network opens up new opportunities for information sharing and increasing local and national participation. This is not just about cost, it also reflects user behaviour. In today's world, people are used to a much more mobile lifestyle and expect to be able to access their ICT services wherever and whenever is convenient – often outside the office environment. The Public Service Network is expected to allow the delivery of services to any location and, through standards, will enable unified communications in terms of voice, video and collaboration capabilities.

The **Data Centre Strategy** is aligned with other elements of the Government ICT Strategy – in particular the Public Service Network – and provides the enabling platform for the Government Cloud and the Government Applications Store. The Data Centre Strategy aims at overcoming

the weaknesses of a situation where budgets and procurement decisions have been devolved to many different levels, meaning that while procurement decisions have been taken in the best interests of each individual organisation at a specific time, at the "big picture" level this has resulted in a proliferation of data centres. This is not only costly in itself, but also makes it difficult to: achieve large, cross-government economies of scale, meet environmental and sustainability targets, protect against natural disasters or human-initiated incidents, provide consistent security controls across government, deliver ICT systems that are flexible and responsive to demand in order to support transformational government, take advantage of new technologies in order to deliver faster business benefits, and procure in a way that supports and encourages a dynamic and responsive supplier marketplace. The Data Centre Strategy is expected to reduce the number of data centres used by Government to between approximately 10 and 12 secure, resilient services. Cooling and power consumption will be reduced by up to 75% per year and infrastructure costs by up to £300 million per year.

Source: *www.cabinetoffice.co.uk* (accessed 30 April 2010)

Open government in Spain

Although policies aimed at promoting the reutilisation of public data are relatively nascent in Spain, important first steps have been made under the auspices of the national Information Society strategy Plan Avanza 2 (2010-15). The most prominent example is a project launched in early 2009, *Aporta*, a user-friendly repository and search engine similar to that of data.gov. *Aporta* (literally meaning to "contribute" or "share" in Spanish) has a budget of EUR 1 million, allocated to the construction and maintenance of an online portal (*www.aporta.es*). The project also seeks to stimulate take-up of this tool, by funding informative and capacity-building sessions for citizens, SMEs and civil servants.

Aporta demonstrates Spain's intentions to follow the trend of other countries to encourage open government, with the goals of fostering public sector co-operation and innovation; increasing transparency and interoperability; and generating new opportunities for social and commercial gain. Spurred by the EU law 2003/98/CE, national legislation followed in Spain with law 37/2007 of 16 November, which also governs the conditions under which data can be shared and used. Indeed, Plan Avanza 2 includes open government as one of its strategic objectives, though specific initiatives beyond *Aporta* are in early stages development.

Spain's 17 autonomous communities are also following suit. *Pais Vasco* is one of the first regional governments to launch its own website *http://opendata.euskadi.net/w79-home/es/*. Thus far, some of the solutions from re-use

of public data have included wikis and geographic information systems that compile tourism and cultural information of interest, as well as customisable widgets.

Source: *http://www.aporta.es/web/guest/informacion_general_aporta* (accessed 30 April 2010)

Notes

1. The UK Cabinet Office (2010), "The Government ICT Strategy. Smarter, Cheaper, Greener."
2. In April 2008 the Organisation of Economic Co-operation and Development (OECD) Council adopted the *Recommendation of the OECD Council for enhanced access and more effective use of public sector information www.oecd.org/dataoecd/0/27/40826024.pdf* or *http://tinyurl.com/59tafe*.
3. Australian Government Information Management Office (2010), Engage : Getting on with Government 2.0, Government 2.0 Taskforce Report.
4. James Boyle (2005), "Public information wants to be free", *Financial Times*, 24 February.
5. *http://consommacteurs.blogs.com/pg/files/FreePublicInfo.pdf* or *http://tinyurl.com/yl8vjdv*. Original reference can be found here: *http://books.google.com/books?hl=en&lr=&id=a0AbDHMb5rAC&oi=fnd&pg=PA137&dq="borders+in+cyberspace"&ots=Rba8jsGD2l&sig=Ybt4uynggQj6MzNzyBIa0WuayY#v=onepage&q=%22borders%20in%20cyberspace%22&f=false* or *http://tinyurl.com/ykll3qc*, accessed 30 April 2010.
6. *http://ec.europa.eu/information_society/policy/psi/mepsir/index_en.htm* or *http://tinyurl.com/y9xhc49,* accessed 30 April 2010.
7. Note there is a wide range of estimates of the value that is generated from PSI owing to the immaturity of the field and divergent assumptions about what PSI is and what value generation is dependent on it. See Pira International for a different approach which estimates a much higher value of PSI.
8. See also Ed Mayo and Tom Steinberg, *Power of Information Review: an independent review*, commissioned by the UK Cabinet Office, June 2007, p. 34-35. *www.englandlegislation.hmso.gov.uk/advice/poi/* or *http://tinyurl.com/yb2fxg7* and David Newbery, Lionel Bently and Rufus Pollock, Models of Public Sector Information Provision via Trading Funds, Cambridge University, 26 February 2008, *www.opsi.gov.uk/advice/poi/models-psi-via-trading-funds.pdf*.
9. Ed Mayo and Tom Steinberg *The Power of Information Review: an independent review*, commissioned by the UK Cabinet Office, June 2007, p. 34. *www.englandlegislation.hmso.gov.uk/advice/poi/* or *http://tinyurl.com/yb2fxg7*.
10. Capgemini, 3 March 2008, "Failure to exploit information loses UK economy £67 billion a year" at *www.uk.capgemini.com/news/pr/pr1605*. Nokia expects mobile services based on Global Positioning System information to generate the main share of its future revenues. Using these, drivers can subscribe to real-time traffic information enabling them to anticipate traffic jams and/or check fuel prices in advance of choosing a petrol station. (European Commission Staff. 2009, Working Document Accompanying document to the Communication from the Commission to the European Parliament, the council, the European Economic and

Social Committee and the Committee of the Regions on the re-use of Public Sector Information – Review of Directive 2003/98/ECONOMIC).

11. *http://ec.europa.eu/information_society/policy/psi/docs/pdfs/directive/com09_212/staff_working_document.pdf* or *http://tinyurl.com/ylgrbau*, accessed 30 April 2010.
12. Office of Public Sector Information, UK, *www.opsi.gov.uk/unlocking-service/* or *http://tinyurl.com/y9ze6zz*, accessed 30 April 2010.
13. *http://yourarchives.nationalarchives.gov.uk*, accessed 30 April 2010.

ANNEX C

Survey results

As part of the follow-up review of e-government in Denmark, the OECD conducted an online survey in the public sector focusing on the four main issues that the review has been looking into (see also Annex E: Survey methodology):

- the impact of e-government on the public sector modernisation and efficiency efforts;
- benefits realisation of e-government projects;
- user take-up in e-government services; and
- the organisational structure supporting e-government implementation.

The survey is part of the background research supporting the analyses, assessment and proposals for action presented in this report. It shows that Denmark has a high degree of e-government maturity with a focused and systematic approach to the implementation cycle of e-government. The survey represents a broad cross-section of Danish public sector institutions and their leadership showcasing in general a mature and knowledgeable management within the public sector – with a good understanding of e-government implementation as a whole-of-public-sector initiative.

Even though the general perception of the e-government implementation and the focused efficiency agenda driven by the Ministry of Finance as seen in the survey among public sector institutional management is positive, there are issues for Denmark to take note of and consider its approach to e-government implementation.

This annex presents the results of the survey. The results should be considered as part of the evidence base and need to be seen in the light of other evidence sources such as documents and other written materials, and interviews conducted in early October 2009 to explore the different perspectives and impressions of e-government development in Denmark.

Impact of e-government on the public sector modernisation and efficiency efforts

The questions in this section aim at respondent's perception of the degree of alignment of the Danish e-government initiatives with the public sector modernisation agenda. The focus is on how the Danish E-Government Strategy 2007-2010 (*Strategy for Digitalisering af den Offentlige Sektor 2007-2010*) has been used to build support from decision-makers and government employees to achieve public sector modernisation and increased efficiency objectives.

Contribution of e-government to the public sector modernisation and efficiency goals?

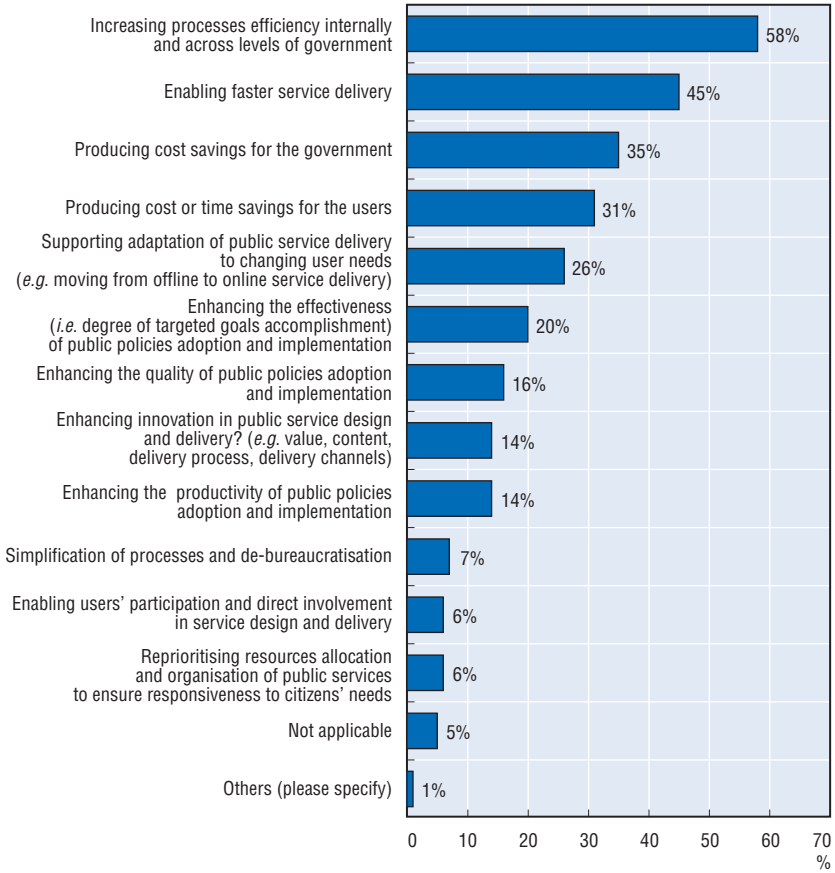
The question of whether e-government has contributed significantly to public sector modernisation and efficiency is important as an indication of how well the e-government strategy is integrated with broader public sector modernisation strategies. The Ministry of Finance's strong focus on reaping benefits in the form of cost-savings has had a strong impact on the answers from the Danish public sector as 58% of the respondents indicate that e-government contributes significantly to achieving process efficiencies within and across levels of government; 48% of the respondents mention the possibility of delivering services more quickly. Respondents see a limited role for e-government as a lever for a more user-centric approach to e-government implementation (only 6% answer that reprioritisation of resource allocation and organisation of public services to ensure responsiveness to citizens' needs and enabling users' participation and direct involvement in service design and delivery is a contribution of e-government). Surprisingly, only 7% answer that e-government contributes significantly to simplification of processes and de-bureaucratisation – a political priority of the European Union (in its *i2010* strategy,[1] and compared to other OECD countries such as Portugal's emphasis on seeking synergies between simplification and e-government activities.[2])

Contribution of e-government to public sector reform goals

A number of public sector reform initiatives have been launched since 2005. Among the most significant are:

- **a 2007 public sector structural reform** of the public sector focusing on creating sustainable municipal units by reducing the number of municipalities significantly (from 271 to 98 municipalities), abolishing 14 counties and establishing five regions;
- **a 2007 quality reform** that focused on improving the quality of service delivery and increase the number of satisfied frontline workers in the public sector; and

Figure C.1. **How has e-government contributed significantly to achieving public sector modernisation and efficiency goals?**

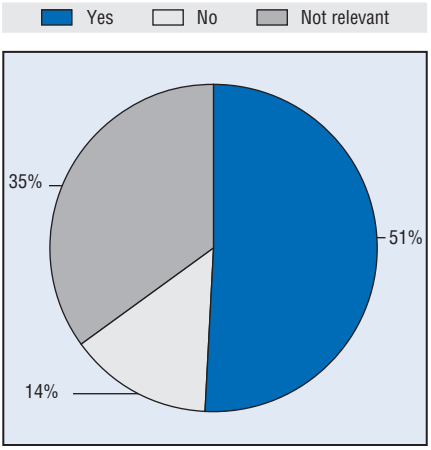


Source: OECD survey of e-government in Denmark 2009. *Question 1.1: How has e-government contributed significantly to public sector modernisation and efficiency goals?*

- a 2008 de-bureaucratisation action plan focusing on increasing the efficiency in the public sector.

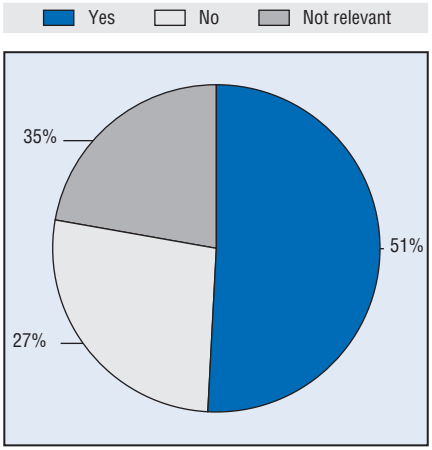
The impact of e-government on public sector reform initiatives has been recognised by 51% of the respondents (see Figures C.2a and C.2b). However, 49% of the respondents do not see e-government as a significant lever or do not know whether it has been a supporting tool. It is interesting to note that 27% of the respondents answered "no" to the question of whether e-government has been a help in achieving the aims of the Public Sector Structural Reform compared to 14% when asked the same question on the Quality Reform.

Figure C.2a. **Has e-government helped your organisation in achieving the aims of the 2007 Public Sector Structural Reform?**



Source: OECD survey of e-government in Denmark 2009. *Question 1.2: The 2007 public sector structural reform ("Kommunalreformen") aimed, amongst other goals, at providing better service delivery to citizens and businesses through professional sustainability, economies of scale and synergetic effects Has e-government helped your organisation to reach these aims?*

Figure C.2b. **Has e-government helped your organisation in achieving the aims of the 2007 Quality Reform?**



Source: OECD survey of e-government in Denmark 2009. *Question 1.3: The quality reform in 2007 aimed at creating higher levels of quality in government services and more satisfied frontline workers in the public sector. Has e-government helped your organisation reach these aims?*

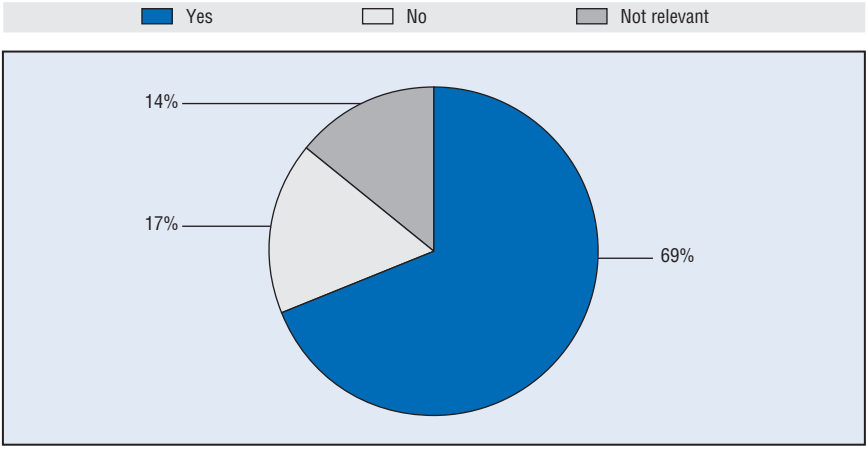
The focus of e-government implementation as a tool for cost-savings through the increase of efficiency and effectiveness through the 2008 de-bureaucratisation action plan is strongly confirmed by 69% of the respondents with 14% in doubt whether e-government has been a help or not as illustrated in Figure C.3.

E-Government and innovation

OECD country experiences show that e-government is one of the main drivers for innovation and transformation within the public sector. Through the implementation of e-government, public institutions have become more efficient and effective over the years as a result of institutions rethinking business processes and procedures internally and across organisational boundaries. It is therefore interesting to know whether Danish public organisations encourage innovation as part of their service improvement concepts.

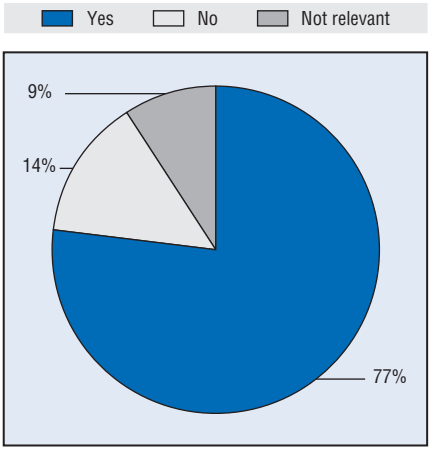
Figure C.4 confirms that public sector organisations are encouraging innovation in service delivery (77% of the respondents answered "yes"). Combined with the result shown in Figure C.5 where 92% of the respondents answered "yes" to the question on whether e-government and the potentials

Figure C.3. **Has e-government helped your organisation in achieving the aims of the 2008 de-bureaucratisation action plan?**



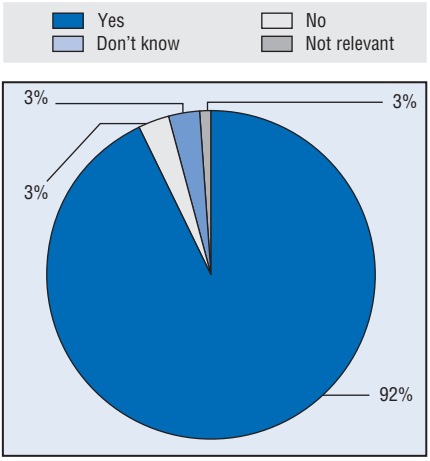
Source: OECD survey of e-government in Denmark 2009. *Question 1.4: The action plan for de-bureaucratisation from 2008 aimed at increasing the efficiency in the public sector to save money on administration and reallocate them to increase public services quality. Has e-government helped your organisation to reach these aims?*

Figure C.4. **Does your organisation encourage innovation in the delivery of services?**



Source: OECD survey of e-government in Denmark 2009. *Question 1.5 Does your organisation encourage innovation in the delivery of services?*

Figure C.5. **Is e-government and the potentials of new digital technologies integrated in your local innovation and service development?**

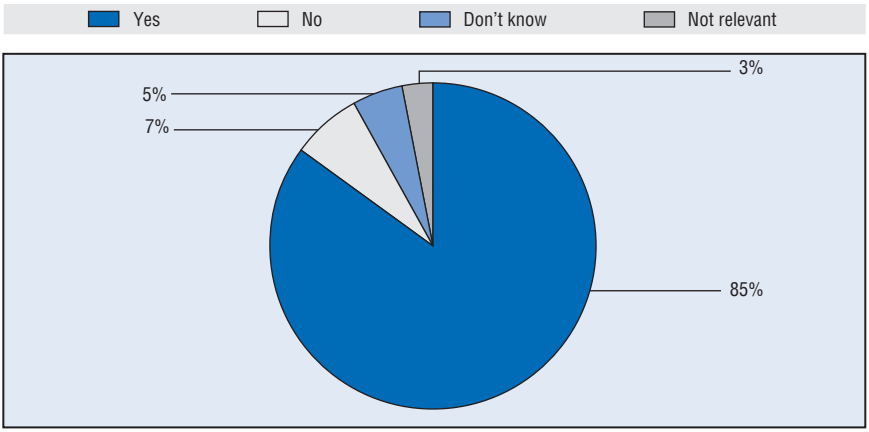


Source: OECD survey of e-government in Denmark 2009. *Question 1.6 Is e-government and the potentials of new digital technologies integrated in your local innovation and service development?*

of new digital technologies are integrated in local innovation and service development, the survey results show that innovation in service delivery is also an integrated part of local service development.

It is also interesting to note the strong national alignment of policy through-out the public sector as seen in Figure C.6 where 85% of the respondents confirm that their local innovation and the use of new digital technologies are aligned with national and joint government strategies.

Figure C.6. **Are local innovation and use of digital technologies aligned with national and joint government strategies?**



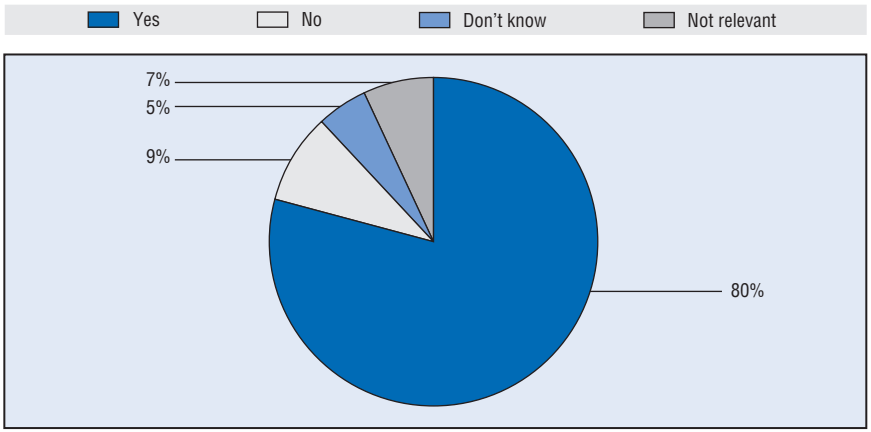
Source: OECD survey of e-government in Denmark 2009. Question 1.7 Are local innovation and use of new digital technologies aligned with national and joint government strategies?

The use of common ICT building blocks and Web 2.0

Public service delivery and broader modernisation efforts can be supported by the use of common ICT building blocks and infrastructures (such as secure electronic networks, ICT security infrastructures supporting the use of digital signatures (Public Key Infrastructure – or PKI),[3] logon components, etc.) and Web 2.0 tools such as wikis, blogs and electronic social networks. The ICT components developed are commonly used to facilitate e-government service implementation throughout the public sector. New electronic communication channels and platforms using Web 2.0 can support new ways of reaching out to and engaging population segments that are not usually in contact with the public sector and its service provision.

Survey respondents (80%) confirm that common ICT building blocks and infrastructures are supporting and enhancing service delivery in the public sector (see Figure C.7). Even though this strong confirmation of the role of common ICT building blocks and infrastructures for service delivery in the

Figure C.7. **Has the development of common ICT building blocks and infrastructures for the improvement of service delivery in general been a support for the service delivery of your organisation?**



Source: OECD survey of e-government in Denmark 2009. *Question 1.8 Has the development of common ICT building blocks and infrastructures for the improvement of service delivery in general been a support for the service delivery of your organisation?*

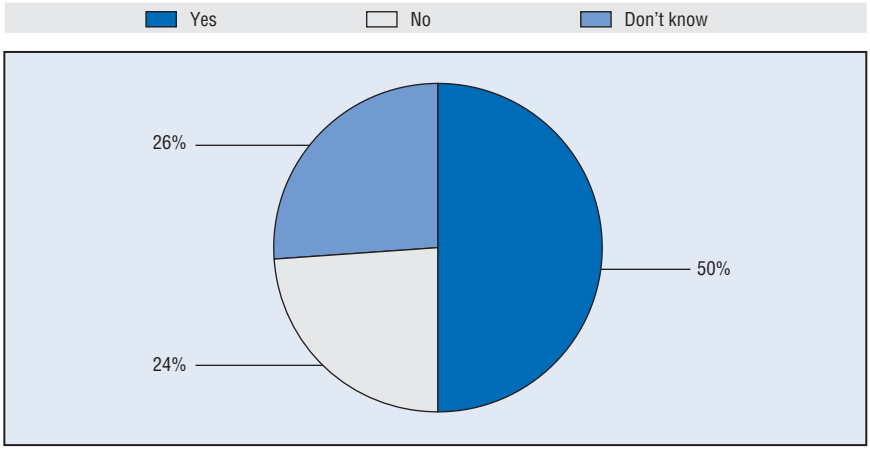
public sector, 9% of the respondents answered "no" to the question indicating that some public sector institutions do not see an impact of using common ICT building blocks and infrastructures for their service delivery obligations.

The use of Web 2.0 concepts in the public sector has increasingly attracted attention among OECD countries, especially due to the large number of citizens that daily use electronic social forums and read web blogs written by other citizens or professional writers such as journalists in news organisations or independent journalists. Reaching out to large parts of the population through these novel electronic channels has become increasingly important to businesses, the public sector actors, and politicians. Figure C.8 shows that the Danish public sector is embracing the use of these new communication channels and platforms.

The use of cloud computing

Having realised many of the easily achieved benefits regarding efficiency and effectiveness gains, OECD countries are looking for whole-of-government solutions that enable governments to harvest efficiency and effectiveness gains across the public sector. Questions are being asked whether the public sector needs to have their own infrastructure for service delivery, or whether new concepts involving both private and non-governmental service providers could provide the next phase of significant cost-savings in the public sector as a whole. Sharing resources and utilising economies of scale are the principles

Figure C.8. **Does your organisation currently use, or is planning to use Web 2.0 to support public sector modernisation efforts?**

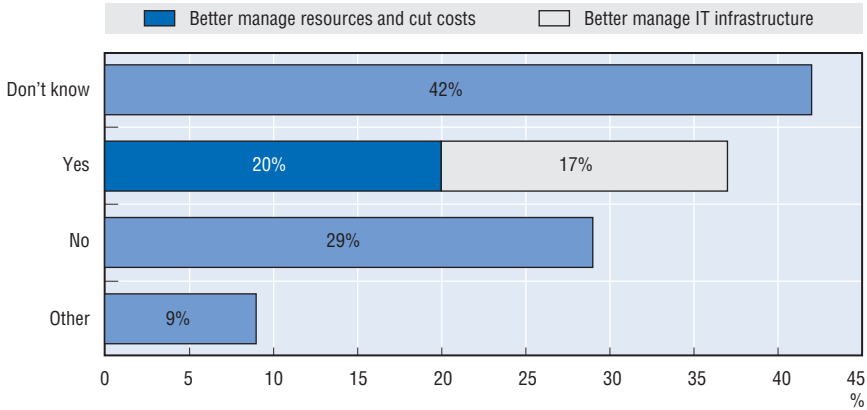


Source: OECD survey of e-government in Denmark 2009. *Question 1.9 Does your organisation currently use, or is planning to use web 2.0 (e.g. wiki, blogs, electronic social networks) to support public sector modernisation efforts?*

behind new conceptual thinking about e-government service provision – perceiving the electronic infrastructure such as the Internet as services. It is therefore interesting to measure to what degree this new conceptual thinking is part of current public sector thinking in Denmark.

Figure C.9 confirms that a large part of the Danish public sector is aware of the new conceptual thinking around cloud computing (66% of the

Figure C.9. **The use of cloud computing and the purpose**



Source: OECD survey of e-government in Denmark 2009. *Question 1.10 Does your organisation currently use, or is planning to use, concepts such as cloud computing (a notion that refers to a context where services, infrastructure, applications are delivered through the Internet) to sustain the achievement of one of the following public sector efficiency goals?*

respondents have answered either "Yes" or "No" to the question on whether they are currently using or planning to use concepts such as cloud computing) and despite the fact that 29% of the respondents are not using or have no plans to use cloud computing, it is significant that 37% of the respondents are either currently using or are planning to use cloud computing. The main reasons for either using or considering using cloud computing are the possibility to better manage resources and cut costs (20%) or better manage the IT infrastructure (17%).

Benefits realisation of e-government projects

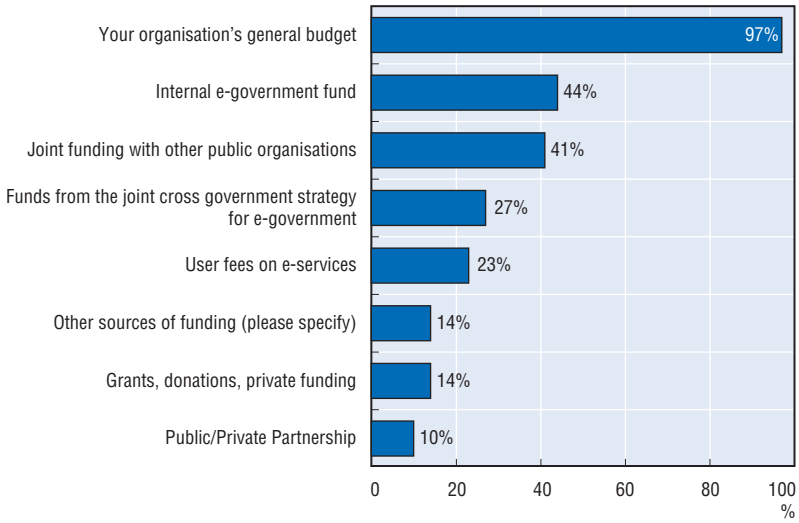
Benefits realisation of e-government investments has for years been a challenge for OECD countries. For many years governments have been investing in simplifying processes and procedures, in order to enable the provision of easy-to-use and coherent e-government services for citizens and businesses. Much focus has been on how governments and public sectors could transform, but only limited focus has been put on creating awareness and meeting user demands. Higher take-up of e-government services is one of the key prerequisites for governments to realise the full benefits of e-government implementation – whether the question is on increasing the quality of on- and offline services, or whether the question is on achieving the full efficiency and effectiveness potentials.[4]

Funding of e-government

The sources of funding of e-government are interesting to map in order to get an overview of the complexity of the funding mechanism in Denmark. It is not necessarily negative to have many sources of funding, as different contributors may provide sound incentive structures for e-government implementation. However, a too complex funding structure often creates excessive management overheads that cannibalise resources from the actual e-government project. It is therefore important to ensure a sound balance between legitimate considerations around incentives and objectives, and the administrative overhead for a given e-government project.

Figure C.10 shows that for most of the Danish public sector (97% of the respondents), the funding of e-government activities comes from an organisation's own general budget. Respondents also indicate that a significant part of the funding comes from internal e-government funds (44%) and joint funding with other public organisations (41%) – meaning that public organisations either have earmarked budgets for e-government implementation or engage in co-operation with other public organisations through joint funding (41%). It is interesting to note that central funding provided through the joint cross government strategy for e-government plays a minor role in the total

Figure C.10. **Funding sources for e-government activities**



Source: OECD survey of e-government in Denmark 2009. *Question 2.1 Are e-government activities in your organisation funded by one or various sources?*

picture of funding sources (27% of the respondents indicate the joint cross government strategy for e-government as a funding source). It is also worth noting that public-private partnerships play a very limited role in the funding landscape (10% of the respondents indicate that funding comes from public-private partnerships).

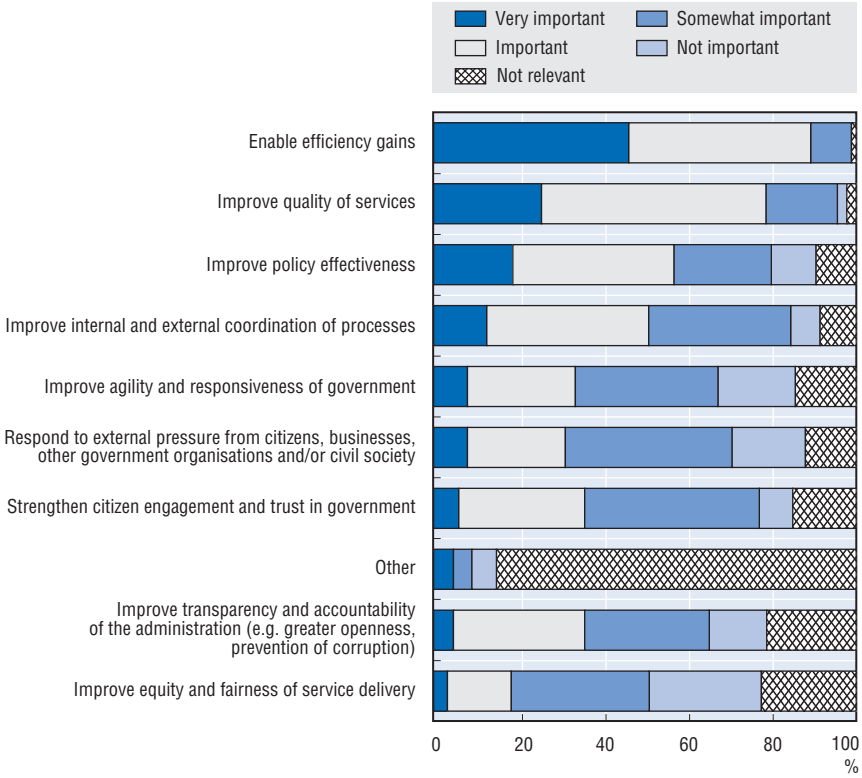
Reasons for adopting e-government

Public sector organisations adopt e-government out of responding to strategic goals for their organisational development. Denmark has for a number of years had a sharp focus on digitising in the public sector, and the political and strategic goals from several years of digitisation efforts is broadly known among public sector actors.

Figure C.11 confirms that public sector organisations see e-government as a key tool to enable efficiency gains (47% of the respondents indicate this reason as "Very important") and to improve quality of services (26% of the respondents indicate this reason as "Very important"). That these two reasons are the dominant reasons can be seen from the survey that 90% of the respondents answer "Very important" or "Important" to the former, and 79% of the respondents indicated the latter as being "Very important" or "Important".

It is interesting to note that citizen-centric issues are not high on the public sector actors priority list of reasons, as only 36% answered that this

Figure C.11. **Reasons for adopting e-government**



Source: OECD survey of e-government in Denmark 2009. *Question 2.2 Your organisation adopted e-government to:*

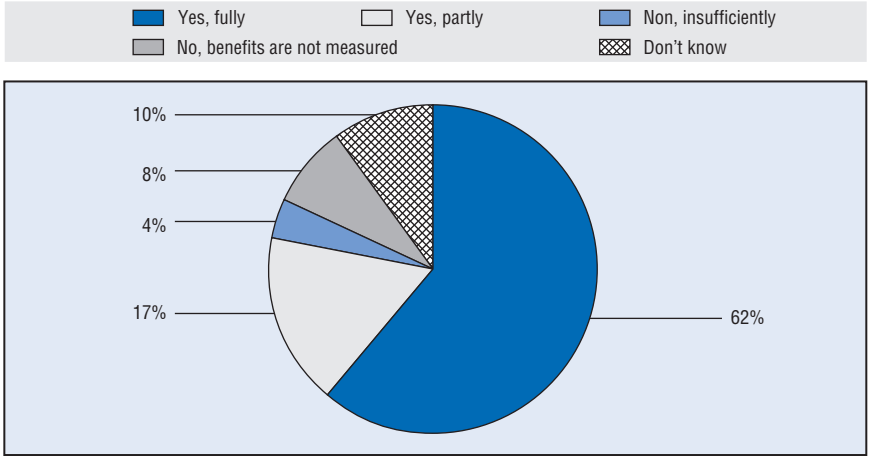
reason was either "Very important" or "Important". This indicates that the overarching reasons for e-government implementation are efficiency and effectiveness, and quality of service is less dominant.

The survey also asks Danish public sector actors to rate the benefits realisation if they answered "Very important" or "Important" to the reasons they have rated, and it is interesting to note that only 10% of the respondents answered "Yes, fully" while 62% answered "Yes, partly" to the question. 17% of the respondents have not seen sufficient or any (4%) benefits realisation. The survey results show that there is a potential to increase efforts for benefits realisation.

The use of a business case methodology

The application of a formal business case methodology is a prerequisite for managers in the public sector to properly assess whether the launch a specific e-government project will be worthwhile. There are already some regulations in

Figure C.12. **Success rate of benefits realisation**



Source: OECD survey of e-government in Denmark 2009. *Question 2.3 Has any of the benefit you rated as "Very important" and "Important" already been realised?*

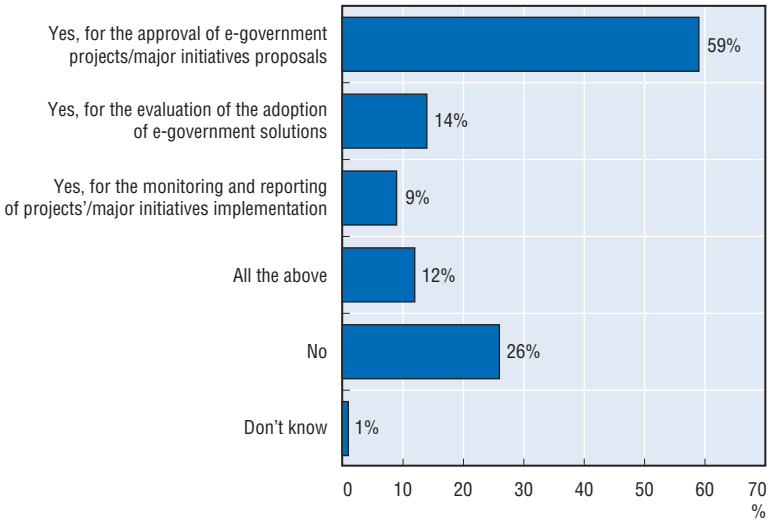
place regarding the use of business case analyses, but have public organisations across the public sector taken up the use of such methodologies more generally to enable enlightened and evidence-based decisions? The survey looks into this question regarding the use of business case methodologies and benefits realisation frameworks to reveal to which degree this is used across the Danish public sector – without regards to formal requirements.

Figure C.13 shows that 59% of respondents are using a formal business case methodology and/or a benefits realisation framework for approval of e-government projects or major proposals of initiatives; 14% say that they use those methodologies for the evaluation of the adoption of e-government solutions; and 9% use those methodologies for monitoring and reporting purposes. It is interesting to note that 26% – or more than a quarter of the respondents – answer that they do not use any methodologies to assess costs and benefits, meaning either that projects are so small and obvious that decisions are taken without further analyses, or that it is not part of a systemic and structured approach to the project cycle.

The use of formal business case methodology or benefits realisation framework is mandatory for specific project budget levels for which a public organisation will need to provide a formal business case analysis or show a benefits realisation plan – either internally set or externally demanded. The survey explores this question among public sector organisations.

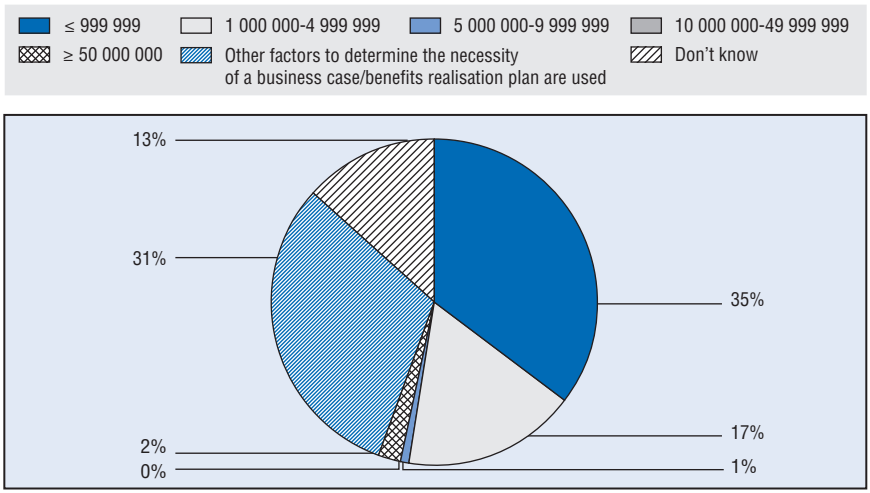
Figure C.14 shows that budgetary-wise "big" projects (>DKK 10 million) are using formal business case analyses or benefits realisation frameworks

Figure C.13. **The use of formal business case methodology/benefits realisation framework**



Source: OECD survey of e-government in Denmark 2009. *Question 2.4 Does your organisation apply a formal business case methodology/benefits realisation framework even when the use of it is not mandated by the central level of government?*

Figure C.14. **Project budget limits for the use of a formal business case methodology/benefits realisation framework**



Source: OECD survey of e-government in Denmark 2009. *Question 2.5 If yes, what is the projects value amount for which your organisation requires any type of a benefits realisation plan (in Danish kroner)?*

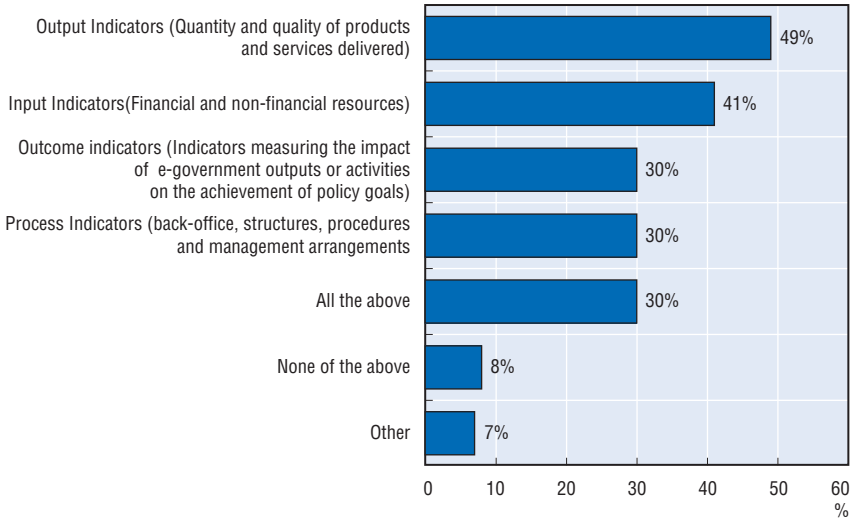
(according to 44% of the respondents who have answered "Yes" to the use of a business case methodology/a benefits realisation framework). However, it is interesting to note that even "small" budget projects (below DKK 1 million) are using a business case methodology/a benefits realisation framework (according to 35% of the respondents). This shows that among public sector actors the use of formal cost-benefit assessment methodologies is accepted and used where possible.

The use of indicators to monitor and evaluate

Indicators are an important tool for governments to enable them to systematically follow the evolution of and provide them with evidence to support decision-making. For e-government it is especially important as experiences among OECD countries show challenges in realising promised benefits,[5] as also indicated in this annex.

Figure C.15 shows that public sector actors are focusing on input (41% of the respondents) and output (49%) indicators while process (30%) and outcome (30%) indicators are less significant in the survey results.

Figure C.15. **Indicators used to assess the development, implementation and impact of e-government projects**



Source: OECD survey of e-government in Denmark 2009. *Question 2.6 Which indicators do you use to assess the development, implementation and impact of e-government projects?*

Budgetary barriers to e-government

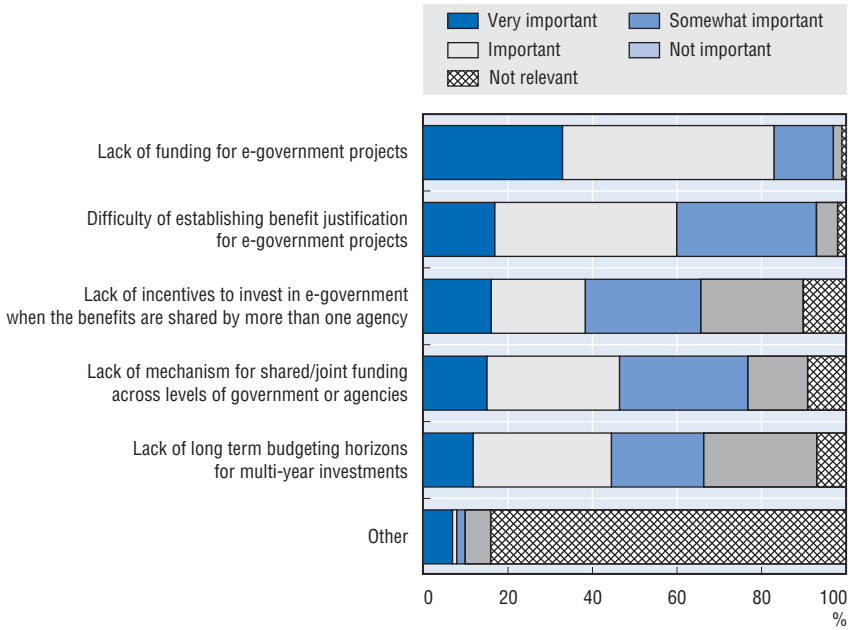
OECD country experiences show that budgetary barriers often have a significant impact on e-government implementation. Barriers are not just the

availability of funds, but also about the possibility to support e-government implementation across organisational boundaries. What is also often seen among OECD countries is that those challenges include whether budgetary systems and procedures sufficiently support an incentive structure that allow multiple organisational bodies to share both costs and benefits. How to do this is often an issue about adapting administrative cultures and introducing a whole-of-public-sector perspective on e-government investments.

Figure C.16 shows that the lack of funding for e-government projects (75% of the respondents answered "Very important" or "Important") and the difficulties in establishing benefit justification for e-government projects (60%) are perceived as the most significant challenges to public sector actors. Compared to the same questions asked in the 2005 country study of e-government in Denmark, Figure 3.3,[6] the issue of lack of funding is still the foremost challenge to e-government development in Denmark. The issue of establishing benefit justification for e-government project has in the 2009 survey raised to the second most important challenge while being the third with regards to importance in the 2005 survey.

The increased importance of the issue of justification (16% of the respondents rated it "Very important" – 38% including those rating it as

Figure C.16. **Budgetary challenges to e-government development**



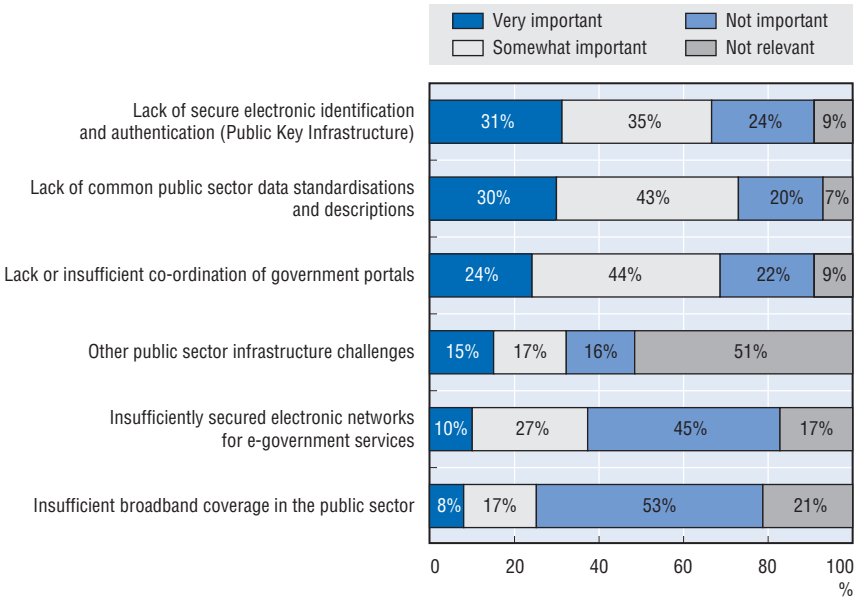
Source: OECD survey of e-government in Denmark 2009. *Question 2.7 Please rate the importance of each of the following budgetary barriers to developing e-government in your organisation.*

"Important") can be seen as an increase in awareness among public sector actors about business case analyses as part of the approval process for e-government projects. It is interesting to note that the respondents see the lack of incentives to invest in e-government when benefits are shared by more than one agency as the third most important challenge. This could indicate a need to further develop the incentive structures to enhance costs and benefits sharing across organisational bodies. It should also be noted that the question on mechanisms for shared and/or joint funding across levels of government or agencies are still perceived as an equally high important challenge (46% rated it as "Very important" or "Important").

Infrastructure challenges to benefits realisation

Having the infrastructure in place is one of the basic prerequisites for e-government implementation. In general, Denmark has come a long way since 2005 in addressing infrastructure issues through establishment of an ICT security infrastructure (Public Key Infrastructure) supporting the use of digital signatures, efforts to standardise data and create the prerequisites for information and data exchange across the public sector etc. It is, however, interesting to note that the lack of secure electronic identification and authentication is still the most important infrastructure challenge as rated by

Figure C.17. **Public sector infrastructure challenges**



Source: OECD survey of e-government in Denmark 2009. *Question 2.8 Please rate the importance of the following public sector infrastructure challenges for the realisation of e-government benefits.*

public sector actors in both 2005 and in 2009 together with the issue of standardisation.[7] An equally important issue is the lack of, or insufficient co-ordination of government portals (68% of the respondents rated this as "Very important" or "Somewhat important") that has been rated on the same level as the issue of standardisation (76%) and electronic identification and authentication (66%).

Organisational challenges to benefits realisation

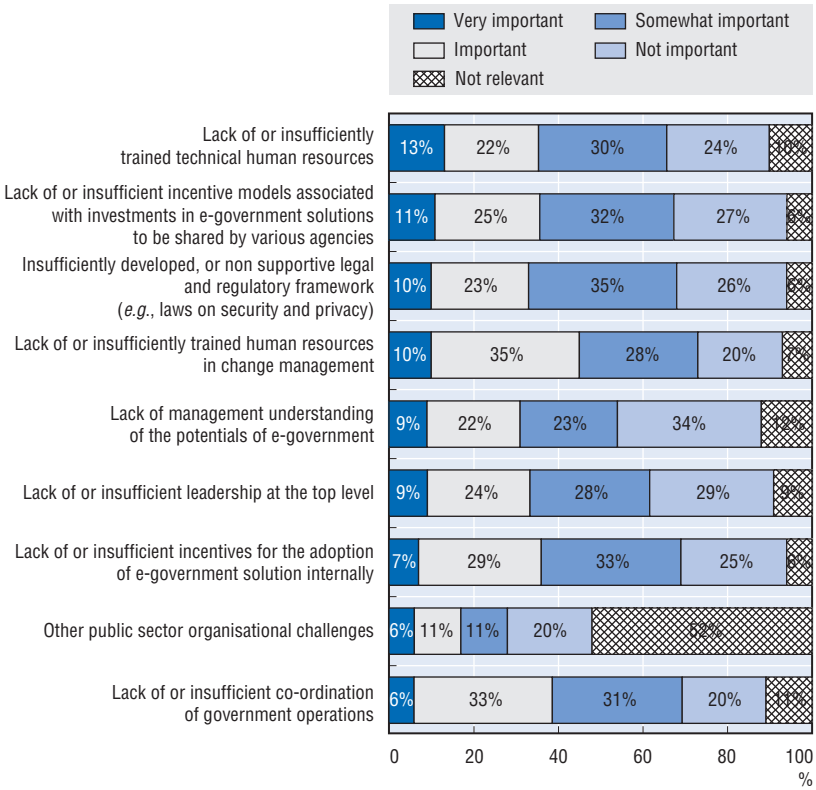
The organisational context is important for benefits realisation of e-government investments. The survey looks into a number of organisational issues, including leadership, competencies and skills, legal context and incentive structures. An enabling organisational context is necessary in order to make it possible for governments to fully realise anticipated benefits whether these are cost-savings, higher uptake of services provided or better quality of on- and offline services.

Figure C.18 shows that the main challenges rated highly by respondents are: competencies and skills, co-ordination, and incentives. These areas of importance are by no means surprising. Competencies and skills are the issues that in OECD country studies and other OECD research are among the most important challenges for both matured e-government countries such as Canada, Finland, and Netherlands as well as for late-starters such as Hungary and Mexico. 45% of the respondents rated the issue of lack of or insufficiently trained human resources in change management as "Very important" or "Important"; and 35% of the respondents rated the lack of or insufficiently trained technical human resources as "Very important" or "Important". The lack of or insufficient co-ordination of government operations was rated second most important challenge (39%), and incentive models for e-government investments and adoption of e-government solutions internally was rated third most important challenge (36% respectively).

The issue of lack of skills was also one of the important issues identified in the 2005 country study of Denmark.[8] Whilst issues regarding the collaborative environment among public sector organisations in the 2005 country study of Denmark were rated among the least important, the issue in the 2009 survey has become among the most important issues. This is, however, not surprising, as OECD countries in general are today looking for the next level of benefits realisation, which comes from a whole-of-public-sector view on e-government implementation and the possibilities of creating economies of scale through increased cross-governmental sharing of resources and processes.

It is interesting to note that the issues of leadership at the top level (33%) together with management understanding of the potentials of e-government (31%) in comparison with the other issues are lowly rated by the respondents.

Figure C.18. **Organisational challenges to benefits realisation**



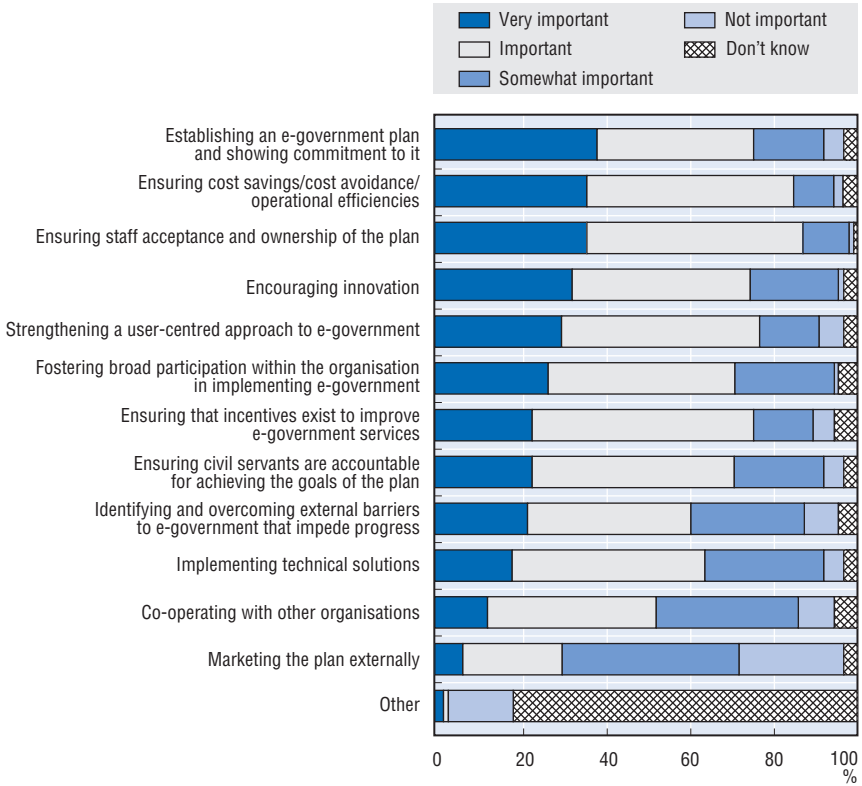
Source: OECD survey of e-government in Denmark 2009. *Question 2.9 Please rate the importance of the following public sector organisational challenges for the realisation of e-government benefits.*

This could indicate that the potentials of e-government and the importance of top-level leadership are broadly recognised and accepted in the public sector.

Figure C.19 shows which aspects management finds important for successful e-government implementation. It is worth noting that ensuring staff acceptance and ownership of plan (87% of the respondents rated this "Very important" or "Important") and ensuring cost savings/cost avoidance/ operational efficiencies (75%) are among the most important aspects of successful e-government implementation. It is interesting to note that the lowest rated aspects for successful implementation are co-operation with other organisations (43%) and marketing the plan externally (30%).

The issue of the marketing of e-government services is an important one, as this area is often neglected but is in fact an equally important activity for the successful delivery of e-government services. As also emphasised in OECD

Figure C.19. **Aspects for successful e-government implementation**



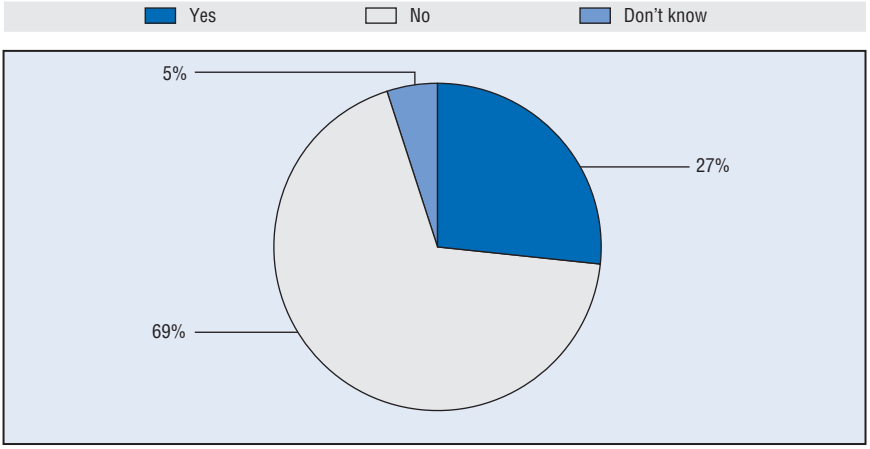
Source: OECD survey of e-government in Denmark 2009. *Question 2.10 In order to support the successful implementation of e-government in your view, what importance should leaders in your organisation place on the following aspects?*

work on challenges and approaches to user-centricity and how different OECD countries are addressing the lagging uptake of e-government services provided, one of the necessary prerequisites for increased user take-up is that users – whether they are citizens or businesses – know about the existence of e-government services.[9] Figure C.20 confirms the impression of under-prioritisation of marketing of services and as seen in Figure C.18 (marketing) also gives an additional explanation to the reason why such strategies are non-existence.

User take-up of e-government services

Creating the right supportive environment for improving user take-up of e-government services depends on a number of connecting factors to improving take-up of e-government services: knowledge of the existence of

Figure C.20. **Existence of a formal e-government marketing strategy**



Source: OECD survey of e-government in Denmark 2009. *Question 3.1 Does your organisation have a formal e-government marketing strategy (i.e the strategy that aims at informing the users on the digital provision of services and information)?*

e-government services provided by the public; confidence with and trust in using those services; basic incentives to use digital service provision channels instead of the more traditional channels. These aspects are covered by a series of questions in the survey including how actors in the Danish public sector are monitoring user demands and satisfaction.

The interesting issue here is whether the Danish public sector has a *government-centric* approach to service delivery or a *user-centric approach*. The issue of "approach" is seen as an indicator of how the public sector perceives their role regarding public service delivery.[10] The issue for Denmark is that there has for a number of years been a strong emphasis on efficiency and effectiveness which, mostly by public authorities and responsible managers in public sector organisations, are often translated into internal efficiencies and less in external effectiveness. Has this narrow focus on efficiency (translated into potential cost-savings) resulted in public sector organisations being blindsided on having users (citizens and businesses) taking-up the use of the digital channels provided? This question is important to understand in the Danish context in order to achieve a higher level of significant benefits realisation within the public sector.

Prioritisation of service channels

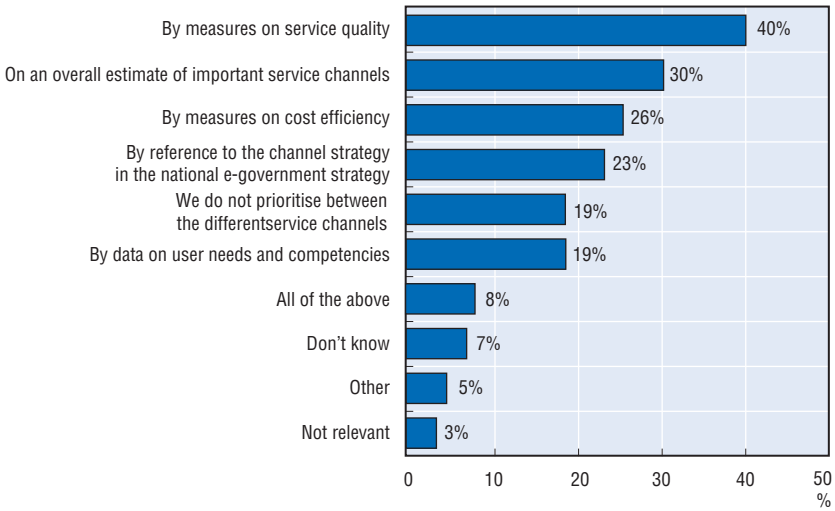
How public authorities are prioritising the use of different service delivery channels is important in order to understand their approach to user-centric public service delivery. The choice of priority of serviced channels

and the considerations behind this provides an insight into their own understanding of user segments among the population and among businesses they are trying to reach and how the policy agendas regarding service delivery are met.

Figure C.21 shows that the public sector is mainly considering service quality measures when prioritising different service channels (40% of the respondents have indicated this as being a main approach), using an overall estimate of important service channels (30%) or looking at the measures on cost efficiency (26%). It is interesting to note that user considerations have been rated relatively low equally together with non-prioritisation of the delivery channels (19% respectively), which indicate that considerations regarding users are not highly prioritised among public sector organisations. It is also worth noticing that the issue of referencing the channel strategy in the national e-government strategy is not a main consideration among public sector actors (23%) indicating the limited impact regarding channel management the national strategy has.

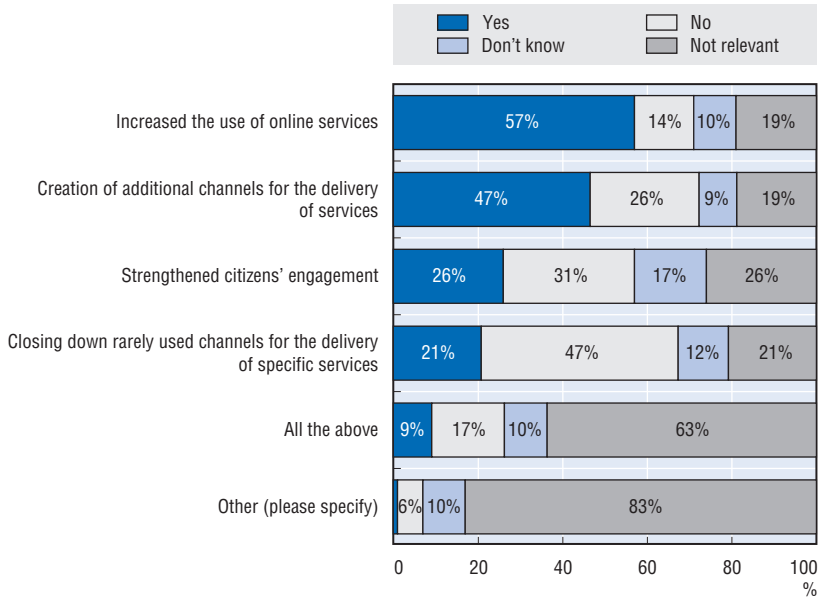
E-Government strategies have had a significant impact on putting focus on the digital service delivery channels, as seen in Figure C.22 where 57% of the respondents see a supporting effect on the use of online services. 47% of the respondents see a strategy as helpful in the creation of additional channels for service delivery. What is worth noting is that an e-government

Figure C.21. **How does your organisation prioritise between the different service channels?**



Source: OECD survey of e-government in Denmark 2009. *Question 3.2 How does your organisation prioritise between the different service channels?*

Figure C.22. **Effects of the adoption of an e-government strategy**



Source: OECD survey of e-government in Denmark 2009. *Question 3.3 The adoption of an e-government strategy has helped your organisation achieving which of the following effects?*

strategy is only seen as helpful for strengthening citizens' engagement by 26% of the respondents while only 21% see a strategy as supportive for closing down rarely used delivery channels – 47% of the respondents have answered "no" to the latter.

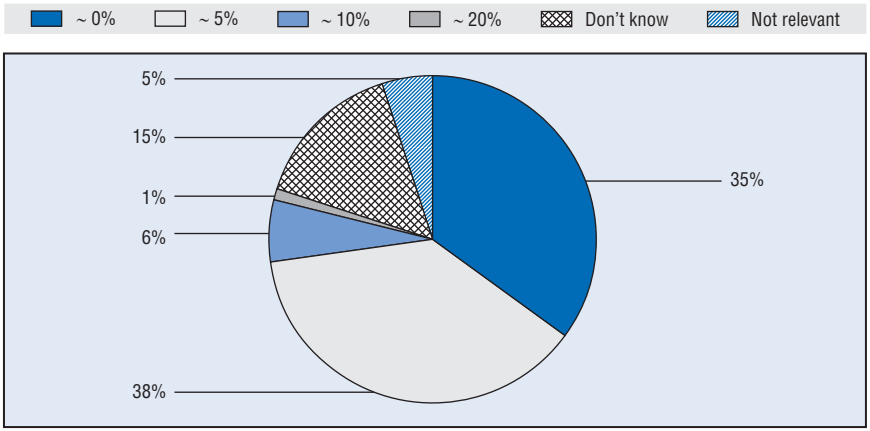
Awareness raising and monitoring

Awareness-raising and monitoring user demands and satisfaction have often been low priorities for OECD countries. This was also recognised by the OECD E-Leaders at its meeting in 2008 to be one of the most important issues to be addressed by OECD countries in order to enable full benefits realisation – and especially in the midst of economic recovery, most OECD countries are relying on their e-government programmes to realise significant cost-savings as a contribution to balancing their public budgets again. However, full benefits realisation cannot happen without shifting users of the public services from more expensive service delivery channels (such as face-to-face meetings with a civil servant) to more cost-efficient solutions such as online services. Changing human behaviour is among the difficult challenges, and one of the tools in governments' toolbox is the possibility to make the population in general or targeted user segments in particular aware of the opportunities and

advantages of using the digital channels rather than the traditional (and cost-heavy) channels. A prerequisite for government decisions and actions is that it is aware of user needs and user demands.

Figure C.23 shows that the Danish public sector does set aside parts of their e-government budgets for marketing strategy purposes (38% of the respondents answered that they set aside around 5% of their e-government budget for marketing strategies), but still roughly one-third (35%) of the respondents answered that they do not set aside budgets for marketing strategies.

Figure C.23. **Percentage of total e-government budget allocated for marketing strategies**



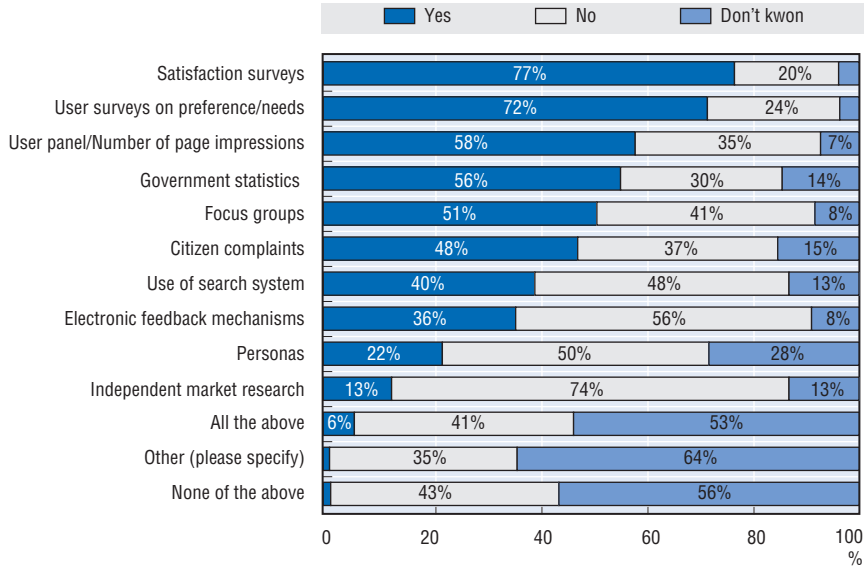
Source: OECD survey of e-government in Denmark 2009. *Question 3.4 What is the percentage of the total budget of the e-government projects implemented by your organisation that is allocated to e-government marketing strategies (e.g. awareness raising campaigns)?*

A question could then be asked: are the target groups well-known by the each of the public sector organisations that have not set aside a budget for marketing strategies which could indicate that their user groups are aware of the services they provide and do make use of the digital channels offered by the organisation? Figure C.24 shows that monitoring tools are used broadly in the public sector and mainly to record user satisfaction (77% of the respondents) and user preferences and needs (72%). It is interesting to note that the Danish public sector also uses a broad range of other tools, such as user panels and page impressions (58%), government statistics (56%), focus groups (51%) and citizens complaints (48%).

Approaches to increasing user take-up

OECD countries are approaching the challenge of lagging user take-up in different ways. One of the most important approaches is increased

Figure C.24. **Tools for monitoring users' needs and demands for online services and satisfaction with public service delivery**



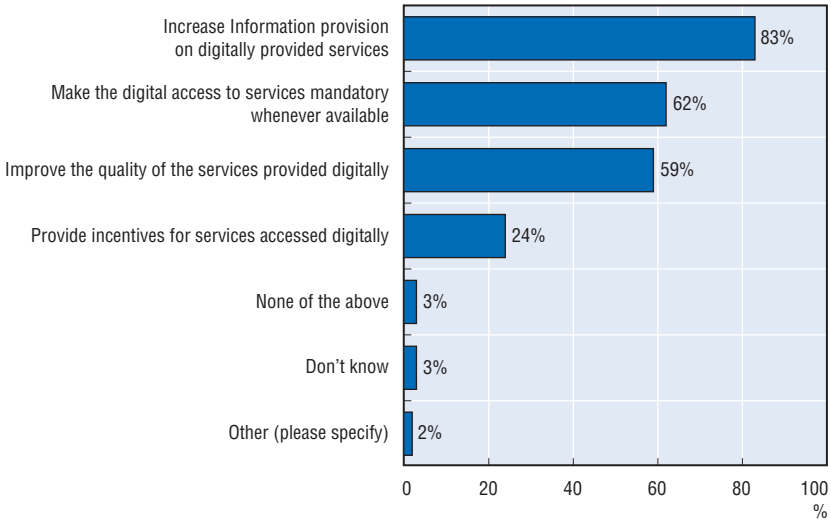
Source: OECD survey of e-government in Denmark 2009. *Question 3.5 What are the tools used to investigate, monitor and evaluate users' needs, demand for online services and level of satisfaction with public service delivery?*

information about the digital delivery channels – and creating incentives to use them with regards to speedier responses to questions and requests, time-wise or monetary benefits, convenience and access outside office hours, etc. As Denmark is among the mature e-government countries that lie in the forefront in international benchmarking (*e.g.* the UN's e-government readiness index and the European Union's benchmarks) the availability and accessibility of e-government services are not the main challenge. It is the motivation of the different user segments in the population and among businesses, though the latter is of less significance than the former.

Figure C.25 shows that public sector respondents (83%) find that by far the most important priority is to increase information provision on the digitally provided services. Of significant but lesser importance is the issue of increasing user take-up by making the digital access to services mandatory (62%) or the issue of improving the quality of services (59%). It is worth noting that only 29% found that it was a priority to improve incentives for digital access to services. This indicates that by far the most important issue to address in order to increase user take-up is that of making the services' existence known to the users.

When considering how to approach the challenge of lagging user take-up it is important to know from a public organisation's point of view which

Figure C.25. **Instruments prioritised to increase user take-up of e-government services**



Source: OECD survey of e-government in Denmark 2009. *Question 3.6 What instruments do you prioritise to increase user take-up of e-government services?*

constraints or difficulties its target group see as barriers for accessing and using the e-government services provided. The survey captures answers from the Danish public sector on what public sector management perceive as constraints that limit users' demand for e-government services.

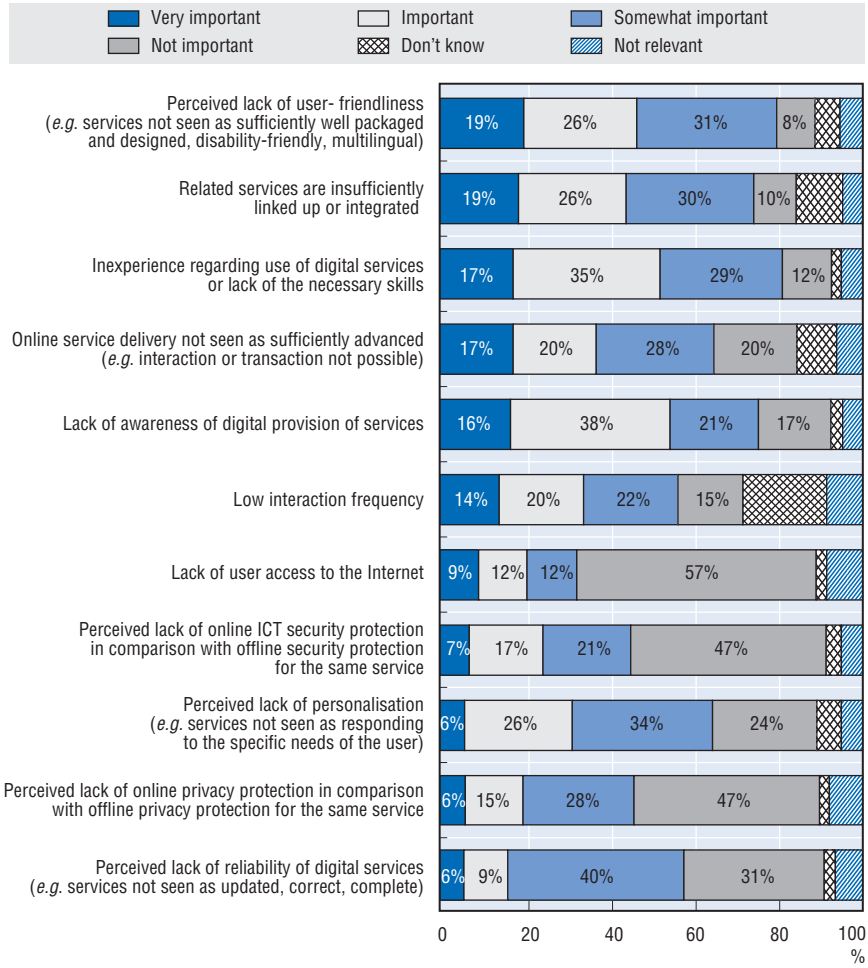
Figure C.26 shows a nuanced but nevertheless interesting picture of possible constraints that are in the mind of public sector management when addressing the issue of lagging user take-up:

The lack of awareness of e-government services provided is perceived as the main constraint according to 54% of the respondents (with 16% answering "Very important" and 38% answering "Important"). This supports previous survey findings regarding the respondents' high attention to the lack or limited perceived awareness of e-government services.

Both the issue of perceived **lack of user-friendliness** and the issue of **insufficiently linked up or integrated services** have been rated equally "Very important" and "Important" by 45% of the respondents (19% and 26% respectively). This indicates a strong focus on making e-government services easy to use and that they should be as "linked-up" or integrated as possible in order to facilitate the use of public services.

52% of the respondents (17% answered "Very important" and 35% answered "Important") see the **competencies and skills** issues as important

Figure C.26. **Constraints limiting users' demand for e-government services**



Source: OECD survey of e-government in Denmark 2009. *Question 3.7 a) In your opinion, what are the constrains in the current situation which limit users' demand for e-government services, and how important are they?*

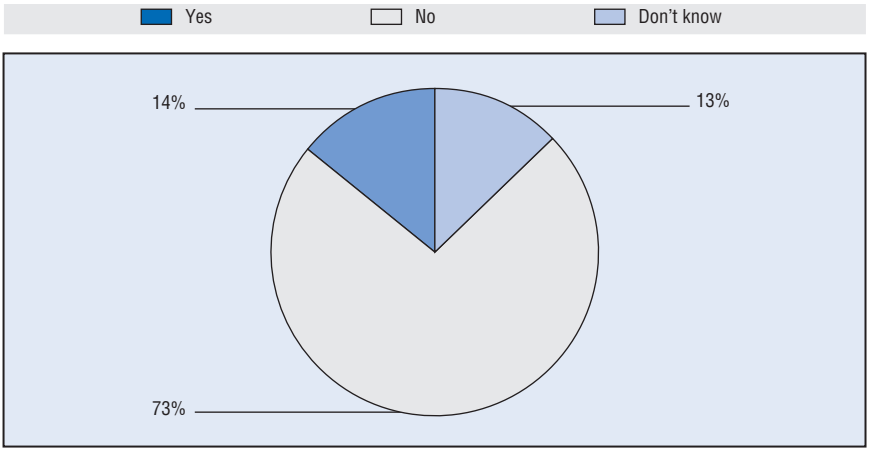
constraints for user demands which supports the Danish activities in improving ICT competencies and skills broadly in the Danish population through initiatives such as

Trust issues are not seen as constraining according to the respondents, as only 15% see the perceived lack of reliability of digital services and online privacy protection, and the lack of online ICT security protection (24%) as important constraints.

It is interesting to note that only 32% of the respondents (answering "Very important" or "Important") see the question of **lack of personalisation** as an important constraint which in many other OECD countries are seen as one of the important barriers to offering relevant and interesting e-government services that could be seen as an incentive for citizens to use.

In order to frame the source of perception reported by respondents in Figure C.26, the survey in addition asked the respondents to answer whether their perception are based on one or more surveys they have had access to or have done (see Figure C.27). The majority of respondents (73%) have not based their perceptions on one or more surveys and thus confine their answers to personal and subjective opinions rather than solid evidence.

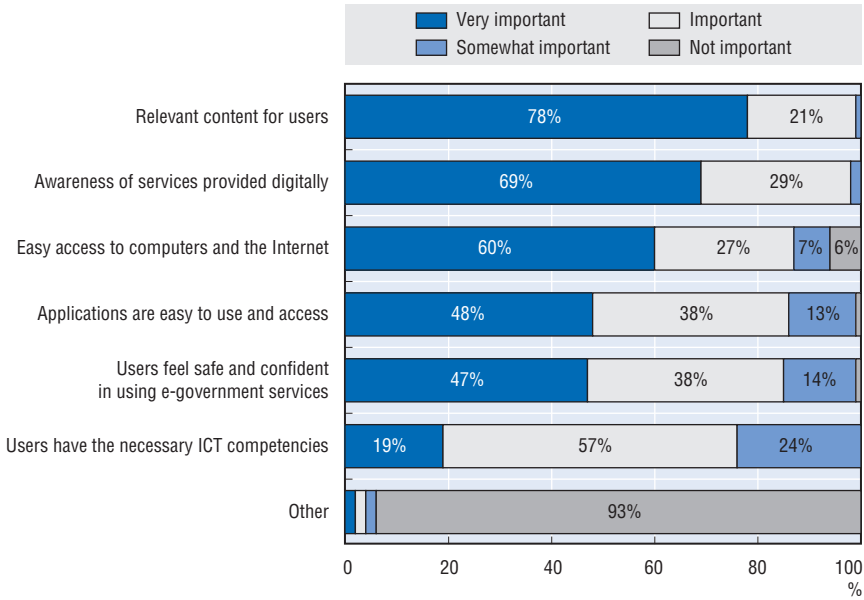
Figure C.27. **Are the answers given in Figure C.26 based on one or more surveys?**



Source: OECD survey of e-government in Denmark 2009. *Question 3.7 b) is the answer provided to the question above based on one or more surveys?*

The survey also asked the respondents to answer to what they think is the most important preconditions to facilitating the uptake of e-government services in order to understand how public sector managers would be seeing as necessary challenges to address in their pursuit of e-government implementation (see Figure C.28). The answers given are fully supporting of previous recorded answers in the survey with 99% of the respondents (answering "Very important" or "Important") indicating the preconditions as relevant content for users and (98%) awareness of services provided digitally.

Figure C.28. **Preconditions facilitating the increase of user take-up of e-government services**



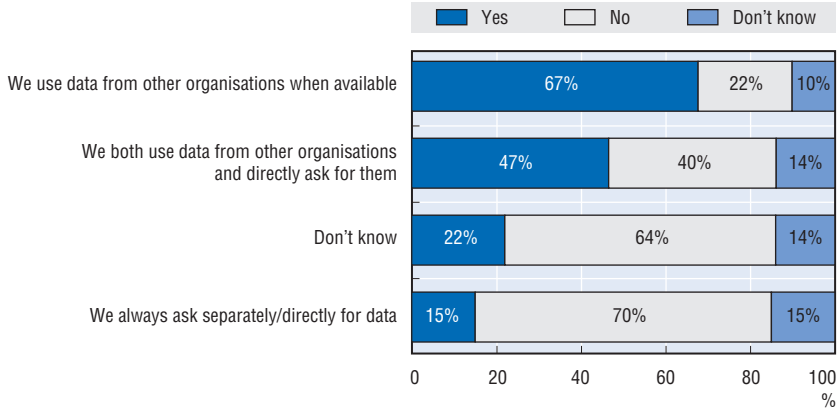
Source: OECD survey of e-government in Denmark 2009. *Question 3.8 In your opinion, which are the most important preconditions facilitating the increase of users' take up of e-government services?*

Citizens participation and engagement

Citizens' participation and engagement in public policy-making and service delivery is a way for governments to strengthen relations with citizens and better gain support for political decisions and policy implementation. Using the electronic platforms that already exist or have been developed within the public sector is a way to allow citizens to use the digital channel to engage with public sector organisations and thus strengthen the dialogue between citizens and public organisations. Where these types of e-government services are implemented is a good indication of how closely public sector organisations are working together on providing those types of common services and functions.

Figure C.29 shows that the Danish public sector mainly have initiatives to increase digital inclusion within their own organisations (67% of the respondents have answered "Yes"). Almost half of the respondents (47%) answered that such initiatives have been adopted as collaboration between levels of government. It is remarkable to note that such initiatives are less likely to occur as part of collaboration with civil society groups (22%) or as a result of public-private partnerships (15%). This indicates that the issue of citizen participation and engagement is a concern for public sector actors, but

Figure C.29. **Adoption of initiatives to increase digital inclusion**



Source: OECD survey of e-government in Denmark 2009. *Question 3.9 a) At what level have initiatives been adopted to increase the digital inclusion.*

collaboration and co-operation across levels of government or with civil society is of minor importance.

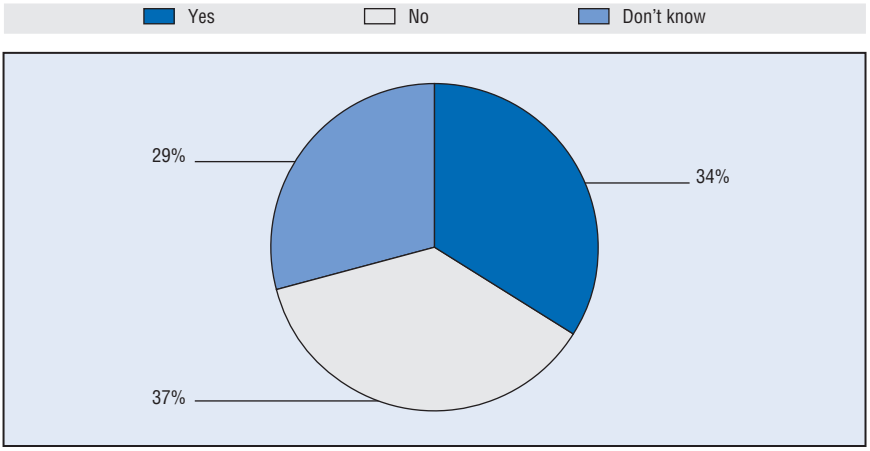
An interesting issue is to what extent the Danish public sector has adopted the use of Web 2.0 technology concepts in order to engage citizens. Especially the use of social forums in particular as a new way to reach out to population segments that have not earlier been engaged or participated in public service design and delivery (also known as co-design and co-delivery of services) could be an interesting new development that could provide communication channels to new citizen segments in society.

Figure C.30 shows that roughly one-third of the respondents (34%) are using or have plans to use Web 2.0 technology as a tool to increase citizens' engagement and participation in public service delivery. Another third of the respondents (37%) indicate that they are not using or planning to use Web 2.0 while the last third of the respondents (29%) answered that they don't know. The result is interesting in the sense that roughly two-thirds of the respondents know about the possibilities and have been able to answer the question. Having one-third of the public sector already using or in the process of introducing the use of it indicates further that the potentials as a platform for further citizens engagement is broadly recognised and is actively under consideration.

Multi-channel service delivery management

Multi-channel service delivery management is among the most important issues for governments to deal with in order to ensure that service channels are utilised optimally, and that users of public services are using

Figure C.30. **The use or plans to use Web 2.0**

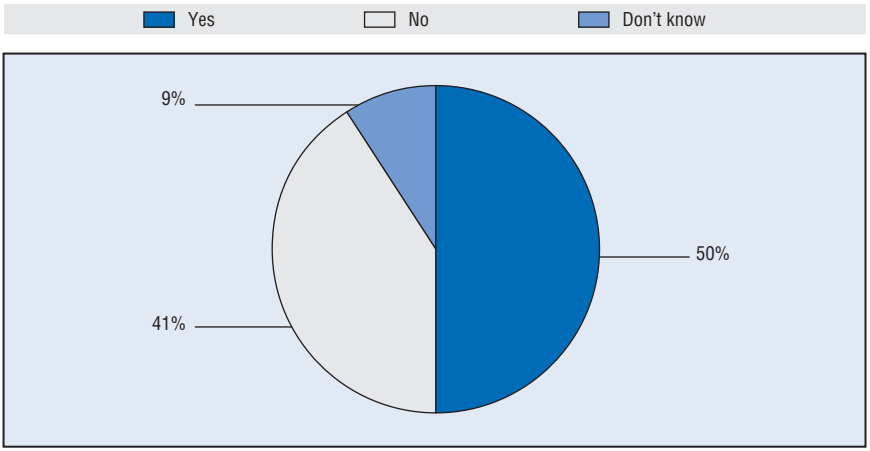


Source: OECD survey of e-government in Denmark 2009. *Question 3 14 Does your organisation use, or plans to use, Web 2.0 technology concepts as a tool to increase citizens' engagement and participation in public service delivery (co-design and co-delivery of services)?*

channels that are beneficial and appropriate, and at the same time are cost-effective for the public sector to deliver services through. The overall political questions among OECD countries are the possibilities of providing the right services to the right population segments using the right delivery channel that makes citizens feel that they are given high-quality services that help them in their everyday life, and that are delivered in a cost-effective manner where the limited public resources are used optimally and where cost-expensive service delivery ways are used where they are necessary and needed. One prerequisite is that public organisations have considered strategically and operationally how they are delivering services and whether a deliberate effort to guide users toward cost-efficient channels such as the digital ones could be of benefit to the whole public sector and in the end to each of the citizens who will experience a targeted and higher quality of services meeting directly their individual needs.

Figure C.31 shows that half of the respondents (50%) have a multi-channel service delivery strategy, but a significant part of the public sector (41%) has no such strategy developed. This situation is interesting to explore further in the context of the strong focus on developing the digital delivery channels in Denmark. It is therefore remarkable that the Danish public sector actors have not strategically considered the implications of having digital delivery channels and how this relates to their other delivery channels – whether they are offline (face-to-face) or by telephone or by unstructured digital communications.

Figure C.31. **Does your organisation have a multi-channel service delivery strategy?**

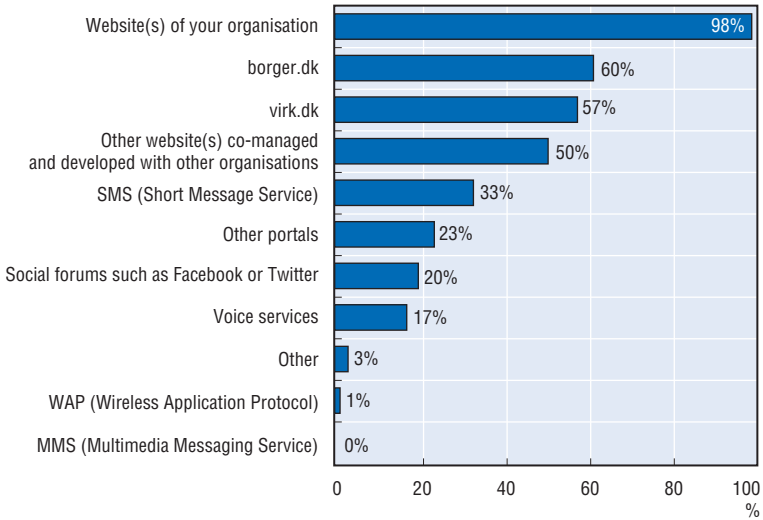


Source: OECD survey of e-government in Denmark 2009. *Question 3.11 Does your organisation have a multichannel service delivery strategy?*

The use of digital delivery channels is interesting as an indication of the effects of the Danish national e-government policy agenda and the rapid development in the citizens' use of different electronic platforms. It is clear from Figure C.32 that almost all respondents (98%) are delivering services through their own organisation's website. Despite the strong Danish government emphasis on using the portals *www.borger.dk* and *www.virk.dk* as the main entrance to public service delivery, it is still considered as secondary to service delivery through the organisations own websites (60% of the respondents deliver services through *www.borger.dk* and 57% through *www.virk.dk*). It is worth noting that 20% of the respondents are using social forums such as Facebook or Twitter as a service delivery channel.

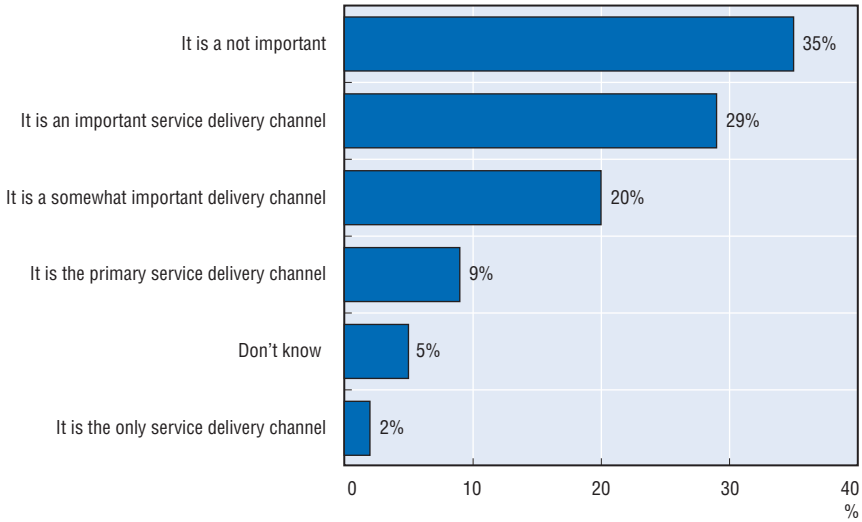
One of the significant policy decisions by the Danish government was to ensure that citizens and businesses could easily find those public services that they wish or need to use online, and that all services were to be found in one of the two portals, the citizens portal – *www.borger.dk* – or the business portal – *www.virk.dk*. The survey asked the respondents to rank the importance of the two national portals for their organisation's service delivery (see Figure C.33). It is therefore significant that 35% of the respondents rate the national portals as not important to their organisation's service delivery. Only 9% of the respondents see the national portals as the primary service delivery channel, while 29% see it as an important service delivery channel and 20% as a somewhat important channel. This indicates that the public sector is hesitant as to whether the national portals are seen as a sufficiently

Figure C.32. **Service delivery channels supported for the provision of e-government services**



Source: OECD survey of e-government in Denmark 2009. *Question 3.12 a) What service delivery channels does your organisation support for the provision of e-government services among the following ones?*

Figure C.33. **Importance of the joint governmental portals for service delivery**

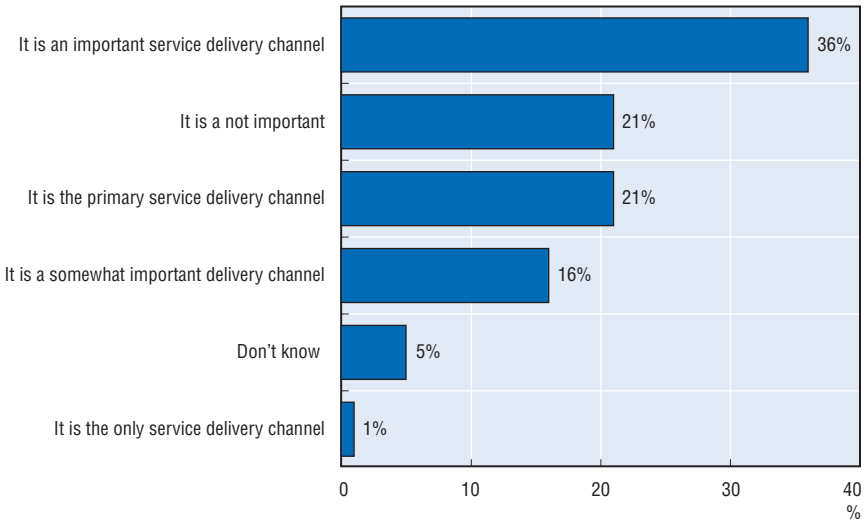


Source: OECD survey of e-government in Denmark 2009. *Question 3.12 b) How important is the joint government portal, or portals if relevant, (www.borger.dk and www.virk.dk) for service delivery in your organisation?*

important and integrated part of public sector organisation service delivery channels.

However, public sector actors (36%) do see the joint governmental portals as important service delivery channels or as the primary service delivery channels (21%) within the next three years, as seen in Figure C.34. Respondents are therefore responding to the policy of having two main entrances to public service delivery as laid out in the national e-government strategy. It is, though, an interesting observation that in a three year perspective 21% of respondents see the portals as unimportant to their organisation's service delivery.

Figure C.34. **Importance of the joint governmental portals within the next three years for service delivery**



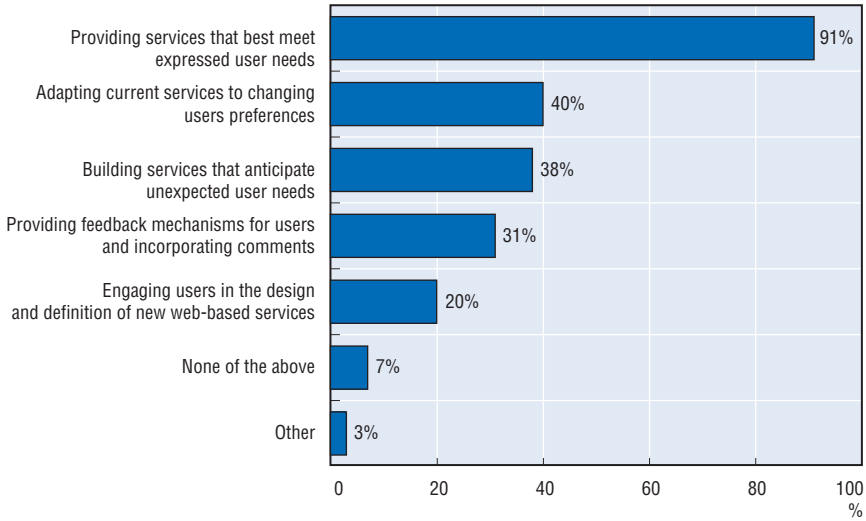
Source: OECD survey of e-government in Denmark 2009. *Question 3.12 c) How important will the joint government portals (www.borger.dk, www.virk.dk) become within the next 3 years for the service delivery in your organisation?*

User-centricity of e-government programmes

The degree of user-centricity in a government can often be seen from how the goals of their e-government programmes have been formulated. The goals set the direction and the context for how e-government implementation should be approached and the basic thinking behind concrete e-government projects. The purpose of a proposed project and its contextual framing define the perspective in which e-government programmes are implemented. It has therefore been important to explore under which perspective the Danish public sector has approached and defined its e-government programmes.

Figure C.35 shows that most of the Danish public sector is implementing e-government programmes in order to provide services that best meet users' needs (91%). Even though other aspects are indicated by respondents (*e.g.* adapting current services to changing user preferences – 40% – and building new services that anticipate unexpected user needs – 38%), it is interesting to note that the issue of engaging and including users directly in design and definition of new web-based services (20%) as seen in a growing number of OECD countries is among the least significant aspects of e-government programmes.

Figure C.35. **Which of the different aspects are part of your organisation's e-government programmes?**



Source: OECD survey of e-government in Denmark 2009. *Question 3.13 Which of the following aspects are part of your organisation's e-government programmes?*

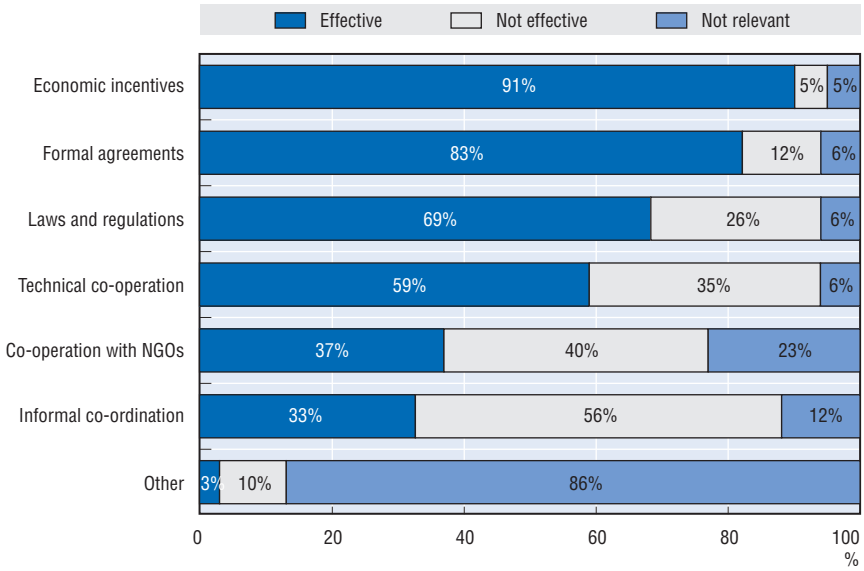
An organisational structure for e-government implementation

Having an enabling organisational structure is an important prerequisite for achieving a successful whole-of-public-sector implementation of e-government, especially in the light of a high degree of autonomy between levels of government. The survey has specifically focused on the organisational structure for e-government implementation by Denmark for the establishment and fostering of e-government collaboration and co-operation across levels of government and how it has impacted the efficiency and effectiveness of government operations and delivery of services.

Collaboration and co-operation mechanisms

Among OECD countries many different types of tools are used to facilitate collaboration and co-operation across levels of government ranging from formal legislative frameworks to voluntary arrangements.[11] Figure C.36 shows that the main mechanisms for collaboration and co-operation is economic incentives and formal agreements which have been rated effective by 91% and 83% of the respondents respectively. Also laws and regulations and technical co-operation (rated effective by 69% and 59% of the respondents respectively) are seen as important mechanisms. Least effective is informal co-ordination (56% of the respondents rated this as "Not effective"). This result is not surprising as more economic and formally committed mechanisms are the most effective incentives, as also seen in some other OECD countries – even though administrative culture and traditions may play a significant role on the effectiveness of the mechanisms.[12]

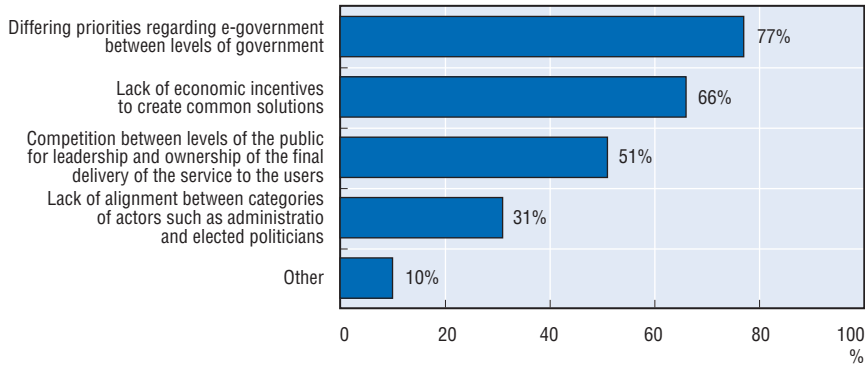
Figure C.36. **Mechanisms to foster collaboration and co-operation across levels of government**



Source: OECD survey of e-government in Denmark 2009. *Question 4.1 The existing Digitisation Strategy has a large focus on increased co-operation for digitisation. What are the primary mechanisms used to foster collaboration across levels of government?*

Even though a number of mechanisms exists and are in use to foster collaboration and co-operation across levels of government, the mechanisms need to be applied according to the major barriers identified. Figure C.37 shows that the main barriers for achieving effective co-ordination and

Figure C.37. **Barriers for effective co-ordination and co-operation across levels of government**



Source: OECD survey of e-government in Denmark 2009. *Question 4.2 What are the main barriers to achieving effective co-ordination and co-operation across levels of government?*

co-operation across levels of government is the differing priorities across levels of government (77%) together with the lack of economic incentives to create common solutions (66%). Also the issue of competition between levels of government for leadership and ownership of the final delivery of services to users is a major barrier according to 51% of the respondents.

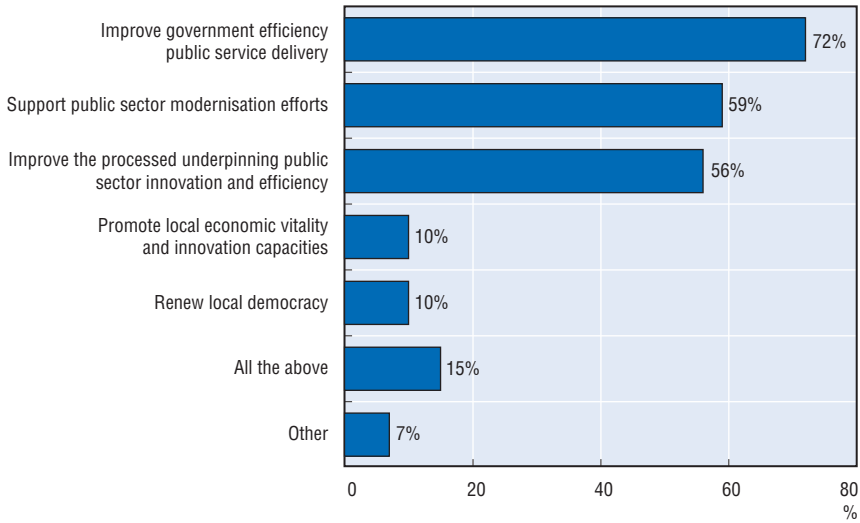
The drivers for collaboration and co-operation with sub-national organisations as seen in Figure C.38 are mainly efficiency of public service delivery (72%), public sector modernisation efforts (59%), and public sector innovation and efficiency (56%). This confirms again the importance of the efficiency agenda that has for a number of years driven much of e-government implementation in Denmark.

Collaboration for coherent service delivery

Collaboration within the public sector is important for coherency of service delivery. How an organisation is collaborating is therefore of high interest in order to get a better picture of collaboration in practice – and thus how large the barriers are for creating coherent and integrated services that in the end enhance user take-up.

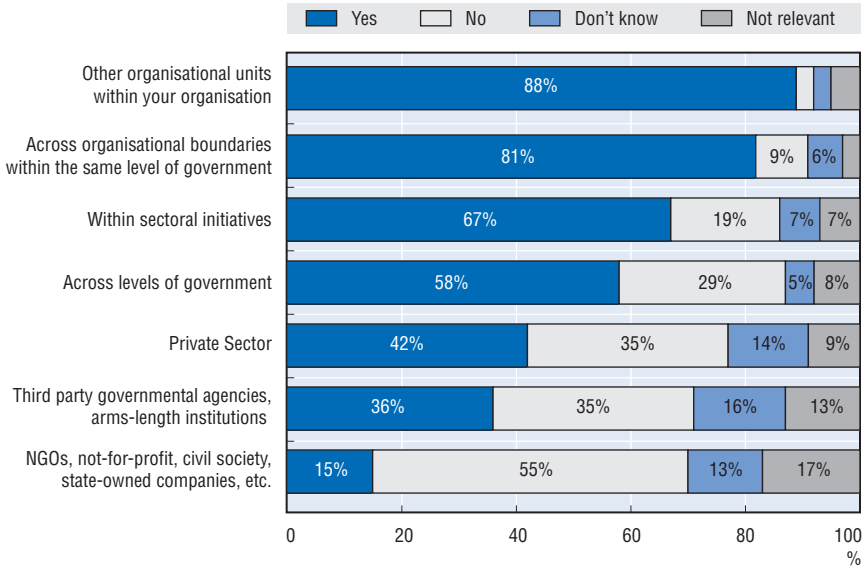
Figure C.39 shows that collaboration on service delivery mainly takes place within the same organisation (88% of the respondents answered "Yes") or within the same level of government (81%). Collaboration is also more likely to happen within the same contextual setting: 67% of the respondents answered "Yes" to collaboration within sectoral initiatives. Significantly fewer respondents, though still a large proportion, (58%) answered that they collaborated across levels of government. Collaboration with the private

Figure C.38. **Main drivers of collaboration and co-operation with subnational organisations**



Source: OECD survey of e-government in Denmark 2009. *Question 4.3 What are the main drivers of collaboration and co-operation with subnational (regional and municipal) organisations?*

Figure C.39. **Does your organisation collaborate with one of the following actors to provide citizen/business services?**

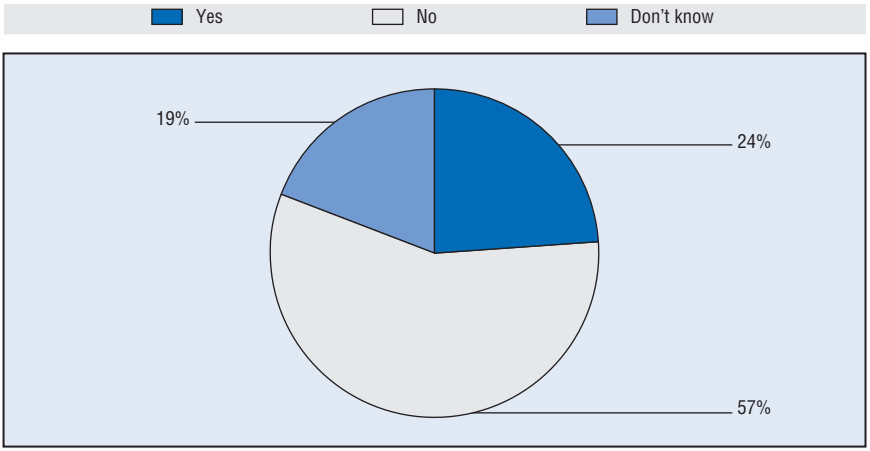


Source: OECD survey of e-government in Denmark 2009. *Question 4.4 Does your organisation collaborate with one of the following actors to provide citizen/business services?*

sector is not dominant within the public sector as only 42% of the respondents indicate that they collaborate.

Another way to look at the issue of collaboration is whether a public organisation is handling services and/or information transactions with citizens and businesses on behalf of other organisations. The question is interesting because it gives a more complete picture of whether public organisations are collaborating to provide coherent and integrated services that save the citizens and businesses from contacting several public authorities in order to have a problem solved. Figure C.40 shows that only 24% of the respondents are handling services and/or information transactions with citizens and businesses on behalf of other organisation; a surprisingly large part of the respondents (57%) answered that they do not handle services or transactions on behalf of other organisations.

Figure C.40. **Does your organisation handle service and/or information transactions with citizens and businesses on behalf of other organisations?**



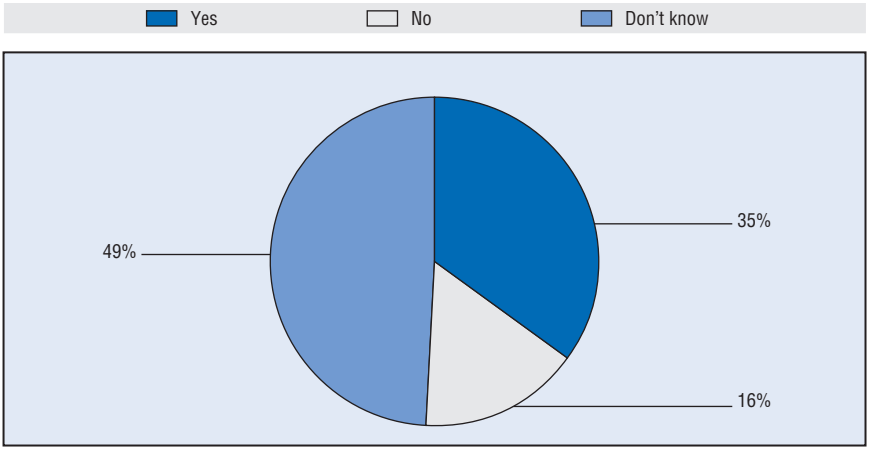
Source: OECD survey of e-government in Denmark 2009. *Question 4.5 Does your organisation handle service and/or information transactions with citizens and businesses on behalf of other organisations?*

Common standards for e-government service delivery

Common standards for e-government service delivery are important as part of ensuring coherency and integration of services. Common standards also support "common feel and look" with recognisable functionality for users across public services if applied systematically. In a country with highly independently operating levels of government and even within levels of government, it is important to ensure that there is an agreement of using common standards as part of each organisation's e-government implementation strategy.

Figure C.41 shows that common standards are not knowingly widely used by public sector actors as only 35% of the respondents answered "Yes". A surprisingly high percentage of the respondents (49%) did not know whether they have or use common standards.

Figure C.41. **Do you have and use the following common standards for e-government service delivery?**



Source: OECD survey of e-government in Denmark 2009. *Question 4.6 Do you have and use the following common standards for e-government service delivery?*

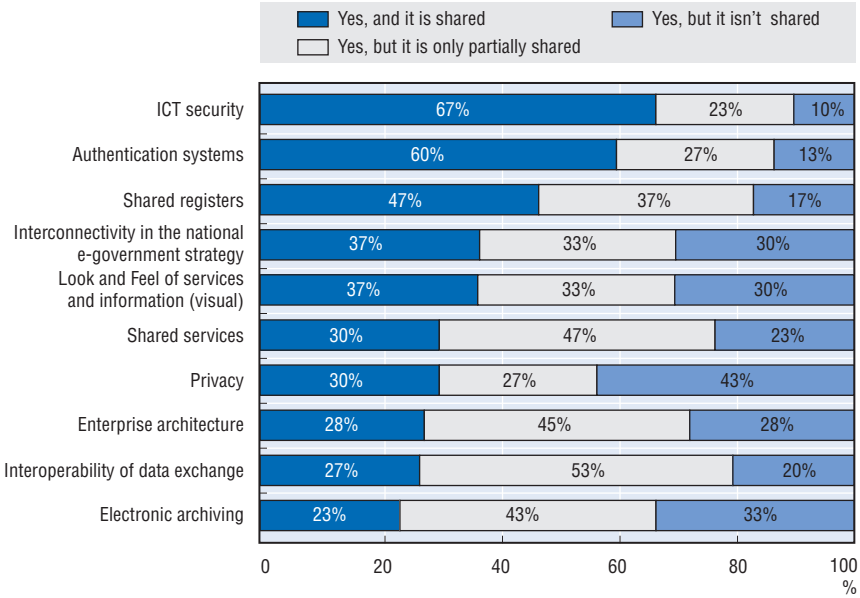
Given that common standards exist and are used, which standards are used? The interesting issue here is whether the standards used support and enhance coherency across collaborating public organisations.

Figure C.42 shows not surprisingly that ICT security and authentication systems are shared most widely (67% and 60% respectively). The reason is that since 2004 Denmark has offered a free digital signature using a Public Key Infrastructure providing common applications or components that can be used by public service providers in their e-government solutions. Sharing registers is commonly seen as a good indicator for integration of back-office functions, however is only indicated as being shared by 47% of the respondents answering "Yes" to using common standards. Additionally, it is interesting to note that enterprise architecture and interoperability of data exchange are used, but only partially shared as indicated by 45% and 53% of the respondents respectively.

Sharing of data

Data sharing is another important indicator for integration of the back-office of the public sector and whether a government has been able to

Figure C.42. **Sharing of common standards**



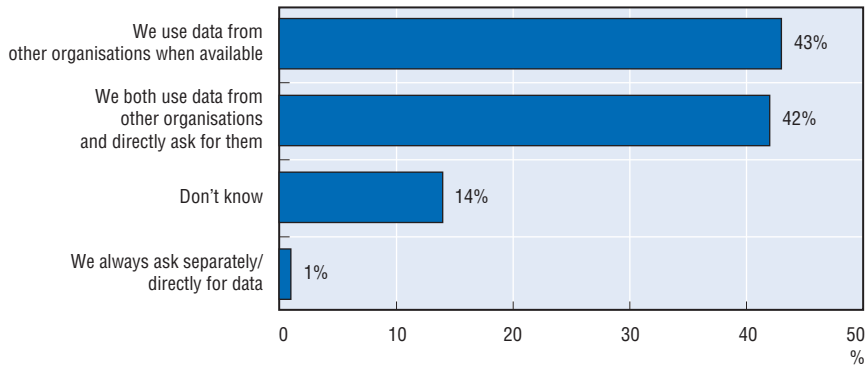
Source: OECD survey of e-government in Denmark 2009. *Question 4.7 If yes, are these shared with other government organisations?*

implement the principle of only bothering citizens or businesses once regarding data collection and then share the data collected among public authorities which need it for administrative purposes. The principle of "collect once, use many times" is simple, but organisationally difficult to implement within the public sector as a whole. The survey results on data sharing will thus give a firm indication of the level of integration of back-office functions that the Danish public sector has reached.

Figure C.43 shows whether a public organisation uses data from other public organisations or whether they collect data themselves. A significant proportion of respondents use data from other organisations when available (43%) and both use data from other organisations and directly ask for them (43%) – indicating that the public sector at large are concerned with reusing data if they exists.

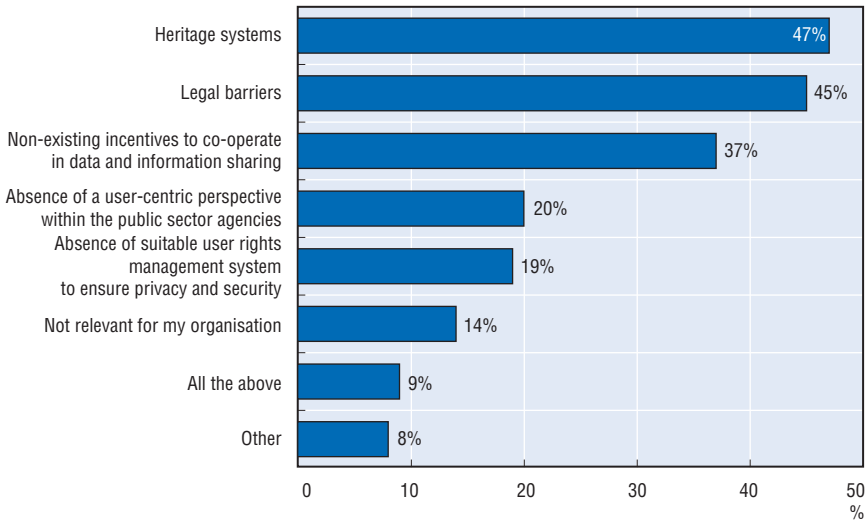
Barriers for data sharing are important to identify in order to remove them where appropriate and lawful. It is clear from Figure C.44 that three barriers are significant for the respondents to the survey: heritage systems (47%), legal barriers (45%) and non-existent incentives to co-operate on data sharing (37%). The latter is interesting and may indicate that attention should be given to the incentive structure for sharing information and data.

Figure C.43. **Does your organisation use data from other organisations?**



Source: OECD survey of e-government in Denmark 2009. *Question 4.8 Does your organisation use data from other organisations?*

Figure C.44. **Barriers to data sharing**



Source: OECD survey of e-government in Denmark 2009. Question 4.9 What are the primary barriers for the sharing of citizens' data between agencies?

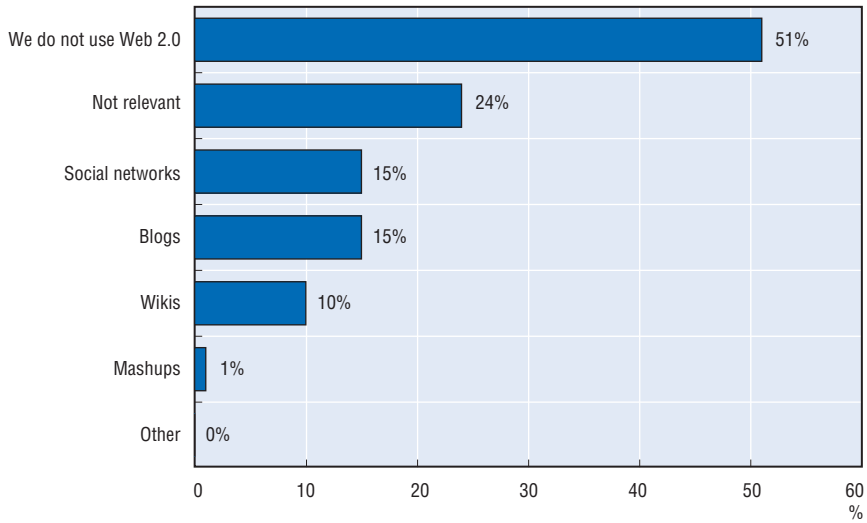
The use of Web 2.0 for co-operation and co-ordination

Making use of new technological platforms to facilitate and enhance co-operation and co-ordination is an interesting issue to explore as it indicates whether public authorities are actively seeking easier dialogue with users. Web 2.0 tools (such as social networks, wikis and blogs) offer new facilities that break down barriers to individual citizens engagement with the public sector and make it easier to voice opinions and give suggestions to

public authorities regarding the quality of services, regulation, outcomes of policies, etc.

Figure C.45 shows clearly that Web 2.0 is not used by most of the public sector: 51% of the respondents do not use Web 2.0 and 24% find it not relevant. Nevertheless, some respondents do indicate that they are using tools such as social networks (15%), blogs (15%) and wikis (10%).

Figure C.45. **Web 2.0 for co-operation and co-ordination**



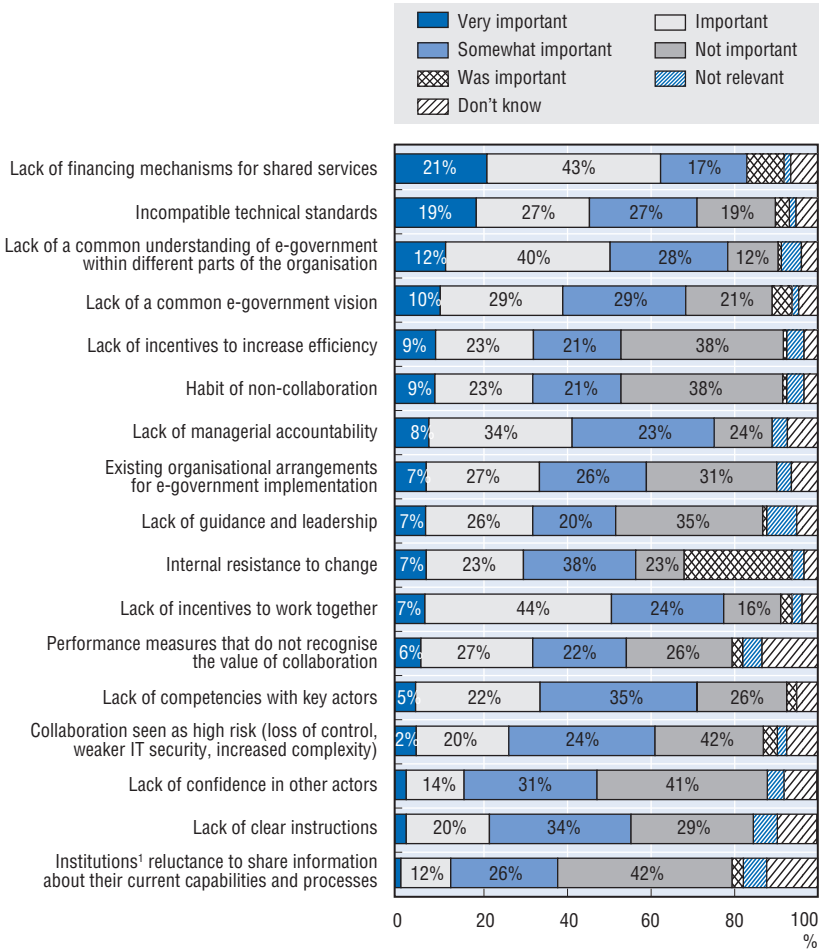
Source: OECD survey of e-government in Denmark 2009. *Question 4.10 Does your organisation use any of the following Web 2.0 tools to internally access, examine and make use of government information/data and to foster co-operation and co-ordination within and across public agencies?*

Barriers to e-government service delivery

Identifying barriers to e-government service delivery is important in order to understand where it is necessary to focus efforts on lowering or eliminating barriers in order to ensure an easy implementation.

Figure C.46 shows that the lack of financing mechanisms for shared services (rated "Very important" or "Important" by 64% of the respondents), the lack of a common understanding of e-government within different parts of the organisation (52%) and incompatible technical standards (46%) are the most significant barriers for e-government service delivery. It is interesting to note that 42% of the respondents do not see a reluctance to share information about their current capabilities and processes, and that 41% of the respondents do not see a lack of confidence in other actors. This indicates that there is a basic trust among public sector actors in collaborating and co-operating on e-government service delivery.

Figure C.46. **Barriers to e-government service delivery**



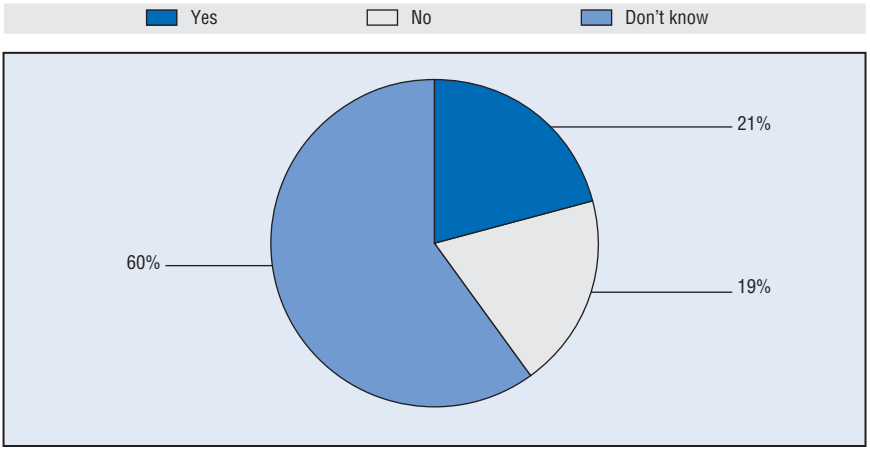
Source: OECD survey of e-government in Denmark 2009. *Question 4.11 How important are the following barriers to the delivery of e-government services?*

Organisational structure for e-government

E-Government implementation is either enhanced or inhibited by the organisational structure for it in a country. If national e-government implementation is not strategically placed in an organisational structure that has sufficient impact on the public sector as a whole, e-government implementation may not have the same outcome as if the national responsibility was placed in a structure with large influence on all public sector actors. How a country chooses to organise e-government depends on its administrative culture and in the end also on the political choices made.

Denmark has for several years organised e-government in a way that urges the different levels of government to take joint decisions in order to promote a whole-of-public-sector approach to e-government implementation. It is therefore surprising that 60% of the respondents have answered that they don't know whether the cross government co-operation structure has helped in establishing a framework for more efficient work on e-government (see Figure C.47); only 21% of the respondents answered "Yes" while almost equal number of respondents (19%) answered "No".

Figure C.47. **Has the new structure for cross government co-operation helped in establishing a framework for a more efficient work on e-government?**



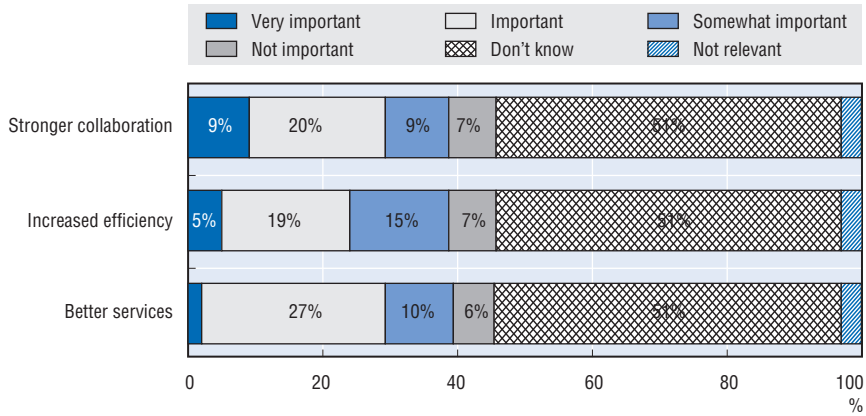
Source: OECD survey of e-government in Denmark 2009. *Question 4.12 Has the new structure for cross government co-operation helped establishing a framework for a more efficient work on e-government?*

The survey asks directly whether the Danish Steering Committee for Joint Cross Government Co-operation (*Styregruppen for Tværoffentlige Samarbejder*) contributed to achieving the goals set by the national e-government strategy, and interestingly 51% of the respondents answered "Don't know" to the three main goals of "Stronger collaboration", "Increased efficiency" and "Better services" (see Figure C.48). This indicates that the Steering Committee's goals and the impact of its work is unknown among public sector actors.

Innovation

Innovation in the public sector is important in order to ensure a continuous development of the way the public sector functions and delivers services. If innovation is inhibited by certain policies or mechanisms, it is important to identify them in order to be aware of the barriers. For e-government implementation imposing a policy of using common

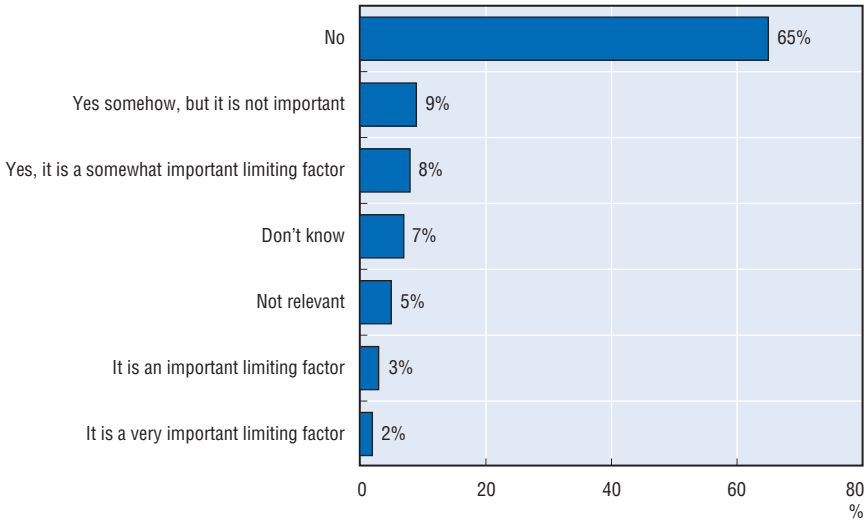
Figure C.48. **The Steering Committee for Joint Cross Government Co-operation's contribution to achieving the goals set by the national e-government strategy**



Source: OECD survey of e-government in Denmark 2009. *Question 4.13 Has the Steering Committee for Joint Cross Government Co-operation (Styregrupen for Tværoffentlige Samarbejder) contributed to achieving the goals set by the national e-government strategy?*

e-government solutions in order to exploit economies of scale could be seen as a constraint to innovation within a public organisation. Figure C.49 shows that public sector actors (65%) do not see the adoption of common e-government solutions as a barrier for innovation.

Figure C.49. **Does the adoption of common e-government solutions block innovation within your organisation?**

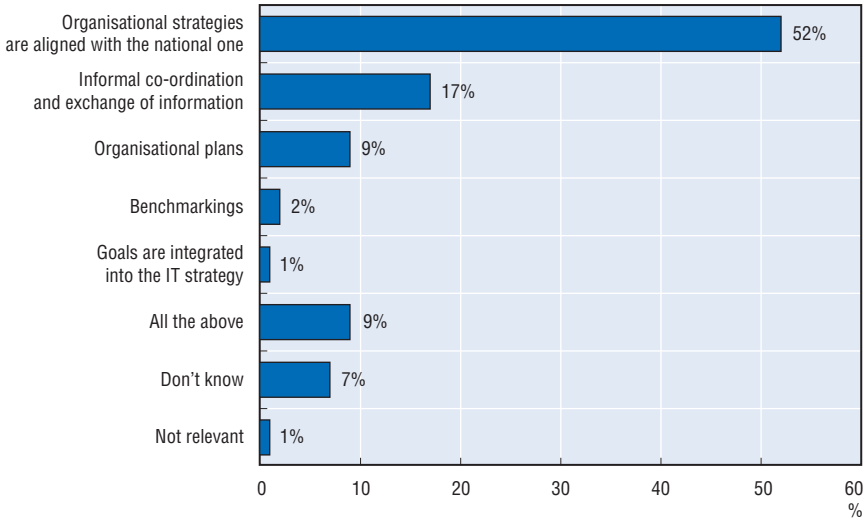


Source: OECD survey of e-government in Denmark 2009. *Question 4.14 Does the adoption of common e-government solutions block innovation within your organisation?*

Alignment of objectives

The impact of policies may be strengthened if they are properly aligned and co-ordinated. Many OECD countries have, however, paid little attention to policy coherency and whether objectives are mutually supporting or nullifying each other. Aligning the strategic objectives of a public organisation with national political and strategic objectives can support and enlarge the impact of strategy implementation. This is the reason for asking the Danish public sector actors how they ensure that a public organisation is aligned with national public sector reform objectives. 52% of the respondents answered that they align their organisation's strategy with the national one (see Figure C.50).

Figure C.50. **Mechanisms are in place in your organisation to ensure alignment with national public sector reform objectives?**



Source: OECD survey of e-government in Denmark 2009. *Question 4.15 What mechanisms are in place in your organisation to ensure alignment with national public sector reform objectives?*

Notes

1. "*i2010* – A European Information Society for growth and employment", COM(2005)299final.
2. OECD 2008, *Making Life Easy for Citizens and Businesses in Portugal – Administrative Simplification and e-Government*, OECD, Paris.
3. An ICT security infrastructure is a coherent and robust security infrastructure to support the usage of digital signatures. The more technical term is: *Public Key Infrastructure*, or *PKI*. PKIs consist of three elements: *a)* a trusted third party – a *Certificate Authority,* or *CA* – which guarantees the identity of a person or entity between the sender and the receiver of a message; *b)* digital signatures, or *certificates;* and *c)* two keys, one for signing messages, and one for encrypting messages.

4. OECD (2009), *Rethinking e-Government Services: User-centred Approaches*, OECD, Paris.
5. OECD (2007), "Benefits Realisation Management", (GOV/PGC/EGOV(2006)11/REV1), OECD, Paris.
6. OECD (2006), *OECD e-Government Studies: Denmark*, OECD, Paris, page 65.
7. OECD (2006), *OECD e-Government Studies: Denmark*, OECD, Paris, page 73; Figure 3.6 on page 74.
8. OECD (2006), *OECD e-Government Studies: Denmark*, OECD, Paris, Figure 6.1 on page 117.
9. OECD (2009), *Rethinking e-Government Services: User-centred Approaches*, OECD, Paris.
10. The issues of how governments approach e-government service delivery and user take-up is discussed in the publication *Rethinking e-Government Services: User-centred Approaches*, OECD 2009, Paris, France.
11. OECD E-Government Partnerships Across Levels of Government, (GOV/PGC(2008)22), 10 October 2008, OECD, Paris, France
12. An example here is the effectiveness of operational collaboration and co-operation in Belgium through the so-called "grey-zones" as a compensation to the often politically more difficult formal co-operation framework as laid out by the Belgian Constitution. (See also the publication OECD (2008), *OECD e-Government Studies: Belgium*, OECD, Paris).

ANNEX D

Methodology

The review is structured around the notion of a policy cycle in which e-government goals, strategies and initiatives are developed and diffused by all levels of government, and e-government projects are initiated and implemented by different agencies. As the first step in a country review, the OECD Secretariat develops an agreement with the reviewed country's authorities concerning the objectives, analytical framework and timeline of the study. The terms of reference set out and structure the areas to be studied, providing an overarching view of e-government implementation and impacts.

Definition of the analytical framework

The methodology used for this peer review was developed by the OECD based on the OECD framework for examining e-government that was developed in *The E-Government Imperative* (OECD, 2003), and takes into account the work that went into the OECD publications *E-Government for Better Government* (OECD, 2005) and *Rethinking e-Government Services: User-Centred Approaches* (OECD, *2009)*. 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 its peer reviews, following the protocols laid out in *Peer Review: An OECD Tool forCo-operation and Change* (OECD, 2003). Using this analytical framework, the OECD has conducted reviews of Mexico (2005), Norway (2005), Denmark (2006), Turkey (2007), Hungary (2007), The Netherlands (2007), Belgium (2008), Portugal (administrative simplification and e-government, 2008), and Ireland (public service, 2008). The methodology has been expanded and amended for this review to address the specific issues and challenges faced by the Danish government. The development of the OECD e-government peer review methodology is an ongoing process, but the general framework is preserved to allow for comparability among countries.

In the development of the methodology, the OECD has 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.

Inputs

The Danish study is primarily qualitative in nature, presenting a combination of observations, analysis 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 with OECD members.

Reports and official documents

The study drew upon a wide range of documents across governments, sectors and functions, which provided insight into the way that public management and e-government policies, strategies and initiatives are planned, co-ordinated and implemented in Denmark. Information was also drawn from recent relevant reports and reviews of Denmark from the OECD and other international organisations, consulting firms, and other sources. The study also drew on academic research and journal articles on public management reform, e-government, and the Information Society in Denmark. 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 Denmark

The OECD survey of e-government used for this study is a customized tool that builds on the survey that was originally developed in 2002 and revised in 2003 based on the experience of the country study of Finland. 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. The survey has been adapted to address the specific areas of focus of this report.

In September-October 2009, the OECD conducted the survey with the central and local government organisations. The survey was targeted at officials with responsibilities relevant to e-government, who were asked to present their organisations' responses to the survey, rather than respond in their capacity as individuals. The survey sample was jointly selected by the OECD and the Danish government (through the Ministry of Finance and the Steering Committee for Cross Governmental Co-operation (STS).

The OECD worked with the Danish government to define a survey sample that would address the issues relevant to the areas of focus of this report. The survey asked government representatives for their opinions regarding issues relevant to:

- the impact of e-government on the public sector modernisation and efficiency efforts;
- the impact of the e-government organisational structure and arrangements on e-government development and implementation;
- the need to address issues related to user take-up; and
- the assessment of the benefits realisation of e-government projects.
- it should be kept in mind that the data results are qualitative and subjective, implying no possibility of performing tests of significance from which definitive conclusions can be drawn.

Interviews with government officials

The review team conducted interviews with Danish government officials and other agencies and groups. All interviews were scheduled by the Ministry of Finance with the approval from the OECD. The mix of organizations and interviewees was selected to show a broad and representative insight into the main issues and problems regarding e-government in Denmark.

The in-depth interviews, which took place on 5-9 October 2009, were carried out by three members of the OECD Secretariat and three peer reviewers from OECD member governments: Ms. Ann Steward (Australia), Mr. Kees Keuzenkamp (the Netherlands) and Mr. Bill McCluggage (United Kingdom). The interview team undertook 41 interviews. Interviewees included Danish government officials and stakeholders from all levels of government, academia, relevant interest groups, ICT industry associations, and citizen representatives. All interviews, which were strictly confidential, followed a structured set of questions, covering each of the main themes of the report. The interviews focused on the issues that could not be captured through the online survey.

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 noted by the whole body. Generally, approval of the final report is by consensus, unless the procedures of the particular peer review specify otherwise (see *Peer Review: An OECD Tool for Co-operation and Change*, OECD, 2003).

Independence, neutrality and verification of inputs

Within a framework agreed with the Steering Group, the OECD conducted this study with its own staff and independent peer reviewers. The study was conducted with guidance and financing from the Danish government, which did not bias the study or influence the final conclusions in any way. The report was drafted by the OECD Secretariat with the input of the three peer reviewers from Australia, the Netherlands and the United Kingdom. The OECD regularly briefed the Danish Ministry of Finance on its progress.

The text benefited from fact-checking, considerations and feedback by the STS which also verified the survey results and interviews findings.

Responses to the OECD survey

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

	Target sample	Responses	Response rate
Central Government	102	45	44%
Municipalities	97	39	40%
Regions	5	2	40%
Total: Central+Municipalities+Regions	204	86	42%

List of interviewees

- Lars-Frelle Petersen, CIO, Ministry of Finance
- Adam Grønlykke, Head of Section, Ministry of Finance
- Andreas Wester Hansen, Chief advisor, Ministry of Finance
- Christian Plaschke, Head of Section, Ministry of Finance
- Laura Nyholm, Christensen Special Advisor, Ministry of Finance
- Jesper Nielsen, Head of IT in social affairs, Ministry of Interior and Social Affairs

- Aksel Meyer, Head of Division, Ministry of Interior and Social Affairs
- Henrik Bjerregaard Jensen, CEO, MedCom
- Bjarne Pedersen, Managing Director, Rudersdal Kommune
- Niels Højberg, Managing Director, Århus Kommune
- Flemming Nielsen, Head of IT, Århus Kommune
- Jesper Thyrring Møller, Managing Director, Hedensted Kommune
- Henrik Pedersen, Head of IT, Gentofte Kommune
- Carsten Loesch, Head of Division, Danish Commerce and Companies Agency
- Lisbeth Nielsen, Head of Health, IT Danish Regions
- Karsten Loiborg, Head of Division, Danish Ombudsman
- Ole Kjær, Director, Taxation Agency
- Jesper Skovhus Poulsen, Director, Ministry of Taxation
- Jan Horsager, Editor in Chief, Computerworld Version2
- Morten K. Thomsen, Editor in Chief, Computerworld Version2
- Lars Mortensen, Director General, Ministry of Education
- Henrik Bang, Head of IT, Ministry of Education
- Gustav Jeppesen, Partner, Deloitte
- Jørgen Leisner, Partner, Deloitte
- Ejvind Jørgensen, Partner, Rambøll Management
- Martin Eberhard, Partner, Rambøll Management
- Peter Lorentz Nielsen, Partner, Devoteam
- Michael Dithmer, Permanent Secretary, Ministry of Economic and Business Affairs
- Tom Togsverd, Managing Director, Danish IT business within Danish Industries
- Lars Monrad Gylling, Managing Director,KMD
- Kim Østrup, Vice President, IBM
- Henning Steensig, Vice President, Danish Enterprise and Construction Authority
- Adam Wolf, Director, Danish Court Administration
- Bo Smith, Permanent Secretary, Ministry of Labour
- Palle Sørensen, Projectleader, National IT and Telecom Agency
- Thomas Andeasen, Projectleader, National IT and Telecom Agency
- Troels Serup, Network of Danish Youth Councils
- Maj Vingum Jensen, President, Association for the Elderly
- Dorte Stigaard, Head of IT, Region North

- Jens Christian Sørensen, Executive Vice President, Capital Region
- Jette Ågaard, Director, Computer Sciences Corporation
- Charlotte Münter, Director, Agency of Governmental Management
- Katrine Ring, Andreassen Head of Division, Ministry of Economic and Business Affairs
- Jesper Jarmbæk, Director, National Survey and Cadastre
- Ivan Lund Pedersen, Projectleader, Connected Digital Health in Denmark
- Pernille Kræmmergaard, Professor in e-governance, University of Ålborg
- Jan Pries-Heje, Professor in informatics, University of Roskilde
- Mads Tofte, Vice Chancellor, IT University
- Niels Agerhus, Permanent Secretary Deputy, Ministry of Science, Technology and Innovation
- Adam Lebech, Vice director, National IT and Telecom Agency
- Adam Lebech, Vice Director, National IT and Telecom Agency
- Anne Kjærsgaard, Head of Section, National IT and Telecom Agency
- Vagn Nielsen, Permanent Secretary Deputy Director, Ministry of Health Connected Digital Health in Denmark
- Otto Larsen, Vice director, National Board of Health
- Lars Mathiesen, CIO, Nykredit (a Danish bank)
- Morten Elbæk Petersen, CEO, National Health Portal
- Michael Busk-Jepsen, Head of Division, Agency of Governmental Management,
- Nanna Skovgaard, Head of Division, Agency of Governmental Management
- Thomas Fjeldberg, CIO, Agency of Governmental Management
- Helle Rasmussen, Vice Director, Agency of the Labour market
- Lone Strøm, Director, Shared State It Service centre
- Peter Gorm, Managing Director, Local Government Denmark
- Jakob Harder, Head of Division, Local Government Denmark
- Lisbeth Nielsen, Head of E-government division, Danish Regions
- Hans Berthelsen, Managing director, KOMBIT
- Marie Munk, Deputy Director-General, Ministry of Science Technology and Innovation
- Mikkel Hemmingsen, Director of Development, Region of Southern Denmark
- Hans Arnum, Partner, Mckinsey Business Consulting
- Frank Klausen, Partner, Mckinsey Business Consulting

ANNEX E

Glossary

Authentication: A security measure for checking users' identities before they are allowed access to an online information system or application.

Back office: The internal operations of an organisation that support its business processes and are not accessible or visible to the general public.

Cloud computing: A new generation of computing that utilises distant servers for data storage and management. In this new type of Internet-based computing shared resources, software and information are provided to computers and other devices on-demand.

Enterprise architecture: Defines the overall structure of an organisation's processes, information systems, personnel and organisational sub-units, with a view to aligning them with the organisation's core goals and strategic direction.

External barriers: Obstacles to e-government that require specific actions (*e.g.* modification of laws by legislature) 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 effective e-government implementation.

Channels: Means of accessing government services, such as the Internet, telephone, or a visit to a government office. Different types of customers use different service access channels.

E-Government: The use of information and communication technology (ICT), and particularly the Internet, as a tool to achieve better government.

Front office: "Government as its constituents see it" – the information and service providers, and the interaction between government and both citizens and businesses.

Information and Communication Technology (ICT): Any equipment or interconnected system (or 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. Such forms can include: business data; voice conversations; still images; motion pictures; multimedia presentations and others not yet conceived. 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 ICT to make a network of the usage of Information Technology. ICT refers to both computer and communication technology.

Information Management (IM): Operations which develop and maintain the information resources and processes of an organisation.

Information network: A system of ICT, hardware and services which provides users with delivery and retrieval services for a given set of information (*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): The hardware, software and methods used for electronic processing and transfer of data.

Interoperability: Organisations' ability to share information systems and/or data, generally based on using common standards.

Knowledge management: The strategies and practices used by an organisation to identify, represent, store and distribute the insights and experiences that constitute the organisational knowledge (*e.g.* staff's expertise and skills acquired through experience or education; theoretical or practical understanding of a subject; what is known on relevant issues for the work of the organisation; facts, information, awareness or familiarity gained by experience of a fact or situation) of workers and groups within the organisation and to make it available to others.

M-Government: Mobile government, sometimes referred to as m-government, is the extension of e-government to mobile platforms, as well as the strategic use of e-government services which are only possible using mobile telephones, laptop computers, personal digital assistants (PDAs) and wireless Internet infrastructure.

Middleware: 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-office applications and processes, both within and across organisations; it is increasingly perceived as a technology for delivery of joined-up e-government services.

Online government services: Services provided by, but not necessarily supplied by, the public administration to citizens, businesses and organisations (including other government organisations) through information networks.

Open data: Open Data is a philosophy and practice requiring that certain data are freely available to everyone, without restrictions from copyright, patents or other mechanisms of control. In the context of public governance it refers to public data and information, or citizens' information, held by the public sector.

Open government: Open government is the political doctrine which holds that the business of government and state administration should be opened at all levels to effective public scrutiny and oversight.

Open standards: Any communication, interconnection or interchange protocol, and any interoperable data format whose specifications are public and without any restriction in their access or implementation. Hence, "Open Standards" are standards made available to the general public and are developed (or approved) and maintained via a collaborative and consensus driven process. "Open Standards" facilitate interoperability and data exchange among different products or services and are intended for widespread adoption.

Portal: A website that co-ordinates and presents information and services from a variety of providers, with the content presented in accordance with criteria related to users' needs.

Public Key Infrastructure (PKI): A method for authenticating a message sender or receiver and/or encrypting a message. PKI enables users of an insecure public network, such as the Internet, to securely and privately exchange data through the use of a cryptographic key pair obtained and shared through a trusted authority. It provides for use of digital certificates that can identify an individual or an organisation, and directory services that can store, verify and, when necessary, revoke the certificates.

Shared service centre: Shared Services refers to the provision of one or more services by one part of an organization, department or agency to the rest of the organisation or to several agencies. Thus the funding and resourcing of the service is shared and the providing department effectively becomes an internal service provider. The key aspect in the establishment of a shared service centre is the idea of 'sharing' within an organisation or group.

Transformation: Transformation of the public sector is defined as the set of processes leading to a change in the features of the public sector from a

static organisation-driven model to a dynamic user-driven model. It is about creating the environment and the basic conditions for continuous adaptation to changing demands and contexts.

User: A user of e-government services is understood as citizens, legal entities such as businesses or non-governmental organisations, or civil servants within the public sector itself. The user is most commonly understood as citizens and businesses.

User take-up: The adoption and frequent use by users of public services and in particular e-government services.

Web 2.0: The term "Web 2.0" is commonly associated with the use of Internet based tools that facilitate interactive information sharing, interoperability, user-centered design of services and content, and collaboration on the World Wide Web. Examples of Web 2.0 include web-based communities, hosted services, web applications, social-networking sites, video-sharing sites, wikis, blogs and mash-ups.

Whole-of-government: Whole-of-government denotes public service agencies working across portfolio boundaries and areas of responsibility to achieve a shared goal and an integrated government response to particular issues. Approaches can be formal and informal. They can focus on policy development, programme management and service delivery.

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OECD e-Government Studies

Denmark: Efficient e-Government for Smarter Public Service Delivery

Denmark is at the forefront of e-government development and implementation. It is a leader in using ICT to improve the delivery of public services and to enhance the public sector's efficiency and effectiveness. It recognises e-government as a tool for public sector reforms and for responsive public service delivery. Denmark is therefore well prepared to further exploit e-government in order to boost efficiency and effectiveness in the public sector, while harvesting ICT's broader societal benefits.

Denmark is taking stock of the progress made since the OECD 2005 e-government study and is preparing a new e-government strategy. This new study acknowledges Denmark's advanced stage of e-government development in terms of its sophisticated enabling environment, as well as its willingness to further exploit this advantage to reach out to the most vulnerable segments of the population, while ensuring the most efficient and effective use of public resources. This study focuses on four key areas:

- The impact of e-government on the public sector modernisation and efficiency efforts;
- The impact of the e-government organisational structure and arrangements on e-government development and implementation;
- The need to address issues related to user take-up; and
- The assessment of the benefits realisation of e-government projects.

This review is the first to analyse e-government at the country level using a revised framework designed to capture the new challenges faced by countries today. It highlights the richness of initiatives and actions taken by Denmark in relation to a number of areas. As these are not unique to Denmark, but are commonly shared by a number of OECD countries, the study provides useful tools to support e-government policy making in all OECD countries.

This study is available in English only. A French translation of the Assessment and Proposals for Action is included in the study.

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Belgium, Denmark, Finland, Hungary, Mexico, Netherlands, Norway, Turkey

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